



# PLEASANT GROVE TRANSPORTATION MASTER PLAN

ADOPTED BY CITY COUNCIL ON FEBRUARY 6, 2024

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## Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
CFP	Capital Facilities Plan
GOPB	Governor's Office of Planning and Budget
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
MAG	Mountainland Association of Governments
MPO	Metropolitan Planning Organization
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
RTP	Regional Transportation Plan
TAZ	Traffic Analysis Zone
TDU	Transit District of Utah
TDM	Travel Demand Model
TIP	Transportation Improvement Program
TMP	Transportation Master Plan
TRB	Transportation Research Board
UDOT	Utah Department of Transportation
UTA	Utah Transit Authority

## 2023 Update

The following sections of The Pleasant Grove Transportation Master Plan (TMP), adopted in 2009, were updated in 2023 to include updated information:

- Update the Travel Demand Model
- Incorporate Updated Mag TransPlan50 recommendations.
- Update the Capital Facilities Plan project list.
- Updates to existing data that changed since the original plan was adopted in 2009.
- 600 West & Center Street Study.

## Executive Summary

Pleasant Grove has experienced significant growth and development; the current census data (2020) reported a population of 37,726 in the City in 2020. For future growth, the Governor's Office of Planning and Budget projects a population of 42,062 in 2030 and 51,200 in 2050 for Pleasant Grove. Due to growth within Pleasant Grove and growth throughout the county, a comprehensive transportation plan must be developed and regularly maintained to combat the potential congestion caused by projected growth. This plan must incorporate the goals of the City of Pleasant Grove regarding the transportation systems within the city's authority as well as those regional facilities maintained by UDOT, UTA, Utah County, and neighboring communities.

Recognizing the need to update the Transportation Master Plan (TMP) to accommodate the future development throughout and around Pleasant Grove, travel demands resulting from the planned land uses outlined in the City's General Plan were modeled and documented. The results of that modeling process were used to make plans regarding future transportation improvements. This TMP is a culmination of the master plan update process and is expected to guide the Pleasant Grove transportation system for several years. The TMP discusses the various transportation elements in Pleasant Grove City, including traffic volumes and conditions, roadway functional classification, typical street sections, alternative transportation modes, traffic signals, access management, corridor preservation, capital improvements, and more.

### ROADWAY ELEMENTS

The existing transportation master plan of Pleasant Grove had several revisions to accommodate the growth expected throughout the city and maintain the quality of life desired by the residents. The updated roadway plan outlines the roadway functional classifications, the number of lanes, typical cross-sections, right-of-way required to accommodate future traffic in the year 2050 on each roadway, and locations for intersection improvements. In addition to the above, the TMP:

- Outlines the application of typical cross-sections to each functional classification.
- Guides on how to ensure safety as a primary goal in the design and operations of the City's roadways.
- Discusses the implementation of additional traffic calming measures.

- Describes proper access management guidelines and procedures.
- Expounds on a traffic impact study requirement for developers.
- Summarizes the practice of preserving future transportation corridors, coordinating with other agencies, and implementing impact fees to developers.
- Guides alternative modes of transportation (public transit, bicycle, and pedestrian facilities).

## ALTERNATIVE TRANSPORTATION ELEMENTS

To provide a well-balanced transportation system in Pleasant Grove, Pleasant Grove will encourage and develop transportation alternatives to automobiles. As the City grows and develops, alternative transportation elements such as public transit and bicycle/pedestrian facilities will play an increasing role in the overall transportation system. This TMP discusses future opportunities to encourage alternative modes of transportation throughout Pleasant Grove, including carpooling, park-and-ride lots, local UTA bus routes, bus rapid transit, commuter rail transit, and bicycle, pedestrian, and equestrian plans.

## OTHER TRANSPORTATION RELATED ELEMENTS

In addition to the roadway and alternative transportation elements, this TMP addresses other transportation elements such as safety, traffic calming, access management, and corridor preservation. The primary concerns of the TMP are safety, forecasting traffic growth, and providing adequate facilities to meet needs. The city will construct and maintain its transportation facilities in compliance with applicable design and engineering standards.

The city can implement multiple traffic-calming measures to reduce speeds on residential and commercial roadways. In summary, those measures include traffic control device use and actual street and route modification where necessary. There are appropriate situations and locations for traffic-calming use; however, the city must be cautious and organized in developing and implementing a traffic-calming program, or more problems could result than are solved. The general approach involves conducting an engineering study to determine the nature and extent of the traffic problems with guidelines for traffic-calming measures to address the traffic problems. Once a type of traffic calming is selected and implemented it will be monitored to evaluate the success of the traffic calming measure for future use. Details of the different traffic-calming measures and implementation are in this TMP.

Access management principles include controlling the location, amount, spacing, and type of driveways and intersections on arterial and collector streets. Managing access design will minimize traffic conflicts and maximize the capacity of major travel routes. This TMP provides access management guidelines for the city to use as more development occurs.

Corridor preservation allows a city to identify and protect the land from development needed for future transportation facilities. Through corridor preservation practices, the city will be able to preserve and protect land that the city needs for future transportation facilities. These practices include exactions, developer incentives, and agreements, fee simple acquisitions, transfer of development rights and or densities, land use controls, and purchases of options and easements. By preserving these corridors now (securing future right-of-way), the city will lower the cost and impact of these facilities.

## TRANSPORTATION IMPROVEMENT PROGRAM

The Pleasant Grove Transportation Improvement Program (TIP) indicates the needed transportation improvements and prioritizes their implementation schedule. Each transportation improvement will have a planning-level cost estimate and a time frame for its implementation. The city separated the improvements into short-range (0 to 5 years), medium-range (5 to 10 years), and long-range (10 to 20 years) time frames. The city is not obligated to implement any improvement shown in the TIP. The city will determine the actual implementation of facilities and funding for each project on a case-by-case basis as the city works through the annual budgeting process.

Pleasant Grove City intends this TMP to be a living document that the city will use to plan and guide the development of its transportation system in a timely and efficient manner. Since many aspects of this TMP are primarily developer-driven, the city will update the TMP as the city grows and changes. Significant land-use changes or fluctuations in population could alter the need for or timing of improvements identified in the TIP. As a result, the city will review and update the TMP regularly. The city will perform significant reviews at least every five to ten years with road plans being every three to five years. This process will ensure that the TMP reflects the values and growth of Pleasant Grove City and serves its intended purpose for years to come.

## 1.0 Introduction

Pleasant Grove is a city in northern Utah County along the Wasatch Front. Neighboring Cities include American Fork, Lindon, and Cedar Hills, as shown in [Figure 1](#). Pleasant Grove City has developable land within the city limits, which allows it to grow well beyond its current population. Like the overall growth in Utah County, Pleasant Grove has also experienced rapid residential and commercial economic growth in recent years. For example, the Bureau of the Census reported a total population of 37,726 for the city in the year 2020. Due to this expansive growth, many of the transportation facilities throughout the city are experiencing increasing congestion and may soon become functionally obsolete and need improvements. The city will need other upgraded transportation facilities to accommodate the new growth in those areas.

The last update to the City's transportation element of the General Plan was in 2009. The city recognizes the need to update the Transportation Master Plan (TMP) to accommodate future travel demand as the city grows. This transportation master plan update will guide the City's transportation system for the next several years.

The TMP discusses the various elements of transportation in the City, including traffic volumes and conditions, roadway functional classification, typical street sections, alternative transportation modes, traffic signals, access management, corridor preservation, and capital improvement recommendations.



## A BRIEF HISTORY

Like many of the communities in Utah, the Mormon pioneers settled in Pleasant Grove. These early settlers were sent by Brigham Young, thus establishing the small community on September 13, 1850. The pioneers were attracted by a small grove of trees which gave promise and hope of a land with water and rich soil. The official name “Pleasant Grove” did not come first although the name was based on the small grove of trees that were here when they first arrived. The first name of this community was “Battlecreek” named after the first skirmish in Utah between the Indians and pioneers, located at the mouth of the canyon above this small community. Because of the Indian conflict, the settlers were instructed to build a fort for protection. A meeting house and schoolhouse were then constructed to meet the spiritual and educational needs of the people who came to Pleasant Grove.

On January 19, 1855, the territorial legislature approved Pleasant Grove to become incorporated. The first municipal election was then held in May 1855 and Henson Walker took office as the first Mayor.

Nicknames began popping up that described certain areas of the community: “Little Denmark” was the area where Scandinavian people settled: “Monkey Town” was named because the youth gathered on “fog” corner in the area and “monkeyed” around which caused adults great concern over the “...mischievousness of the youth.” “Mud Hole” was an area where the community’s merchandising and entertainment occurred. It was said that the “upper class” lived in this area.

Life was difficult. The settlers were terrified of the Indians but also had to face famine and hunger. They had to rely on one another to survive a few winters. The meeting house was also used as a storehouse, but a fire brought the building and its contents to the ground and there just was not enough time to restock before winter came on again. Life was not all filled with hardships, however, people often met socially and because of the abundant strawberry crop every summer, “Strawberry Days” was created. Strawberry Days are the longest continuing community celebration in Utah to date. The strawberry fields are now gone, taken over by development. The schoolhouse still stands and has been converted into a nice pioneer museum to remind us of those who came first, those who were willing to take the risk, make their homes in an unknown wilderness, and prepare the way for those who came after.

This information is located on the Pleasant Grove website at [Pleasant Grove History - Pleasant Grove City \(plgrove.org\)](http://Pleasant Grove History - Pleasant Grove City (plgrove.org)).



## 2.0 Transportation Goals and Policies

This section of the TMP outlines the general transportation desires of the city; this will assist City leaders, planners, engineers, and land developers in developing transportation guidelines, standards, and solutions that reflect the unique characteristics of Pleasant Grove. City staff and leaders will use these goals and policies to evaluate transportation alternatives not addressed in the City's TMP and will be in harmony with the city's transportation needs and desires. The following sections outline the City's Transportation Goals and Policies.

### SAFE TRANSPORTATION SYSTEM

Automobile accidents are one of the leading causes of injury and death in the United States. While we often freely accept the trade-off of increased exposure to accidents versus travel conveniences when we use automobiles, there is an inherent trust in the public infrastructure to comply with reliable safety standards.

Pleasant Grove will set transportation system safety as a high priority and work diligently to meet applicable safety standards. The city will require all major subdivision developments to provide multiple emergency vehicle accesses. They will also require secondary access for all projects with roadway lengths greater than 1,000 feet. The Planning Department will implement this requirement during the site plan review process. Pleasant Grove will provide pedestrian crossings for children, particularly near schools and recreation areas, and will encourage the development of school routing and recreation plans that minimize vehicle/pedestrian conflicts. With the involvement of the School District, PTA, City Public Works, and Engineering Department, the city will conduct an annual review of the safe walking routes. The Engineering and Planning Departments will collaborate with the School District to plan future school locations and walking routes within the existing municipal and annexation policy declaration boundaries consistent with the transportation system.

The Engineering Department will complete speed studies for areas of concern, and law enforcement agencies will enforce safe speeds. The city will maintain a logical progression of speed limit areas such that similar areas and street types are consistent in speed limitations.

The Engineering Department will review intersections and developments that are problem areas for traffic channelization solutions and improve traffic on streets through striping, raised medians and islands, reduction of roadside obstructions, and other traffic engineering solutions. They will also require all roadway features to meet minimum design standards established by the American Association of State Highway and Transportation Officials (AASHTO). All signs, pavement markings, and traffic signals must meet standards established by the manual of Uniform Traffic Control Devices (MUTCD) and enforce the current design standards during the review process.

Pleasant Grove will upgrade or install pedestrian safety features at intersections and crossings areas as deemed necessary by City Staff which may include but are not limited to **1)** Warning lights and audible signals at high-volume intersections. **2)** ADA ramps at all crossing areas. **3)** Streetlights on both sides of the street at mid-block crossings and flashing beacons where feasible (Note: The City will minimize the establishment of mid-block crossings where possible.) **4)** Raised median pedestrian refuge was feasible

on roadways with four or more lanes. **5)** Stricter enforcement of jaywalking through signage and increased monitoring. **6)** Optimal sidewalk conditions for walking and wheelchairs through repairing cracks and bumps, minimizing slopes, and maintaining visibility at corners. The City Staff will regularly review the pedestrian facilities throughout the city.

## CORRIDOR PRESERVATION

Corridor preservation allows a city to identify and protect the land needed for future transportation facilities from development that might be incompatible with these facilities. Pleasant Grove will sufficiently plan the needs of community-wide transportation systems. It will preserve future corridor locations and secure right-of-way using innovative methods, including exactions, developer incentives, and agreements, fee simple acquisitions, transfer of development rights and or densities, land use controls, and purchase of options and easements. Pleasant Grove will involve the local, regional, and state agency participation in developing the plan goals and implementing the projects planned in the City's Transportation Improvement Plan (TIP). The city will regularly review and update the TMP and TIP every five to ten years.

## MULTI-MODAL APPROACH

The private automobile is presently the most common and convenient form of transportation. The City in cooperation with MAG needs to plan for all modes of transportation to meet the community's needs and establish a more desirable urban environment. Alternative transportation types primarily include public transit, walking, and bicycling. Alternative modes of transportation can assist in reducing vehicular congestion and delay and reduce overall pollution emissions from vehicular traffic.

Pleasant Grove will provide effective connections and community use of mass transit systems in and near the City and a balanced multi-modal approach to transportation problems that considers mass transit, carpools, and other alternative modes to the single-occupant automobile. The city will develop and continually update a long-range mass transit plan as part of the City's TMP by **1)** Planning for future light rail service and transit-oriented development in the downtown and other strategic locations. **2)** Encourage transit and multi-modal facilities by improving bus stops. **3)** Require developers of new commercial developments to consider transit and other multi-modal services in their design of parking facilities, roadways, and pedestrian access. **4)** Work with UTA to establish new transit routes throughout the City and develop bus stop and park-and-ride requirements for office and commercial land uses. **5)** Support the implementation of park-and-ride lots and encourage the development of high-frequency, express transit services.

## IMPROVE THE PHYSICAL CONDITION AND EFFICIENCY OF THE CITY'S ROADS

Roads require consistent monitoring and maintenance to avoid unnecessary wear and tear. Pleasant Grove should regularly monitor pavement conditions, vegetation overgrowth, and signing & striping conditions to address deficiencies promptly to stop further deterioration. Pleasant Grove will maintain an efficient roadway network through regular maintenance programs. The city will: **1)** Widen, improve, and

complete unfinished streets, install streets where there are high traffic demands initiate a street overlay improvement plan (4" minimum thickness) to repair all old and damaged roads, and plan for and complete the projects in the City's TMP. **2)** Provide funding for needed road improvement projects by setting aside funds for each budget year. **3)** Work with the railroad and other agencies to set target dates for improvements to railroad crossings and repair all roadways with a railroad crossing.

## CIRCULATION FLOW

Like many other cities throughout the Wasatch Front, Pleasant Grove has established its street network on a grid system. Pleasant Grove has established a hierarchy of roadway functional classifications to provide proper circulation flow on this grid system. Continuity in the defined functional roadway classification needs to occur between adjacent districts. Discontinuity in the roadway functional classification can cause confusion and congestion on the street network. Each roadway needs to serve a distinct function and purpose. Pleasant Grove will design transportation facilities for efficient traffic flow throughout the city with compatible connections to regional transportation systems. Pleasant Grove created its TMP to have a hierarchy of streets to work with the land use the street system serves. The city will abide by the street hierarchy identified in the TMP and follow corridor preservation techniques to preserve the right-of-way necessary for the different street classifications.

The principal function of arterial streets is to continuously move large volumes of traffic over a substantial distance. To ensure that arterial roads will function properly, the City will implement and enforce access management principles and standards (as outlined in the appendix) and parking restrictions. The street system shall include a hierarchy based on vehicle usage. The TMP expects trucks to stay on designated truck routes, which are primarily limited to arterial streets. Pleasant Grove will develop and pass a truck route ordinance; mandating trucks to travel on designated truck routes and roadway designs to provide adequate turning radii at intersections based on the specific roadway classifications (Table 10). In addition, the Engineering Department should develop a signage system that would inform heavy vehicle operators to drive on designated truck routes. The Planning Department will ensure that land uses requiring truck delivery are along roadways that can accommodate trucks.

Pleasant Grove will minimize traffic speeds on local streets by providing direct routes to collector streets. The city will verify that street designs are compatible with street functions by requiring large housing units, commercial developments, and public buildings to have direct routes onto arterial and collector roads to minimize their impacts on the community. In addition, the city needs to mandate, through ordinance, requiring the conduct of a traffic impact study for these types of developments. The Planning and Engineering Departments will work with all new projects during the review process to ensure a proper design conforms with the standards set in the City's TMP.

The planning and engineering departments will enforce and require access to any new residential development via a local road or an appropriate on-site circulation roadway system. Where feasible, the city will not allow new residential development to face collector or arterial streets to preserve and maintain the functionality and mobility of the major roadways throughout the city. The City will follow the access management standards as outlined in the appendix of this document and establish a hierarchy of streets by classifying all new roads according to their function and purpose.

Pleasant Grove will provide for internal circulation within the city by designing a functional hierarchy of streets to assist in dispersing traffic. This hierarchy will incorporate a broad network of arterial streets with smaller internal networks of collector and local roads. The City will establish a series of roadways within commercial districts to allow for traffic dispersal, thereby reducing congestion and requiring residential subdivisions to have a minimum of two access connections to neighboring subdivisions or streets. They will mandate that residential areas are interconnected with adjacent neighborhoods to prevent children from traveling on arterial and collector streets to reach nearby neighborhoods and schools. The city will design a circulatory system to accommodate regional transportation needs. The Engineering Department is responsible for obtaining updated information regarding projected traffic volumes and regional transportation plans affecting the city at least annually or as information is available from MAG and UDOT.

## LEVEL OF SERVICE

Level of Service (LOS) is a traffic engineering term for describing and measuring the travel delay experienced by vehicles. LOS ranges from free-flow traffic conditions (LOS A) to extremely congested travel (LOS F). Since traffic and overall travel are most congested at morning and afternoon peak periods, a typical practice allows for some driver discomfort during these peak periods while providing better LOS throughout the remainder of the day. Pleasant Grove will improve traffic flow and circulation to major activity centers in the city and have a street system that operates at an acceptable Level of Service (LOS) standard during peak-hour periods.

Pleasant Grove will provide streets that a minimum, will operate so that the average travel speeds would be no lower than about 40 percent of the free-flow speeds. Provide intersections that function at a LOS of C (minimum average) during the peak hour (i.e., an average delay of fewer than 35 seconds per vehicle at signalized intersections and less than 25 seconds per vehicle at unsignalized intersections). There are exceptions to these standards where the associated impacts of the improvements needed to bring the facility up to the set standard are disproportionate to the benefits, and funding is unavailable to implement the improvements. The city will adhere to the year-by-year improvement project list to reduce congestion on arterial streets and intersections.

The city will improve the efficiency of streets and reduce potential traffic conflicts through improved or new signals, signs, pavement markings, and street lighting. They will adhere to the year-by-year project list that improves signals, signs, pavement markings, and street lighting. Pleasant Grove will work with businesses to explore non-traditional methods for reducing traffic volume through **1)** Travel demand management and system management strategies by developing programs that provide a mix of land use with differing peak traffic periods. **2)** Provide incentives for rideshare systems, and encourage flex-time work schedules, parking management, and telecommuting. The Engineering and Planning Departments will implement such programs as development warrants and plan future streets for the width necessary to serve projected traffic at an acceptable LOS as identified above. Require development to protect, preserve, and donate needed street width. [Figure 9](#) and [Figure 10](#) shows the desired typical cross-sections for the different roadway classifications. The Engineering Department will mandate a Traffic Impact Study (TIS) for every new development that would generate more than one hundred peak-hour trips. [Table 1](#) outlines some examples of minimum thresholds for different land uses that would require a TIS. The city

will collect traffic impact fees directly proportional to the impact of a development on the collector and arterial roadways.

**Table 1 Examples of Land Use Thresholds that Require Traffic Impact Studies**

Land Use	Size of Development that Generates ≥ 100 Peak-Hour Trips
Residential (Single Family Homes)	90 Units
Residential (Apartments)	150 Units
Residential (Condo/Townhomes)	190 Units
Residential (Mobile Home Park)	170 Units
Shopping Center	6,000 Sq. Ft. of GLA
Fast-food restaurant with Drive-In	3,000 Sq. Ft. of GFA
Gas Station with Convenience Store	7 Fueling Positions
Bank with Drive-In	2,000 Sq. Ft. of GFA
General Office	67,000 Sq. Ft. of GFA
Medical/Dental Office	29,000 Sq. Ft. of GFA
Research and Development Facility	71,000 Sq. Ft. of GFA
Light Industrial/Warehousing	185,000 Sq. Ft. of GFA
Manufacturing Plant	144,000 sq. Ft. of GFA
Park-and-Ride Lot with Bus Service	160 Parking Spaces

Source: ITE Trip Generation Manual (7<sup>th</sup> Edition). GLA = Gross Leasable Area. GFA = Gross Floor Area.

## QUALITY IMAGE THROUGH STREETScape DESIGN

The driver’s perspective passing through an area and the resident’s observation of living and working there can define the sense of community. Communities establish a sense of pride by creating a vision to define a unique and positive image of and for the community. The city will consider aesthetics in the different roadway classifications design to enhance the overall City image. Achieve a higher standard for street beautification, function, and safety.

Pleasant Grove will require all new developments to plant trees in the park strips as part of the landscaping. The city will identify main thoroughfares where **1) Landscaping beautification** will benefit the community, **2) Explore alternative landscaping options** for better visibility and safety, **3) Coordinate with Public Works** to ensure maintenance needs are addressed, and **4) Use flexible street design** to accommodate existing mature trees. They will require all new developments to plant trees, landscape the medians and park strips, provide for water and other maintenance needs of the landscaped areas, and create a list of approved park strip trees to ensure that tree roots do not create maintenance problems. The city will upgrade and beautify sidewalks and other walkways to create a functional but aesthetically pleasing pedestrian streetscape. Create pedestrian rest stops with places for park benches and additional landscaping. Explore alternatives for standard waste receptacles and design streetscapes to reflect and enhance the adjacent land use. The size and type of trees and width of park strips can vary according to need.

## PEDESTRIAN AND NON-MOTORIZED CIRCULATION

The scale of a community is best expressed and further enhanced through short, slow-speed trips within the city as opposed to trips that go through Pleasant Grove. Pleasant Grove will support pedestrian and bicycle travel as alternatives to the private automobile and achieve a more walkable community. Support

and encourage bicycles, pedestrians, and other non-motorized travel within the city. Coordinate with adjacent districts to offer continuous routes for travel and recreation between communities.

Pleasant Grove will increase connectivity and efficiency of bicycle and pedestrian facilities along all main arterial and collector streets and keep the City's bicycle and pedestrian facilities master plan up to date. The city will create a balance between bicycle and pedestrian facilities to satisfy the transportation and recreational needs of the residents. They will do this by **1)** Improving bicyclist and pedestrian access to parks, recreation centers, mass transit facilities, schools, and other activity destinations by requiring the incorporation of bicycle and pedestrian facilities into private development plans. **2)** Requiring sidewalks of sufficient width on both sides of all roads. The city will vigorously enforce this standard on arterial roadways and within commercial areas, with exceptions granted on a case-by-case basis. **3)** In developing bicycle and pedestrian facilities, these facilities lead somewhere, are as direct as possible, and are interconnected. **4)** Coordinate with school districts on existing and future new school locations relative to student bicycle and pedestrian issues. **5)** Assure to incorporate bicycle and pedestrian facilities into roadway and mass transit project plans since it is much more difficult and expensive to retrofit bicycle and pedestrian facilities to existing roads and transit facilities. **6)** Encourage the development of multi-use trail facilities in the City's urban environment since they are more practical and efficient. **7)** Coordinate with UDOT on new state road construction projects relative to bicycle and pedestrian facilities, such as State Street and Main Street (Geneva Road). **8)** Coordinate with UTA on new projects and facilities they own regarding bicycle and pedestrian issues.

Pleasant Grove will encourage alternative modes of transportation through carefully developed support systems by **1)** Working with local businesses to offer better bicycle access and improved storage security. **2)** Encouraging employers to provide lockers and showers for employees who walk or cycle to work. **3)** Working with UTA in establishing bike-and-ride facilities at bus stops, carpool lots, and park-and-ride lots. **4)** Creating continuous bicycle paths/routes between residential, commercial, and other areas. **5)** Paving the shoulders of roadways that are unpaved and that are designated to accommodate bicycle lanes or a route. Pleasant Grove will ensure that space for bicycle lanes is provided, or in the case of a route, a wider outside general-purpose lane (14 feet). **6)** Create a safer environment for bicyclists and pedestrians through proper location and design of sidewalks, bike lanes, multi-use trails, and other bicycle and pedestrian facilities. **7)** Coordinate with the adjacent communities, such as Lindon, American Fork, and Cedar Hills (as well as the Forest Service) on bicycle and pedestrian standards; so that the City's bicycle and pedestrian facilities will have a greater likelihood of interconnecting with the facilities of the adjacent community. **8)** Conducting planning/engineering studies for its planned bike, pedestrian, and other trail facilities for locating, designing, and acquiring right-of-way for these facilities. **9.** Working with the Murdock Canal Company in developing and executing an agreement to formally make available a portion of the canal right-of-way for multi-use trail development, which would include equestrian use.

Pleasant Grove will maintain the safety and accessibility of pedestrian walkways by **1)** Developing a maintenance program for sidewalk cleaning, clearance, and snow removal with a clear division of City and citizen responsibility. **2)** Developing a program for sidewalks that includes an inventory of the condition of the City's sidewalks and an identification of where there are gaps (lack of sidewalks) in the existing sidewalk network. **3)** Determining priorities for sidewalk replacement and new construction based on



sidewalk conditions and safety. **4)** In areas of highest need, annually allocate resources to replace inadequate sidewalks and construct new sidewalks in areas with gaps in the network.

## TRAFFIC CALMING DESIGN

Traffic calming design encourages the reduction of speeds and vehicle volumes through roadway design elements manipulation.

Design elements include roadway width, alignment of streets, and connectivity to adjacent streets. Residential streets and other high-pedestrian-use areas most warrant traffic calming. Traffic calming encourages slow speeds through residential and downtown areas by implementing traffic-calming techniques where necessary.

Pleasant Grove will geometrically design new residential streets to avoid excessive speeds by **1)** Varying Street widths and patterns to encourage or discourage traffic where appropriate. **2)** Employing stop-controlled intersections or roundabouts spaced no farther than one thousand feet apart for residential streets. **3)** Maintaining traffic connections that do not overutilize residential routes. **4)** Restricting residential roads to a maximum length of 1,300 feet and connecting both ends to either a Local Road or Collector Road. **5)** Limiting the maximum length of a cul-de-sac to four hundred feet. Loop or circle streets are preferred to cul-de-sacs to maintain circulation and emergency access.

Local neighborhood streets will provide vehicular and pedestrian access to all land parcels. The city will reduce speeds on downtown and residential streets to 20 miles per hour and create a City-wide traffic calming plan that includes justification, warrants, standards, and specifications for the various traffic calming measures.

## DESIGN CIRCULATION AND STREET PATTERN TO SUPPORT THE GENERAL PLAN LAND USE GOALS

A relationship exists between the type of land use and the traffic volumes on the streets. Pleasant Grove will design circulation and street patterns that are compatible with existing and future land use goals and design and plan the City's transportation system to serve as a tool in implementing the General Plan's Land Use Goals. Pleasant Grove will: **1)** Lower speed and minimal traffic in residential neighborhoods to improve the quality of life and minimize vehicular traffic on these streets through traffic-calming measures where necessary. **2)** Restrict large retail developments to areas adjacent to arterial streets designed to facilitate large traffic volumes and use zoning and other land-use regulatory tools to restrict commercial projects to the property facing arterial roads. **3)** Coordinate the general plans of the land use and transportation elements to ensure complementary goals and policies.

## PRESERVE AIR QUALITY AND ENERGY

An efficient transportation system contributes to a decrease in pollution and energy consumption associated with most forms of transportation. Therefore, an efficient street network that reduces the time vehicles idle at intersections is in the best interest of the city residents. Using non-motorized travel is another way to reduce pollution and energy consumption. Where possible, the transportation plan will investigate innovative methods of preserving air quality and conserving valuable energy resources.

Pleasant Grove plans to **1)** Improve intersection design and traffic signal timing plans to reduce vehicular stop time at major intersections throughout the city. Coordinate traffic signals along arterials to reduce delays experienced by thru traffic. **2)** Create a street system that moves automobile traffic efficiently through City streets by **a)** Securing right-of-way that is necessary to accommodate future traffic volumes. **b)** Requiring traffic impact fees proportionate to the traffic impacts that development will produce. **c)** Encouraging mixed-use developments to decrease vehicle trips during peak hours. **3)** Encourage other methods of travel within the city by constructing trails and larger sidewalks. **4)** Encourage public awareness and participation in emission reduction programs.

## 3.0 Existing Conditions

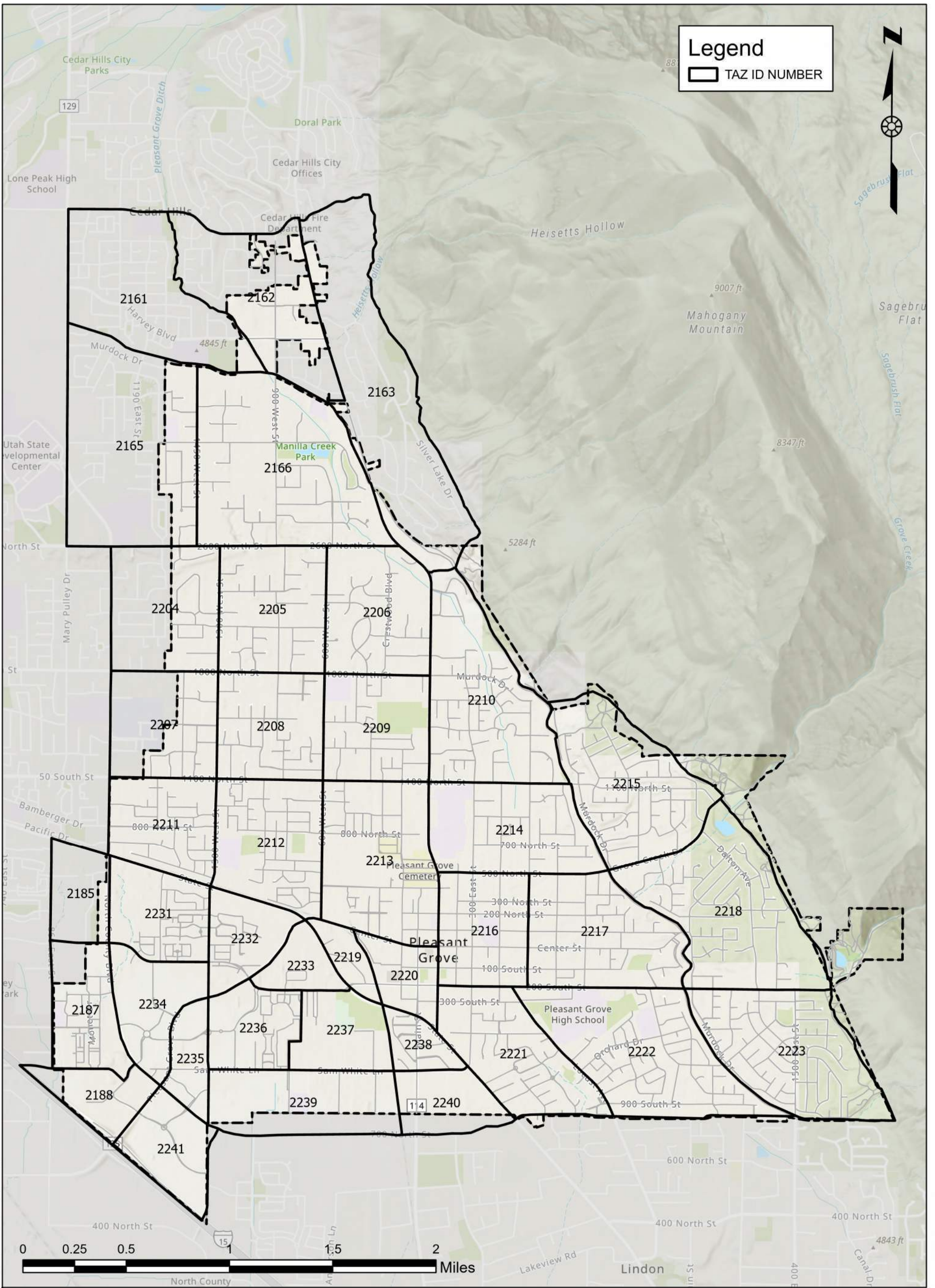
The following data were collected and analyzed to evaluate existing conditions: existing socioeconomic conditions, existing land use, existing roadway inventory (including lane configurations, functional classification, intersection control, etc.), existing traffic volumes, existing traffic conditions (Level of Service, etc.), existing roadway jurisdiction, and existing alternative transportation modes (transit, pedestrian, and bicycle facilities). This data forms the basis for analyzing the current transportation system and provides the foundation for future traffic projections.

### EXISTING SOCIOECONOMIC CONDITIONS

Socioeconomic data consists of population, employment, and the number of households associated with a particular area or zone. This data was obtained from the Mountainland Association of Governments (MAG) and reviewed by the city for accuracy. The MAG travel demand model uses these statistics to predict the number of trips traveling to and from each Traffic Analysis Zone (TAZ) defined by the model. Since MAG's travel demand model serves the primary purpose of forecasting traffic volumes and level of service on a regional level. The model was modified by dividing some of the regional TAZs into smaller local TAZs throughout the city to estimate the travel demand characteristics more accurately. These newly divided TAZ can be seen in [Figure 2](#). [Table 2](#) shows a summary of the corresponding socioeconomic data for each of these zones.

### EXISTING LAND USE

Traffic volumes and patterns are related to land use and development density. To develop an accurate travel demand model, a thorough review of existing land uses throughout the City was conducted and calibrated the model to represent existing traffic conditions.



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## Transportation Master Plan

### Figure 2: Traffic Analysis Zone (TAZ) Map



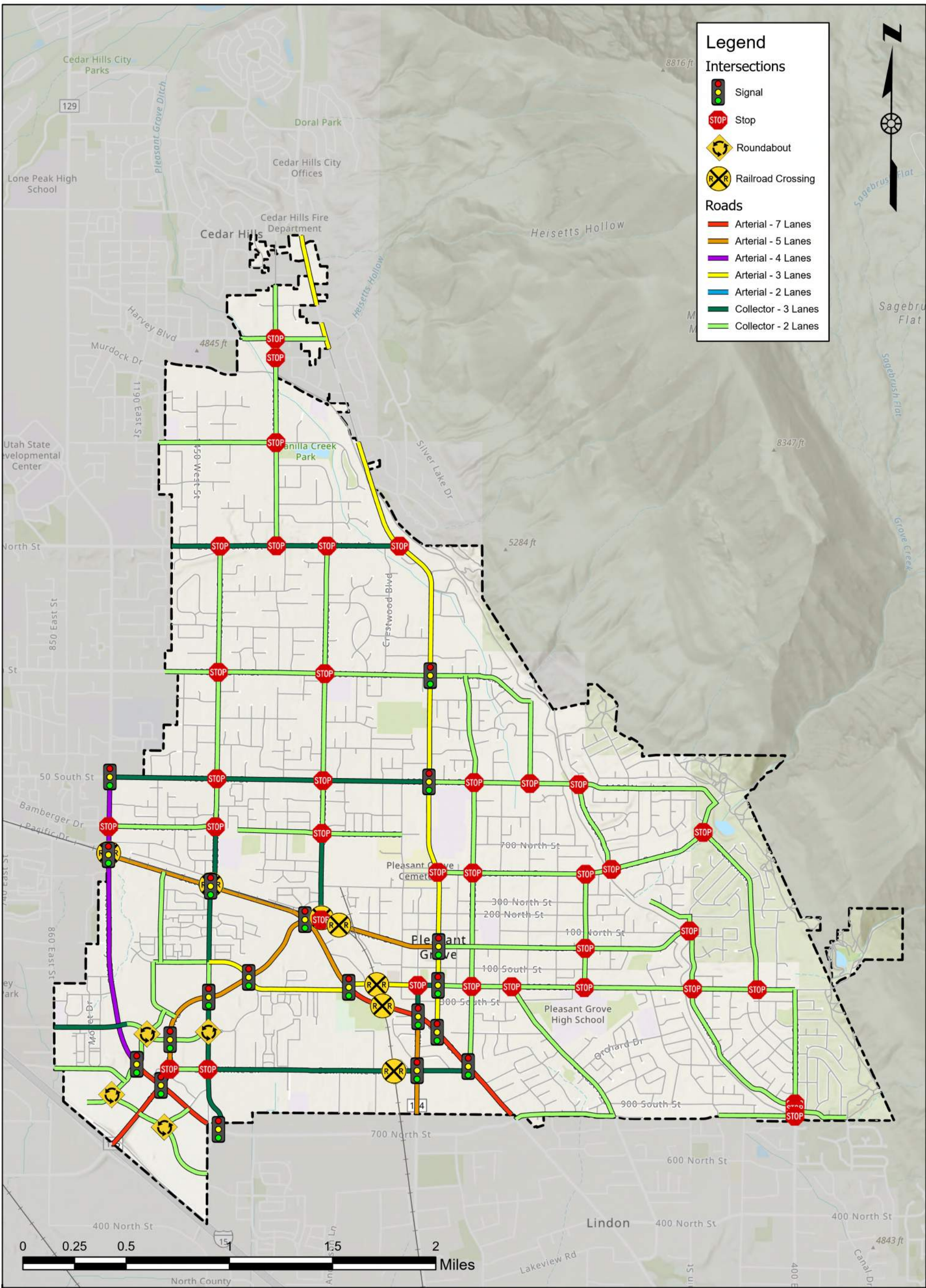
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**Table 2: Existing Socioeconomic Conditions**

TAZ Number	Population (Persons)	Employment (Jobs)	Dwelling Units (Units)
2161	2272	515	596
2162	1475	82	366
2163	1633	0	428
2165	3110	254	525
2166	1338	142	345
2185	645	280	218
2187	2263	562	753
2188	4	759	1
2204	1059	14	286
2205	1228	0	284
2206	951	0	247
2207	498	2691	120
2208	1278	0	303
2209	1172	67	306
2210	1596	1	413
2211	1962	882	599
2212	1575	249	430
2213	1490	131	487
2214	1513	240	444
2215	2226	0	541
2216	1333	131	427
2217	1773	0	509
2218	2049	0	558
2219	123	529	52
2220	577	1800	244
2221	2184	422	705
2222	1813	271	516
2223	2321	0	643
2231	3305	283	1197
2232	2231	542	811
2233	518	399	203
2234	1033	735	307
2235	10	171	4
2236	3148	2943	1104
2237	5	740	1
2238	575	322	203
2239	0	829	0
2240	20	1500	7
2241	0	188	0

## EXISTING ROADWAY INVENTORY

The existing number of lanes and the current functional classification of each roadway are from field visits, aerial photography, the City's previous TMP, and transportation plans from surrounding authorities. Figure 3 shows the results of that existing roadway inventory. In addition, Horrocks documented the type of intersection control and existing auxiliary lanes for all major intersections and used all this data to model and analyze existing traffic conditions throughout the City.



**Transportation Master Plan**  
**Figure 3: Existing Roadway Functional Classification and Number of Lanes Map**



Updated 2/7/2024

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## EXISTING TRAFFIC VOLUMES

Existing traffic volumes were collected on numerous key roadway segments to evaluate roadway capacities, calibrate the travel demand model, and identify existing deficiencies in the roadway system. These counts were obtained from various sources, including UDOT’s Average Daily Traffic (ADT) volumes, traffic counts performed for previous traffic studies, and manual traffic counts collected at 28 intersections throughout the city. Where necessary, these counts were adjusted up to the year 2022. The raw traffic data collected is provided in the appendix.

## EXISTING TRAFFIC CONDITIONS

A term used to describe the traffic operations on roadways and at intersections is Level of Service (LOS). There are different methodologies available to calculate LOS, the most used methods are in the Highway Capacity Manual (HCM) published by the Transportation Research Board. The HCM defines six levels of LOS ranging from LOS A to LOS F; LOS A represents free-flow conditions, and LOS F represents severely congested traffic conditions. For this analysis, two types of LOS were used to evaluate the roadway network: Roadway LOS and Intersection LOS. A discussion of these several types of LOS is below.

### ROADWAY LEVEL OF SERVICE

Roadway LOS is used as a planning tool to quantitatively represent the ability of a particular roadway to accommodate the travel demand. As a rule of thumb and based on previous experience, the following tables were used to estimate the roadway LOS based on the functional classification, the number of lanes, and the ADT of each roadway in question:

**Table 3 Freeway LOS Capacity Criteria (Maximum Volume)**

Lanes	LOS C	LOS D	LOS E
4	60,000	70,000	89,000
6	95,000	112,000	140,000

**Table 4 Arterial LOS Capacity Criteria (Maximum Volume)**

Lanes	LOS C	LOS D	LOS E
2	10,800	13,400	16,100
3	12,400	15,100	17,700
5	28,500	32,800	40,300

**Table 5 Collector LOS Capacity Criteria (Maximum Volume)**

Lanes	LOS C	LOS D	LOS E
2	9,700	12,100	14,500
3	10,800	13,400	16,100
5	23,100	26,900	33,900

## INTERSECTION LEVEL OF SERVICE

Intersection LOS is a more precise method for quantifying traffic operations compared to the Roadway LOS methodology described above. The Roadway LOS looks at the big picture, while the Intersection LOS considers individual vehicular movements within an intersection. Since intersections tend to be the source of bottlenecks within transportation networks, a detailed look into the delay experienced at each intersection is performed. The *Highway Capacity Manual* (HCM) shows the methodology for calculating this delay. [Table 6](#) describes the resulting LOS criteria for both signalized and unsignalized intersections.

**Table 6 Signalized & Unsignalized Intersection LOS Criteria**

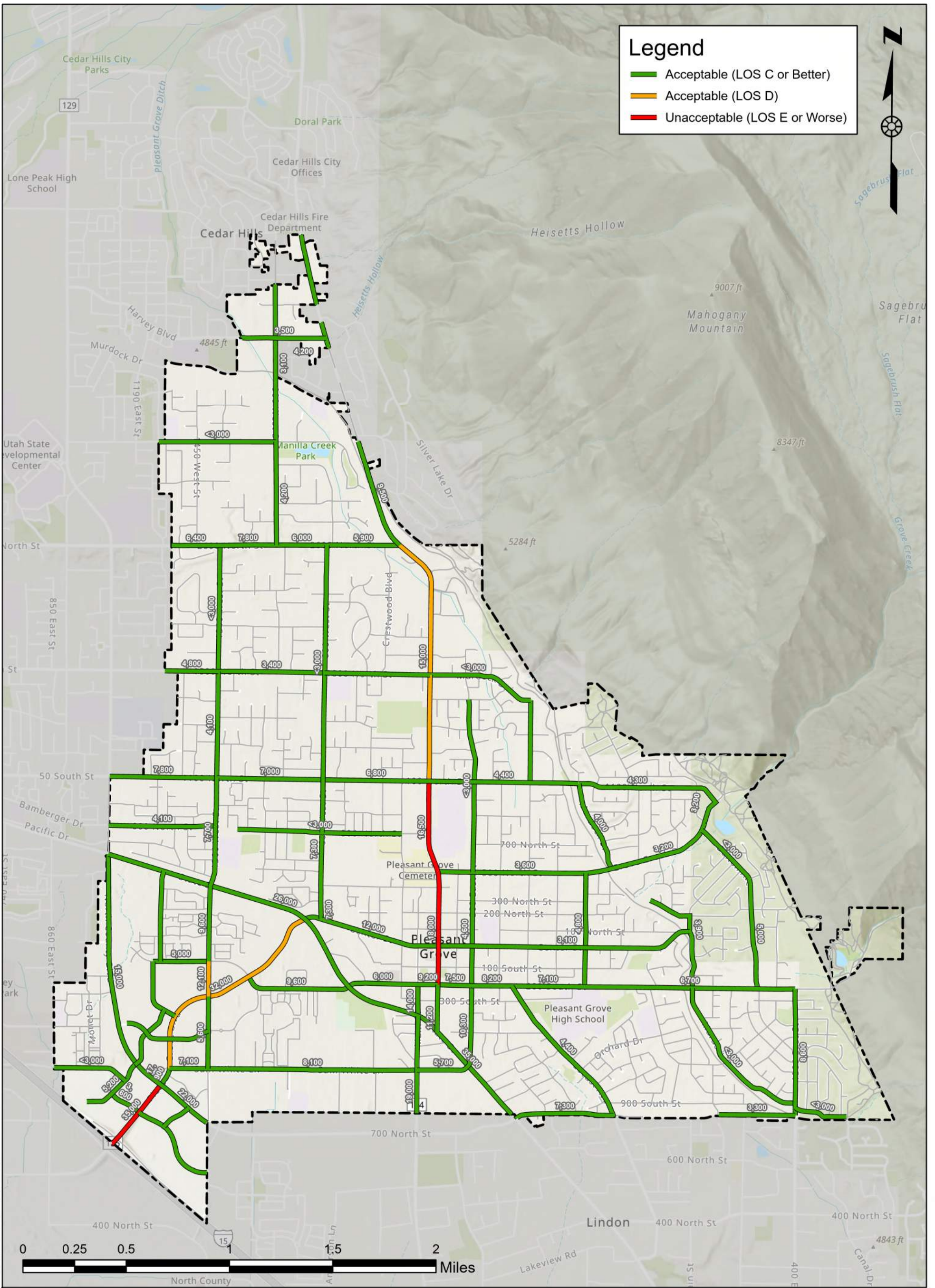
Level of Service	Average Control Delay (sec/veh)	
	Signalized	Unsignalized*
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

\*Note: The LOS for unsignalized intersections represents the approach with the highest delay.

Even with the rapid growth in Pleasant Grove City in recent years, most roadways operate at an acceptable LOS at the existing travel demand ([Figure 4](#)). [Figure 4](#) shows a few areas experiencing undesirable traffic congestion and delays.

## EXISTING ROADWAY JURISDICTION

The current street system in and around Pleasant Grove consists of a mixture of state, county, and locally owned and operated roads. This mixture may present challenges when coordinating roadway maintenance and improvement programs between authorities. However, by identifying the different agencies and the roadways each authority is responsible for, coordination of future improvements is enhanced.



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# Transportation Master Plan

## Figure 4: Existing Level of Service (LOS) & Average Daily Traffic Volume (ADT)



Updated 2/7/2024



## EXISTING ALTERNATIVE TRANSPORTATION MODES

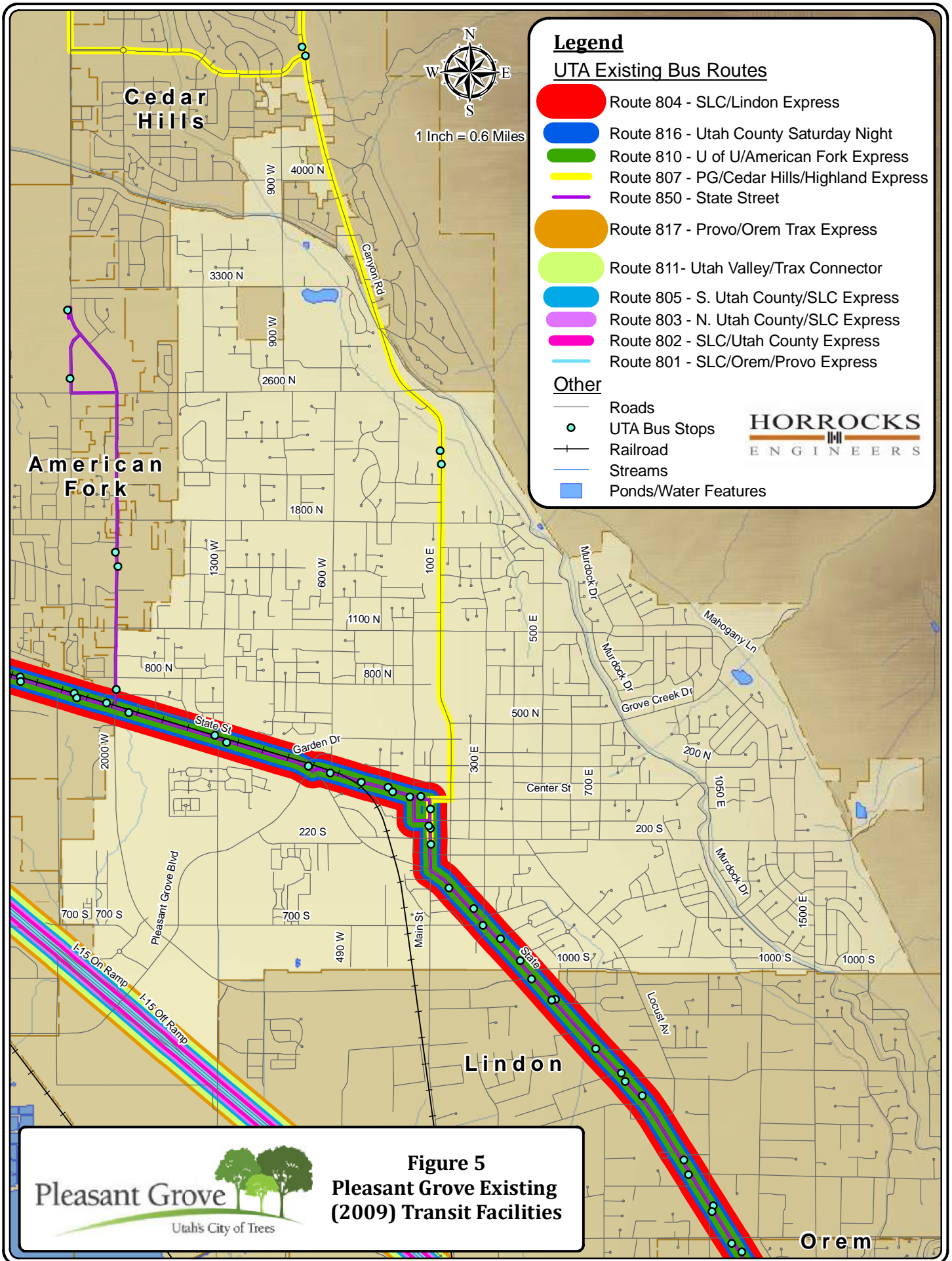
Public transit is a form of alternative transportation within Pleasant Grove City provided by the Utah Transit Authority (UTA). [Figure 5](#) shows the existing transit facilities that run through the city. As shown in the figure, several regional UTA bus routes run through the City along State Street and other roads, with several stops in downtown Pleasant Grove.

Most of the bus service in Pleasant Grove consists of express bus service whose routes use I-15 and other principal roads. Pleasant Grove residents and businesses use this service to access Salt Lake City and other Salt Lake County locations, as well as Orem, Provo, Payson, and other Utah County locations.

The existing UTA bus routes that connect Pleasant Grove with other communities are as follows:

- **Route 807 – North County/Lehi Station/UVU:** This route has a terminus at the UVU station and the Lehi Station. There is a stop at 150 S and Main Street in Pleasant Grove.
- **Route 806 – Eagle Mountain/Saratoga Springs/Lehi Station/UVU:** This route has a terminus at the UVU station and the Eagle Mountain Church Park & Ride. There is not stop in Pleasant Grove.
- **Route 850 - State Street:** This route has termini at Lehi Station and Provo Central Station. There is a stop at 150 S and Main Street in Pleasant Grove.

Pleasant Grove considers mass transit and bicycle and pedestrian transportation as an important part of Pleasant Grove's transportation system. Several existing trails are available to pedestrians, bicyclists, and equestrians. The Upper Bonneville Shoreline Trail and Bonneville Shoreline Trail are located principally on Forest Service land east of the city. Walkers, joggers, and mountain bikers frequently use the Murdock Canal Trail. All these trails are important to City residents as recreational recreation facilities. Walking paths, multi-use trails (such as the one on Pleasant Grove Boulevard), and pedestrian routes are available to Pleasant Grove's citizenry.



## 4.0 Future Conditions

Future travel patterns and associated travel conditions are a direct function of projected land use and socioeconomic conditions. Thus, since municipal boundaries do not restrict travel, a larger area of socioeconomic characteristics is used to estimate future travel volumes in Pleasant Grove City and the surrounding street systems. Future land use and socioeconomic data were obtained from the Mountainland Association of Governments (MAG) and supplemented by data from Pleasant Grove City.

### FUTURE SOCIOECONOMIC CONDITIONS

The analysis of land use and socioeconomic data and projections is beyond the scope of this type of transportation study. The transportation system was planned and designed to accommodate future growth projections using a certain amount of socioeconomic documentation is appropriate. The city considers the socioeconomic data collected to be the best available; however, land use planning is a dynamic process, and the report assumptions should not supersede other planning efforts. [Table 7](#) shows the estimated socioeconomic conditions such as population, employment, and dwelling units for the Traffic Analysis Zones (TAZ) within Pleasant Grove City, shown in [Figure 2](#) for 2050.

Pleasant Grove City plans for growth to occur throughout the city. Today's transportation system needs to accommodate existing traffic demands and have capacity built into it to accommodate the projected traffic demands of tomorrow. A couple of assumptions were considered regarding the socioeconomic data and the growth expected to occur within the city. First, the TAZ-specific socioeconomic information only approximates the Pleasant Grove City boundaries based on the data provided by the MAG and reviewed by Pleasant Grove. In addition, actual values may differ somewhat because of the size study area of the Regional Transportation Model that includes the unincorporated areas in and around Pleasant Grove City.

MAG is responsible for regional transportation planning throughout the Utah Valley area. The primary responsibility of MAG is to function as the designated Metropolitan Planning Organization (MPO) for Utah County. MAG helps ensure all cities and counties in the urbanized areas of Utah County follow consistent right-of-way widths and general standards to make sure of adequate regional transportation facilities. The primary products of MAG include a 20-year Long Range Transportation Plan and a 5-year Transportation Improvement Program that are both constrained by available (or available) revenue. As a result of this constraint, the Long-Range Plan does not typically include all the regional facility improvements planned by local communities.

**Table 7: 2050 Socioeconomic Conditions**

TAZ Number	Population (Persons)	Employment (Jobs)	Dwelling Units (Units)
2161	2096	593	606
2162	1482	82	410
2163	1565	0	457
2165	2607	273	750
2166	1856	142	559
2185	918	556	344
2187	2618	679	984
2188	3	1003	1
2204	1175	16	61
2205	1194	0	313
2206	909	0	259
2207	517	2856	143
2208	1442	0	390
2209	1110	72	321
2210	1888	4	561
2211	1869	1089	652
2212	1649	858	511
2213	1676	354	599
2214	1563	287	505
2215	2096	0	568
2216	1298	187	462
2217	1996	0	629
2218	2428	0	746
2219	113	559	53
2220	484	2482	228
2221	2078	508	734
2222	1979	280	628
2223	2307	0	707
2231	3701	455	1442
2232	2529	586	980
2233	596	541	252
2234	2055	1379	726
2235	9	1768	4
2236	2982	3344	1157
2237	4	916	1
2238	527	534	205
2239	0	1289	0
2240	77	1969	28
2241	0	1426	0

## FUTURE LAND USE

The future conditions traffic analysis assumes full buildout as represented in the City’s current General Plan. The General Plan outlines the densities and types of land uses expected will be built throughout the city. This data was used to validate and modify the projected socioeconomic conditions used in MAG’s travel demand model for the TAZ in and around the City.

## TRAVEL DEMAND MODELING

Future travel demand projections are a function of land use and socio-economic conditions. MAG's regional travel demand model was used to accomplish this effort. First, the TAZ from MAG's model was divided into smaller TAZ to more accurately model traffic demand within and around the city. Using existing traffic and land use data from Pleasant Grove City, the travel demand model was calibrated to represent existing traffic conditions in Pleasant Grove City. Once the travel demand model was up to date for existing conditions, the model used future land uses and socioeconomic data to predict future roadway traffic volumes and roadway conditions.

## PROJECTED TRAFFIC VOLUMES AND CONDITIONS

The resulting output of the travel demand model consisted of projected traffic volumes on all the major streets throughout the city. This data was used to formulate roadway improvements on individual streets. Various alternatives were modeled and analyzed to develop these improvements. Various measures of effectiveness were considered to establish the projected traffic volumes and conditions for future roadway improvements, including Level of Service, delay, and overall safety. Pleasant Grove's existing and 2040 traffic scenarios were modeled. The following scenarios of broad alternatives are described in greater detail below.

### EXISTING CONDITIONS

Existing conditions were simulated using the travel demand model. These conditions were reviewed and compared with existing operations and traffic volumes to determine deficiencies or problems caused by existing travel demand as opposed to growth in travel demand. Existing traffic volumes and LOS are depicted in [Figure 4](#).

### NO-BUILD CONDITIONS

The no-build conditions consisted of modeling the potential development and growth throughout the city without making any additional improvements beyond what is already on the MAG Long Range (20-year) Plan. [Figure 6](#) shows the resulting traffic volumes (2050 projections) and LOS. This scenario was modeled to help pinpoint various problem areas throughout the city and demonstrate the need for traffic improvements. This option assumes that MAG would finish the traffic improvements on the current plan by 2050, including widening State Street to seven lanes and widening Pleasant Grove Blvd to five lanes. Regardless of these assumed improvements, a few roadways throughout the city are expected to perform at an undesirable LOS without any additional traffic improvements:

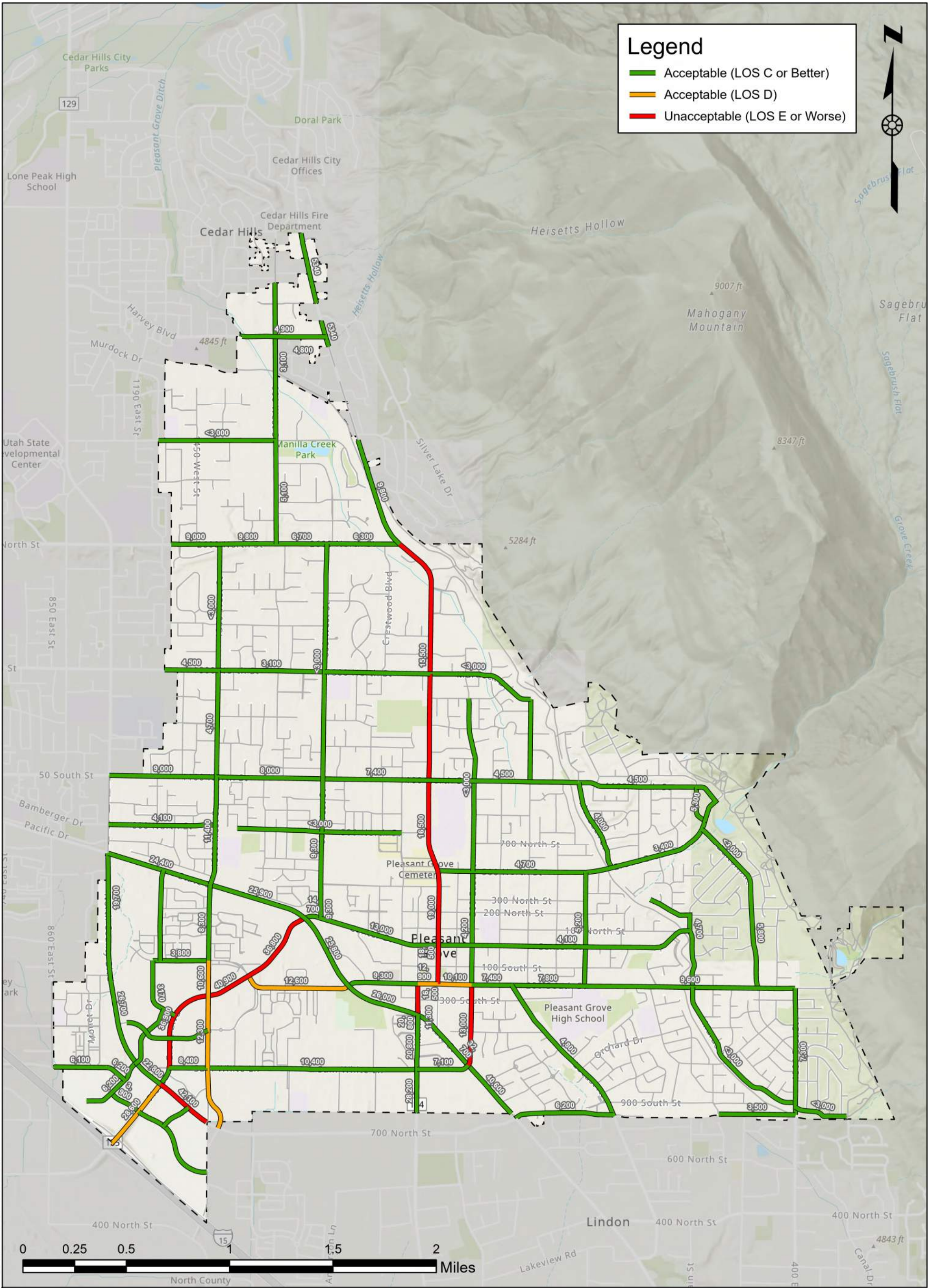
- 100 East from 200 South to 1100 North.
- Pleasant Grove Boulevard from Sam White Lane to State Street.

In addition to basic roadway widening concerns, various intersections are anticipated to operate poorly without proper improvements, including:

- 200 South & State Street
- 200 South & Pleasant Grove Blvd
- 200 South & 300 East
- 200 South & Murdock Drive
- 600 West & Center Street
- 1300 West & 1000 South
- 100 East & State Street
- 100 East & 1800 North
- Canyon Road & 2600 North
- Canyon Road & 4000 North
- 1100 North & 600 West
- 1100 North & 1300 West
- 1100 North & 2000 West
- 1800 North & 600 West
- 1800 North & 1300 West
- 2600 North & 600 West
- 2600 North & 900 West
- 2600 North & 1300 West
- 4000 North & 900 West
- Locust Drive & 1000 South
- Locust Drive & 200 South

## BUILD CONDITIONS

The 2050 build scenario was developed while attempting to balance transportation needs with realistically available funding. [Figure 7](#) outlines future improvements throughout the city. [Figure 8](#) shows the anticipated traffic volumes and LOS for all implemented improvements. The next chapter outlines the details of these future improvements.



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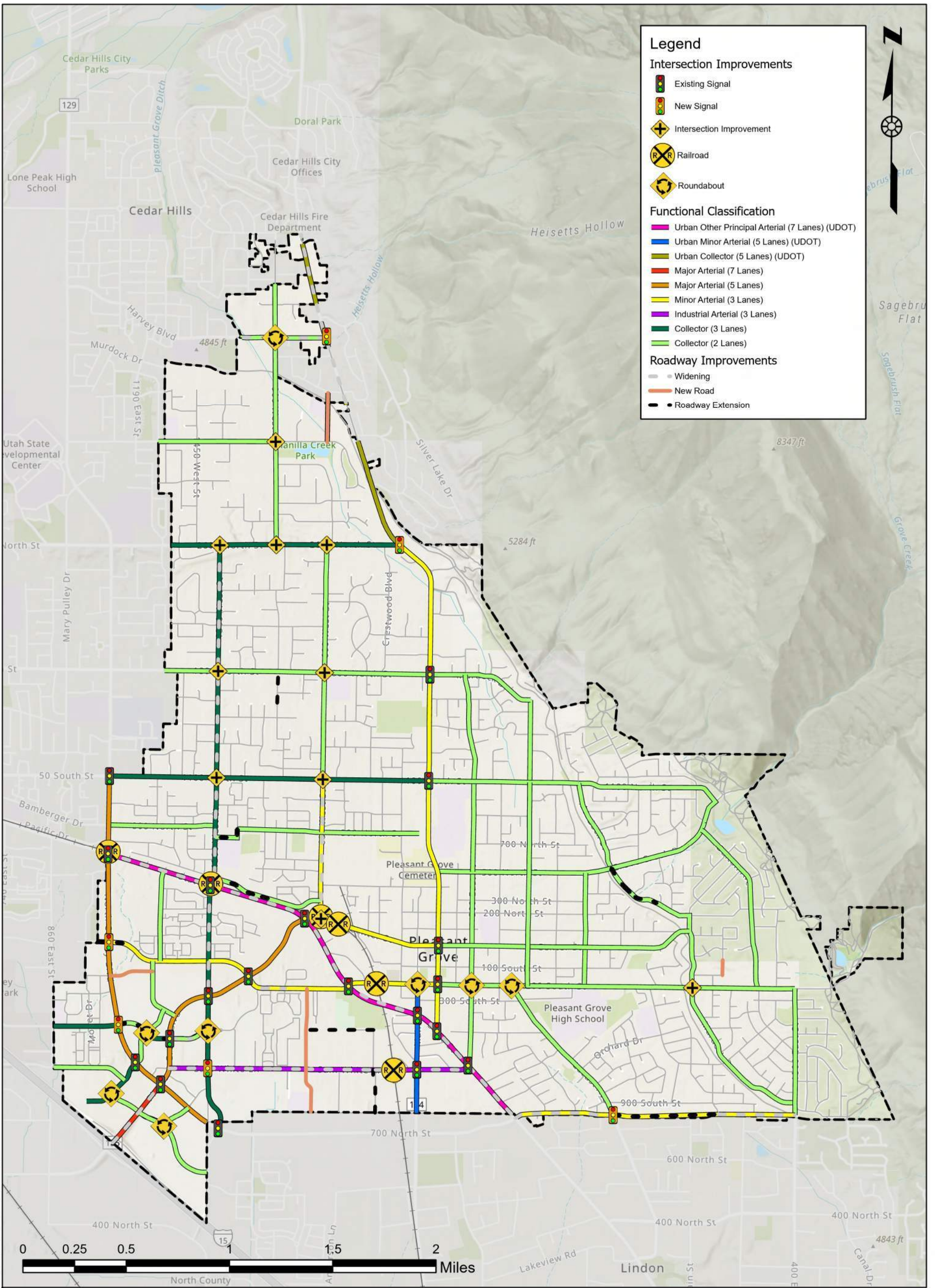


# Transportation Master Plan

## Figure 6: 2050 No-Build Level of Service with Traffic Volume



Updated 2/6/2024



# Transportation Master Plan

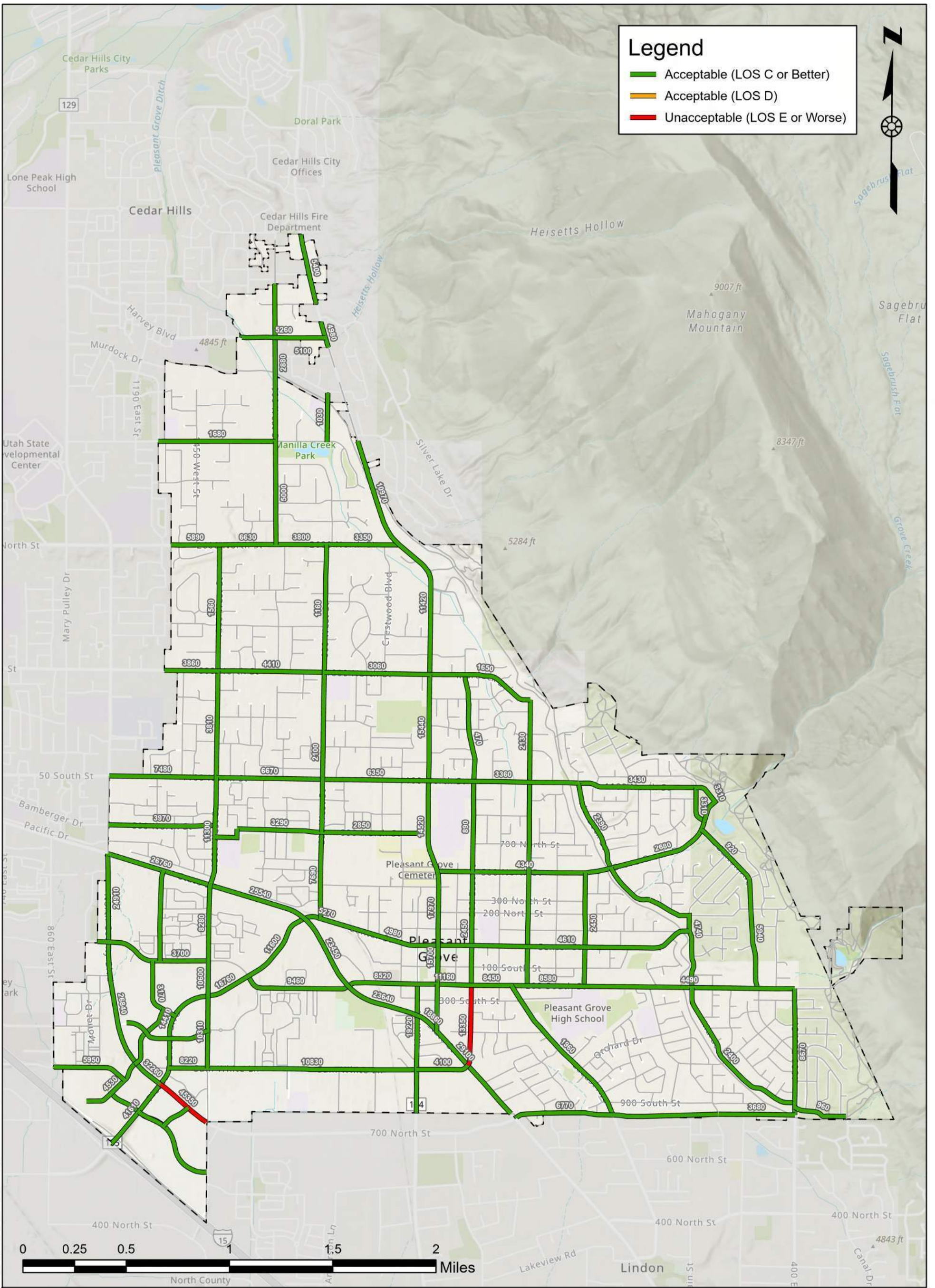
Figure 7: Roadway Master Plan



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# Transportation Master Plan

## Figure 8: 2050 Build LOS with Volumes Map



Updated 10/4/2023

## 5.0 Alternatives Evaluation and Guidelines

After evaluating the existing and future conditions, the following pages outline several guidelines to accommodate future traffic volumes and roadway conditions.

### ROADWAY FUNCTIONAL CLASSIFICATION

Transportation planning allows for adequate transportation solutions and connectivity with the surrounding areas while identifying ways impacts can be kept to a minimum. The key to maintaining this balance exists in the ability to adequately plan for major corridors that minimize traffic in neighborhoods while at the same time coordinating land use and transportation plans to capitalize on the efficient movements of people and goods. A hierarchy of streets known as a Functional Classification of Streets is defined to accomplish this objective. The functional classification scheme coincides with the surrounding areas. The city has defined a functional classification system consisting of the following roadway classifications:

- Major Arterial (5 to 7 lanes – 112' & 136' right of way)
- Minor Arterial (3 lanes – 76' right of way)
- Industrial Arterial (3 lanes – 76' right of way)
- Collector (2 to 3 lanes – 70' right of way)
- Local Road (2 lanes – 48' & 56' right of way)

Each of these roadway classifications has a specific purpose and function. For example, the primary purpose of an arterial street is to move traffic, accommodate longer trips, and serve higher-density retail and commercial land uses. Long continuous routes with high traffic volumes and speeds characterize arterial roadways. On the other hand, local roads are intended to provide local access to individual properties. Local roads are shorter in length with lower speeds and volumes. Collector roads provide a transition between arterials and local roadways by providing both access and traffic-moving capability. Collector-type facilities serve moderate traffic volumes and speeds.

[Table 8](#) and [Table 9](#) summarize some of the planning and design issues for each roadway classification, including right-of-way width, number of travel lanes, access control, traffic capacity, speed, trip length, and expected accident rate. In addition, the city designed typical cross-sections for each of the roadway classifications listed above. [Figure 9](#) and [Figure 10](#) illustrate these typical cross-sections. The typical cross-sections below are for reference only; use Pleasant Grove's standards and specifications for the design. [Figure 11](#) shows the functional classification assigned to all main roadways in the city.

**Table 8: Functional Classification Planning and Design**

Functional Group	Right-of-Way Width	No. of Travel Lanes	Access Control	Traffic Capacity (vehicles per day)
<b>Major Arterial</b>	136 feet	7	Public Streets Only	< 64,000
<b>Major Arterial</b>	112 feet	5	Public Streets Only	< 42,000
<b>Minor Arterial</b>	76 feet	3	Encourage Public Streets Only	<17,800
<b>Collector</b>	70 feet	2	Control Driveway Spacing	<16,200
<b>Local</b>	56 feet	2	Varies	<2,000 (& varies)

**Table 9: Functional Classification Operations**

Functional Group	Speed (mph)	Typical Trip Length	Typical Accident Rate (Accidents per million vehicle miles)
<b>Major Arterial</b>	45+ (& varies)	3 to 15 miles	3
<b>Minor Arterial</b>	35 to 45 (& varies)	1 to 5 miles	6
<b>Collector</b>	25 to 40 (& varies)	<2 miles	8
<b>Local</b>	<25 (& varies)	<0.5 miles	Varies

At the intersections of many major and minor arterials, traffic volumes are expected to be high enough to potentially warrant additional turning lanes, such as exclusive right-turn or dual left-turn lanes. The city will require widening some localized intersections to accommodate these extra lanes. As City staff reviews traffic impact studies submitted by developers, attention to intersection operations surrounding the future development to determine the need for additional auxiliary lanes. In addition, the city will conduct a detailed intersection analysis of existing traffic operations during every major review of the City TMP once every two to three years.

The city may determine that exclusive bus turnout lanes are necessary for specific locations based on a case-by-case basis to preserve roadway capacity; additional widening for exclusive bus turnout lanes does not appear necessary. Unless otherwise specified by the city, bus maneuvers will primarily occur within the shoulder areas at designated bus stops.

Roadway designs need to provide adequate curb radii at intersections based on the specific roadway classifications of the intersecting roads. [Table 10](#) outlines appropriate turning radii for corresponding intersecting roadway classifications.

**Table 10: Intersection Curb Radii Chart**

Cross Street	Road Types			
	Major Arterial	Minor Arterial	Collector	Local
<b>Major Arterial</b>	35'	35'	35'	N/A
<b>Minor Arterial</b>	35'	35'	30'	N/A
<b>Collector</b>	35'	30'	30'	25'
<b>Local</b>	N/A	N/A	25'	25'

Figure 9: Typical Cross-Sections-Arterial Roads

**MAJOR ARTERIAL (136' ROW) - 7 Lanes**

MAY APPLY TO UDOT ROADWAYS



**MAJOR ARTERIAL (112' ROW) - 5 Lanes**

PLEASANT GROVE BLVD



**MINOR ARTERIAL (76' ROW) - 3 Lanes**



**INDUSTRIAL ARTERIAL (76' ROW) - 3 Lanes**

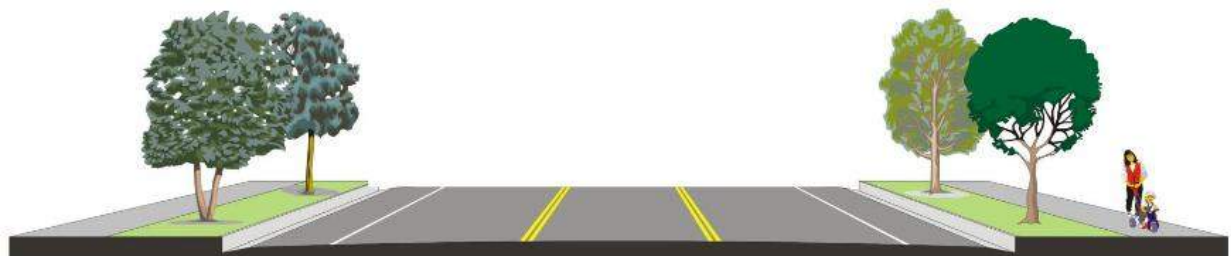


Figure 10: Typical Cross-Sections – Collectors & Local Roads

COLLECTOR (70' ROW) - 2 Lanes



COLLECTOR (70' ROW) - 3 Lanes



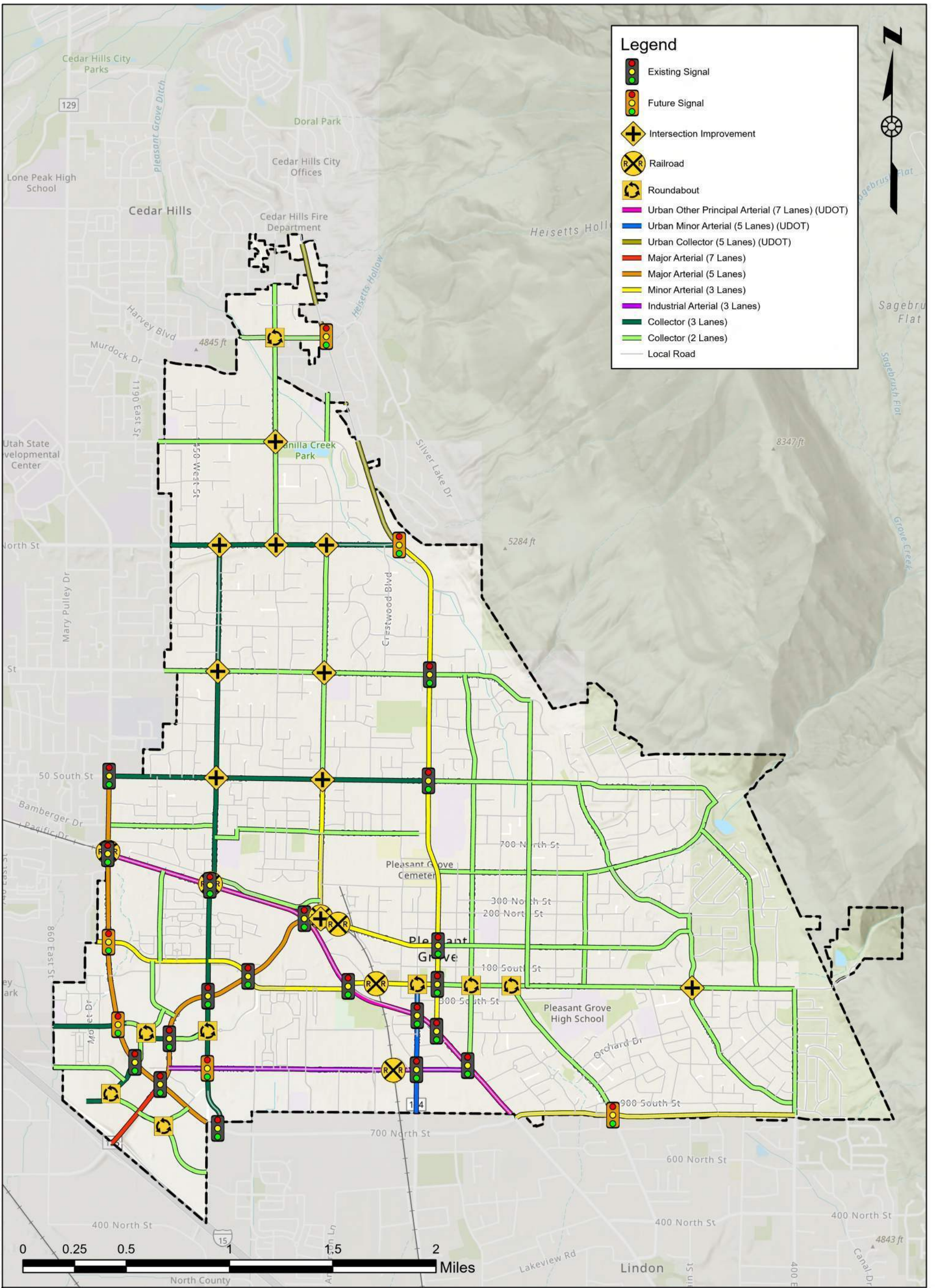
RESIDENTIAL LOCAL ROAD (56' ROW) - 2 Lanes



RESIDENTIAL SUB-LOCAL ROAD (48 & 56' ROW) - 2 Lanes



For construction, apply Pleasant Grove City standards.



# Transportation Master Plan

Figure 11: Future Functional Classification Map



Updated 10/4/2023

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## ALTERNATIVE TRANSPORTATION MODES

### MASS TRANSIT

As Pleasant Grove City and the surrounding areas continue to grow, roadways will become more congested due to the increasing number of vehicles. To help alleviate some of the congestion and reduce the number of vehicles on the roadway system, alternative modes of transportation will become increasingly important.

The Utah Transit Authority (UTA) is the public transportation provider in Pleasant Grove. UTA operates fixed-route buses, express buses, bus rapid transit (BRT), ski buses, light rail, and commuter rail. In this capacity, UTA currently operates two bus routes in Pleasant Grove (807 & 850). As demand increases, Pleasant Grove and UTA have the responsibility to collaborate and develop transit plans that cater to alternative transportation options for residents.

As part of MAG's Trans Plan 50, a central light rail line is scheduled and unfunded for phase 2, which will travel from Provo to American Fork. Pleasant Grove and UTA will continue to plan for future transit needs. The following paragraphs outline several guidelines for increasing and improving alternative transportation modes in Pleasant Grove City.

### UTA LOCAL/EXPRESS BUS SERVICE

Bus service helps provide a low-cost alternative travel mode for the public while benefiting communities. With the continued growth in Pleasant Grove, bus routes need to expand to meet the increasing demand for service. Currently, several different regional bus routes pass through Pleasant Grove. [Figure 13](#) shows the new bus routes. The City and UTA need to coordinate to solidify these routes to provide optimum linkage between the commercial/industrial and residential areas in Pleasant Grove.

UTA has no specific plans to expand the local bus service. However, bus route planning is an ongoing process, and as the need arises, Pleasant Grove will seek to add more services. City planning officials have indicated that additional local bus service could be considered by UTA using the following routes: 100 East; the future 1000 South/1200 East (Lindon) Connection; Main Street/Geneva Road; 3300 North; and 900 West (North of 3300 North). Additionally, MAG has considered routes on 2000 West/700 North (Lindon)/1000 South, 500 East, 1100 North, 200 South, and State Street between Main Street and Pleasant Grove Blvd.

### INTERCITY CONNECTOR

MAG's Regional Transportation Plan identifies the Intercity Connector as a Phase 1 project between 2009 and 2015; the project has a triangular shape north of University Parkway with an extension near the tip of the triangle. The extension runs from UTA's park-and-ride facility near the American Fork Main Street/I-15 Interchange to downtown Pleasant Grove. The eastern part of the triangle is at University Parkway and State Street in Orem. The western tip is at 1200 South and Geneva Road. The system runs south through Provo, using University Avenue and State Street, through Springville using Main Street, and through Spanish Fork using U.S. Hwy. 89. The Intercity Connector will provide an interface with the various FrontRunner stations in American Fork, Vineyard, and Orem.

## BUS RAPID TRANSIT (BRT)

The Regional Transportation Plan (RTP) identifies the BRT as a Phase I project. The RTP identifies a Bus Rapid Transit (BRT) project between Provo and Orem. The termini for this project are 1200 South/Geneva Road in Orem and 100 West and approximately 1800 South in Provo. It will interface with the Intercity Connector on University Parkway and 1200 South in Orem and the FrontRunner commuter rail to the south in Provo.

## LIGHT RAIL

A TRAX extension project from Lehi to Provo is in the planning phases, and the MAG Regional Transportation Plan is a Vision Project; this means it is unfunded and will not be implemented until sometime after 2030. The route would follow the rail line east of I-15 that UTA owns in Lehi, American Fork, Pleasant Grove, Lindon, and Vineyard. From Vineyard, the route is in the FrontRunner right-of-way. The TRAX line parallels and is adjacent to State Street in Pleasant Grove.

## COMMUTER RAIL TRANSIT

FrontRunner commuter rail is currently under construction between downtown Salt Lake City and Provo (approximately 100 West/1800 South). The FrontRunner commuter rail is anticipated to be completed and operational sometime in the year 2013. Stations that are planned that are near Pleasant Grove (but not in Pleasant Grove) are American Fork and Vineyard.

## INTERMODAL CENTER

There is a possibility of developing an intermodal center that would accommodate light rail, the Intercity Connector, and local/express bus in downtown Pleasant Grove at about 200 West and 200 South. Approximately one acre of vacant land is at this location (behind the post office) for a light rail station with some parking facilities. However, there has been some thought that this site may be too small and may need a larger site to accommodate the TRAX station, the Intercity Connector, the local/express bus, and a complement of parking. Coordination between the City and UTA will take place soon on this site.

## BICYCLE AND PEDESTRIAN FACILITIES PLAN

Trails are a crucial element of the transportation system and improve the overall quality of life for the community. Trails throughout the City parallel roadways but may also follow canals, rivers, utility corridors, and natural drainage channels. Pedestrians, bicyclists, and equestrians (in rural areas) could share these routes. [Figure 12](#) shows the location of the proposed projects. [Table 11](#) outlines the proposed active transportation list. More information on the Pleasant Grove Bicycle and Pedestrian Master Plan (Adopted November 2013) can be found on the Pleasant Grove City website, [Microsoft Word - PG Final Plan DRAFT-11-26-13.docx \(plgrove.org\)](#).

## TRAIL PRIORITIES

The city has indicated that it will continue with its recreational trails priorities of the past plan, which are: Battle Creek Trailhead Park; Bonneville Shoreline Trail and Trailhead Parks (upper and lower); Wetlands in the Grove (connect trail systems in current developments and adjacent cities); bike paths (city-wide along existing collectors and some arterials); and Murdock Canal Trail.



**Table 11: Trail Descriptions**

Project Number	Name/Location
<i>Pleasant Grove Trails – North/South</i>	
1	Upper Bonneville Shoreline Trail – unimproved hiking, mountain bike, and equestrian trail
2	Bonneville Shoreline Trail – unimproved hiking/mountain bike trail (regional)
3	Murdock Canal Trail – multi-use trail (existing canal (regional) with equestrian)
4	1500 East – pedestrian route/bike lane
5	Dalton Ave/1260 East – pedestrian route/ bike lane
6	500 East – pedestrian route/bike lane
7	Locust Avenue – pedestrian route/bike lane
8	State Street – pedestrian route/bike route
9	Old Fort Wall (300 East to 100 West) – pedestrian route
10	100 East/A. F. Canyon Road Trail – pedestrian route/bike lane
11	Main Street/Geneva Road – pedestrian route/bike lane
12	600 West – pedestrian route/bike lane
13	900 West (2600 North to city limits) – pedestrian route/bike lane
14	900 West (1000 South to Pleasant Grove Boulevard) – pedestrian path
15	1300 West (city limits to 2600 North) – pedestrian route/bike lane
16	1450 West (2600 North to Murdock Canal Road) – pedestrian route/bike lane
17	Pleasant Grove Boulevard – multi-use trail (regional)
18	2000 West Ditch Trail/Monet Drive – multi-use trail
19	2000 West Trail – multi-use trail (regional)
<i>Pleasant Grove Trails – East/West</i>	
20	1000 South – pedestrian route/bike lane (regional)
21	700 South (Sam White Lane) – pedestrian route/bike lane
22	Utah Valley Drive (500 South) – pedestrian route/bike lane
23	Old Fort Wall (300 South to 100 North) – pedestrian route
24	200 South (200 South/220 South/100 South) – pedestrian route/bike lane
25	100 South/Center Street – pedestrian route/bike lane
26	Rail Trail – UTA rail right-of-way next to State Street(regional) multi-use
27	400 North – pedestrian route/bike lane
28	500 North/Grove Creek Drive – pedestrian route/bike lane
29	1100 North – pedestrian route/bike lane
30	1800 North – pedestrian route/bike lane
31	2600 North – pedestrian route/bike lane
32	3300 North – pedestrian route/bike lane

From the 2009 TMP Document



1 Inch = 0.6 Miles

**Legend**

**Bicycle/Pedestrian Facilities**

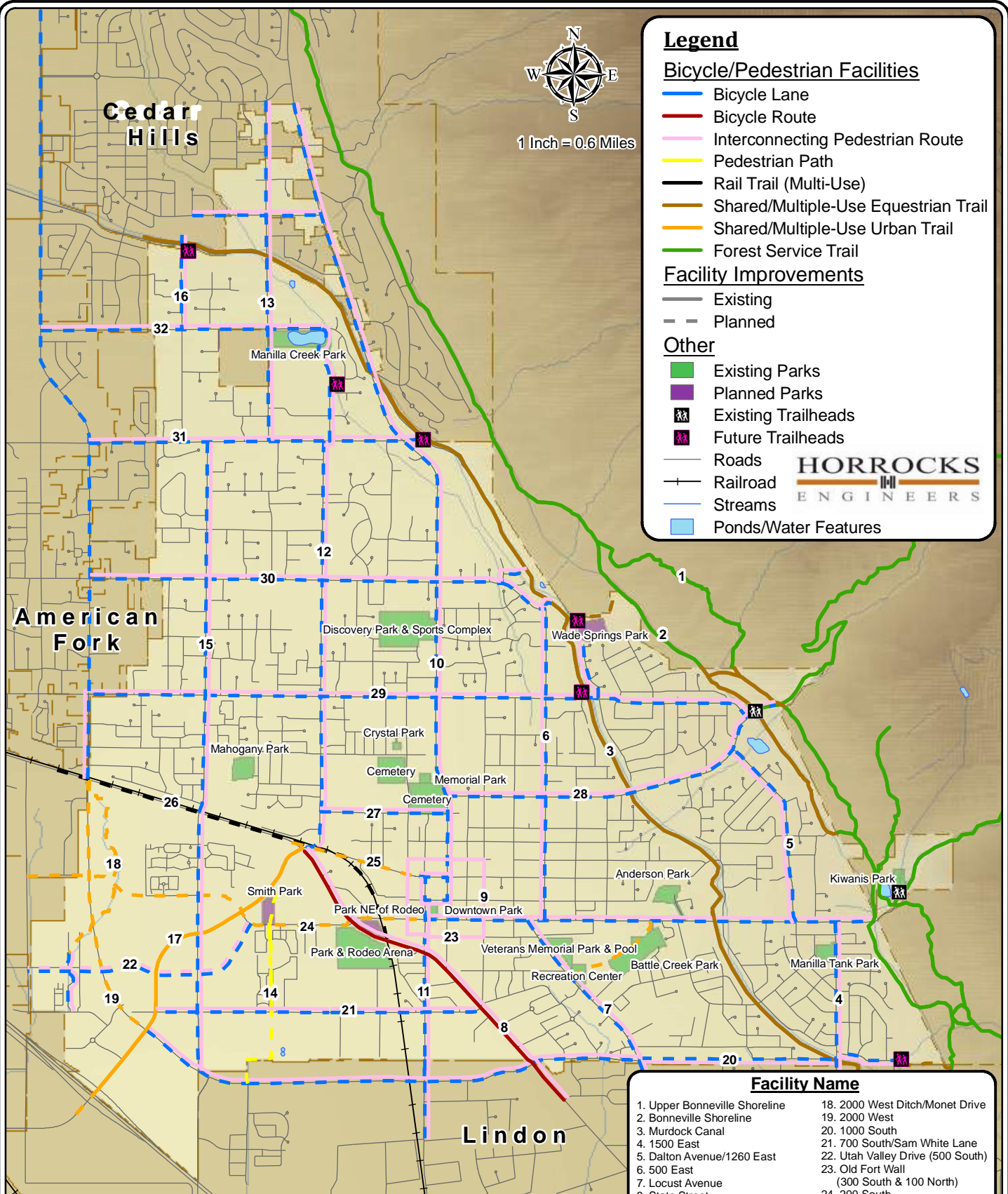
- Bicycle Lane
- Bicycle Route
- Interconnecting Pedestrian Route
- Pedestrian Path
- Rail Trail (Multi-Use)
- Shared/Multiple-Use Equestrian Trail
- Shared/Multiple-Use Urban Trail
- Forest Service Trail

**Facility Improvements**

- Existing
- - Planned

**Other**

- Existing Parks
- Planned Parks
- Existing Trailheads
- Future Trailheads
- Roads
- Railroad
- Streams
- Ponds/Water Features

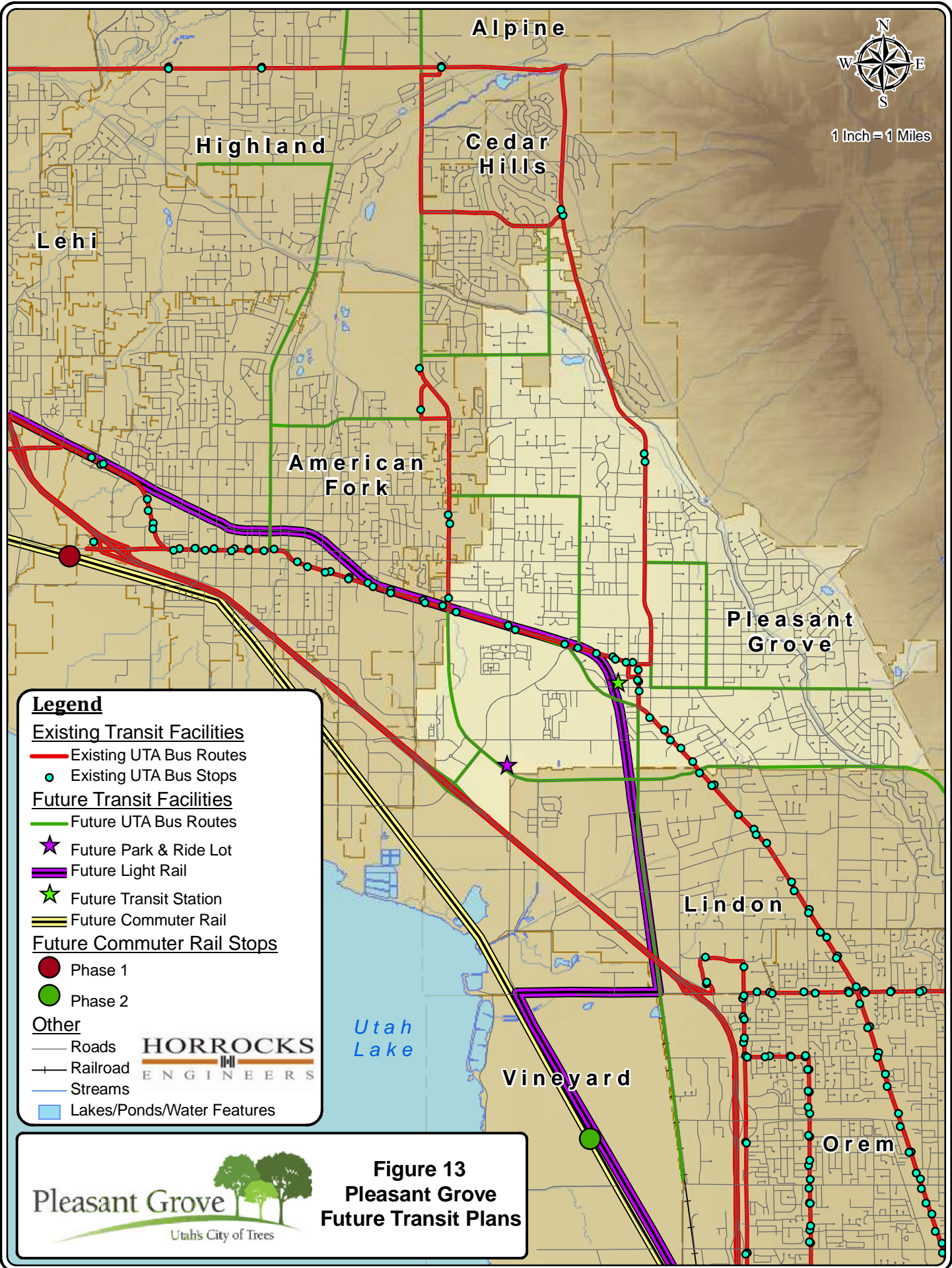


**Facility Name**

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 1. Upper Bonneville Shoreline     | 18. 2000 West Ditch/Monet Drive   |
| 2. Bonneville Shoreline           | 19. 2000 West                     |
| 3. Murdock Canal                  | 20. 1000 South                    |
| 4. 1500 East                      | 21. 700 South/Sam White Lane      |
| 5. Dalton Avenue/1260 East        | 22. Utah Valley Drive (500 South) |
| 6. 500 East                       | 23. Old Fort Wall                 |
| 7. Locust Avenue                  | 24. 200 South                     |
| 8. State Street                   | 25. 100 South/Center Street       |
| 9. Old Fort Wall                  | 26. Rail Trail                    |
| (300 East & 100 West)             | 27. 400 North                     |
| 10. 100 East/A.F. Canyon Road     | 28. 500 North/Grove Creek Drive   |
| 11. Main Street/Geneva Road       | 29. 1100 North                    |
| 12. 600 West                      | 30. 1800 North                    |
| 13. 900 West                      | 31. Manilla Trail/2600 North      |
| 14. 900 West (1000 South-PG Blvd) | 32. 3300 North                    |
| 15. 1300 West                     | 33. East Murdock Drive            |
| 16. 1450 West                     | 34. North Murdock Drive           |
| 17. Pleasant Grove Blvd           |                                   |



**Figure 12  
Pleasant Grove Bicycle  
& Pedestrian Facilities**



## BICYCLE AND PEDESTRIAN IMPROVEMENTS

There are several observations about bicycle and pedestrian transportation during the development of this TMP. Consequently, the city will seek to:

- Install painted bike Lanes – 4 to 5 feet wide next to the general-purpose lane.
- Construct multi-use trails – 10 to 12 feet wide, when possible, if there is enough room.
- Separate equestrian facilities from bike/pedestrian facilities, but both can be within the same corridor.
- Provide connection between parks/schools and bike/pedestrian facilities.
- Connect mass transit facilities with bike/pedestrian facilities.
- Join sidewalks where gaps exist, particularly on busy, high-speed roads and roads designated as pedestrian routes.
- Develop priorities for providing sidewalks on streets where gaps exist throughout the city.
- Coordinate and interconnect trails with adjacent cities (Lindon, American Fork, Highland, and Cedar Hills), the County, and the Forest Service.
- Avoid placing bicycle facilities on high-speed and busy roads.
- Conduct planning/engineering studies to locate, design, and acquire ROW for the trails concerning bike, pedestrian, and other trail facilities.
- Make plans to implement the “Trails” Plan (include the facilities in various street projects, as it is harder to retrofit facilities).
- Develop multi-use trails in the urban environment.
- Maintain street pavement in good condition and pave roadway shoulders with bike lanes.
- Coordinate with UDOT relative to pedestrian and bike facilities on state roads (i.e., State Street, Geneva Road, 100 East, etc.)
- Execute and finalize an agreement with the Murdock Canal Company as soon as possible to formally make available the canal road as a trail to the public. The Canal Company is committed to piping or covering the canal, and the city has indicated a desire to pave a trail of fifteen feet or more over the top within the next three years. The Canal Company expects to start work during the summer of 2009. A planned multi-use trail with an equestrian facility is within this corridor.
- Note the State of Utah permits bicycles on all Utah roads except for access-controlled freeways. The designation of certain roads as Class II (bike lane) or Class III (bike route) facilities does not imply that these are the only roadways intended for bicycle use. The designation of a Class II and III network of on-street bikeways recognizes that certain roadways are optimal bicycle routes because of directness or access to significant destinations.

## NEW TRAILS

After evaluating the existing bicycle and pedestrian facilities, the southeastern quadrant and other miscellaneous city locations could use some facilities to make the bicycle/pedestrian facilities network a complete system and interconnect them with other planned facilities. The list below reflects the planned additions to the network:

- 1300 East/Dalton Drive (200 South-Grove Creek Drive)
- Grove Creek Drive (100 East-1100 North, approximately 1050 East)
- 500 East (200 South-Murdock Drive)
- 400 North (100 East-600 West)
- State Street (south of Pleasant Grove Boulevard)
- 700 South (1300 West-Pleasant Grove Blvd.)

## INTER-JURISDICTION COORDINATION

During the evaluation of the existing and planned bicycle/pedestrian facilities, several facilities in the City's plan did not connect with facilities in neighboring authorities and ended. Coordination between Pleasant Grove and the adjacent authorities to make it possible for the bicycle/pedestrian facilities to be continuous across city boundaries.

The following Pleasant Grove bicycle and pedestrian facilities do not connect with a comparable counterpart in one of the neighboring cities:

### **Bike/Pedestrian Facilities that do not connect with Lindon City's Facilities**

- 1500 East
- Locust Avenue
- Main Street (PG)/Geneva Road (Lindon)

### **Bike/Pedestrian Facilities that do not connect with American Fork City's Facilities**

- 700 South/Sam White Lane Trail
- "220 South" Trail
- 1100 North Trail
- 1800 North Trail
- 2600 North Trail

### **Bike/Pedestrian Facilities that do not connect with Highland City's Facilities**

- 3300 North Trail

### **Bike/Pedestrian Facilities that do not connect with Cedar Hills City's Facilities**

- American Fork Canyon Trail
- 900 West Trail

## DEFINITIONS OF BICYCLE AND PEDESTRIAN FACILITIES

To assist the city in planning and discussing bicycle and pedestrian facilities, and have an understanding of these facilities, some definitions of these facilities are below:

- **Bike Lane:** A portion of a designated roadway for the preferential or exclusive use of bicyclists by striping, signing, and pavement markings.
- **Bikeway or Bike Route:** A generic term for any road, street, path, or travel way, which in some manner is specifically designated for bicycle travel, regardless of whether such designated facilities are for the exclusive use of bicycles or shared with other transportation modes.
- **Bicycle Route system:** A system of bikeways designated by the authority having authority with appropriate directional and information route markers, with or without specific bicycle route numbers. Bike routes establish a continuous routing but may be a combination of any bikeways.
- **Rail-Trail:** A shared use path, either paved or unpaved, built within the right-of-way of an existing or former railroad.
- **Roadway:** The portion of the highway, including shoulders, intended for vehicular use.
- **Shared Roadway:** A roadway without a bikeway designation that allows bicycle and motor vehicle travel and may have wide curb lanes or paved shoulders.
- **Shared or Multiple Use Path or Trail:** A pathway that is physically separated from motorized vehicular traffic by open space or a barrier and which is either within the highway right-of-way or

within an independent right-of-way that is open for use by bicyclists, pedestrians, skaters, wheelchair users, joggers, and other non-motorized users.

- **Signed Shared Roadway:** A roadway identified as a preferred bike route by signing.
- **Shoulder:** The portion of the roadway (paved or unpaved) contiguous with the traveled way for accommodation of bicycle travel, stopped vehicles, emergency use, and for lateral support of sub-base, base, and surface courses.
- **Sidewalk:** The portion of a street or highway right-of-way designed for preferential or exclusive use by pedestrians.

## REFERENCES FOR BICYCLE AND PEDESTRIAN FACILITIES

The city will obtain and use the following references for planning and designing bicycle and pedestrian facilities:

- AASHTO Guide for the Development of Bicycle Facilities, 1999
- UDOT's Guide for Bicycle and Pedestrian Accommodations
- Portland Pedestrian Design Guide, June 1998
- City of Portland, Office Transportation, Bicycle Master Plan, July 8, 1998
- Victoria Transport Policy Institute, Pedestrian and Bicycle Planning: A Guide to Best Practices, April 2006
- Pleasant Grove Bicycle and Pedestrian Master Plan

## SIGNAL INVENTORY

[Figure 14](#) shows the location of the existing and future traffic signals. All the intersection improvements are based on future traffic projections. Future traffic signals or roundabouts will require a detailed traffic study documenting the need for such intersection improvements. All future signal locations shown in [Figure 14](#) are pending; the future signal locations meet the signal warrants outlined in the MUTCD.

One signal is expected at the realignment of Center Street and 600 West. Because this signal is near the existing traffic signal at State Street and Pleasant Grove Boulevard, the two will require coordinated timing. Three other future traffic signals fall on 2000 West, one on 700 North, and two on 100 East. The city will consider roundabouts as a viable alternative at main intersections in place of or where traffic signals are not warranted.

## SAFETY

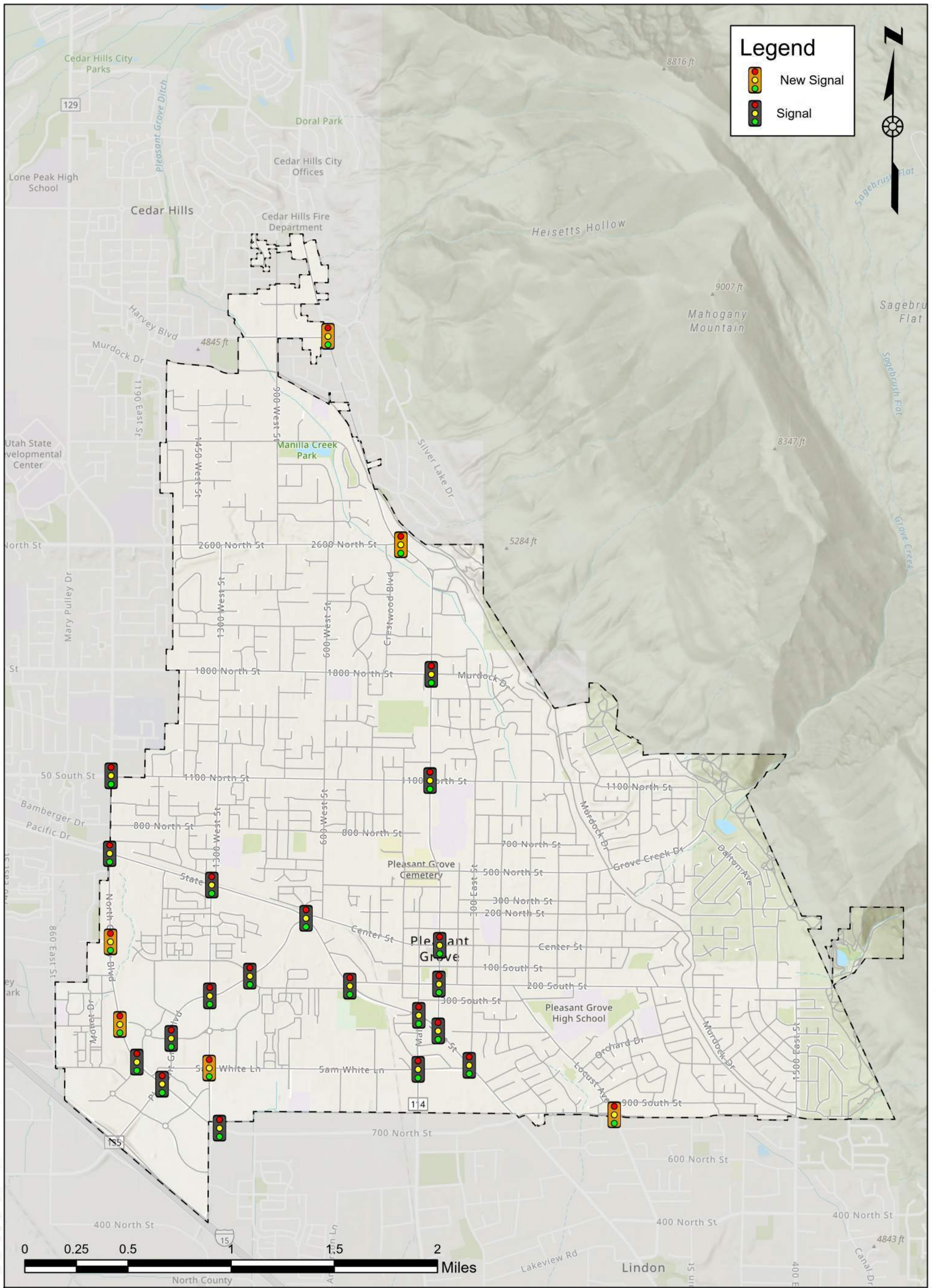
One of the main goals of the TMP and long-term transportation planning is to envision traffic growth and provide adequate facilities as the need arises. Another goal of equal importance is constructing these future facilities for safe operations. The City will build and maintain these facilities to design and engineering standards from the Pleasant Grove ordinances, the American Association of State Highway Transportation Officials (AASHTO) "Policy on Geometric Design of Highways and Streets," the Manual on Uniform Traffic Control Devices (MUTCD), and the Americans with Disabilities Act (ADA) standards and school zone treatments.

## DRIVEWAYS

One safety item that deserves attention is the interaction of driveways on collector and arterial streets. Where accesses do exist on these roadways, the City will require that sufficient space be provided to allow vehicles to turn around on site so that they always exit the driveway facing the street. For example, private residences ought to have circular type driveways to safely enter and exit the driveway with ease. Backing maneuvers into busy streets is dangerous as this is not the typical action drivers expect. Where on-street parking is permitted on busy streets, the city will require that parking stalls be parallel as opposed to perpendicular to traffic to avoid dangerous backing maneuvers into oncoming traffic.

## OFFSET INTERSECTIONS

Offset intersections often have negative impacts on traffic flow and can potentially create capacity problems at intersections where the left turn storage areas overlap, forcing queued vehicles into traffic lanes. Aligning access on both sides of the street will minimize conflict points in the roadway and provide safer and more efficient traffic flow.



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# Transportation Master Plan

Figure 14: Signal Inventory



Updated 10/4/2023



## INTERSECTION TRAFFIC CONTROLS

Stop signs and traffic signals should not be used when not warranted. Studies have shown that in areas where these forms of control have been installed but are not warranted, the motoring public will disregard the control measures and right-of-way assignments at that location. This disregard for traffic control devices creates hazardous locations and a general disregard for other traffic control measures in the area.

### *Stop Sign Warrants*

The city will use the MUTCD as the standard for determining how and when a stop sign is installed. As stated in the MUTCD, "Stop signs should be used if engineering judgment indicates that one or more of the following conditions exist:

- Intersection of a less important road with a main road where the application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law.
- Street entering a through highway or street.
- Unsignalized intersection in a signalized area; and
- High speeds, restricted view, or crash records indicate a need for control by the stop sign."

The City will minimize the number of vehicles required to stop, if possible, to preserve the capacity and functionality of the roadway network; therefore, the City will determine which road to stop by verifying the street carrying the lowest traffic volume. Less restrictive traffic control, such as a yield sign, will be used as an alternative to a stop sign, if possible, to minimize delays. The city will also install yield signs in compliance with the MUTCD guidelines. Stop signs should not be used to control speed but to designate right-of-way at intersecting roadways. Multi-way stop control may be used as a safety measure at intersections where the traffic volume is equal for all approaches and where safety is of concern or as an interim measure where a traffic signal is justified and has yet to be installed. City Staff will use engineering judgment and the guidelines outlined in the MUTCD to determine the appropriate application of stop and yield signs.

### *Traffic Signal Warrants*

The city will not install traffic signals unless at least one or more of the eight traffic signal warrants (as outlined in the MUTCD) have been met. Even if warrants are met for a particular intersection, City Staff will need to base the decision for installing a traffic signal based on information obtained through engineering studies and comparisons with the requirements outlined in the MUTCD. As stated in the MUTCD, "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal." The eight warrants outlined in the MUTCD include the following:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network

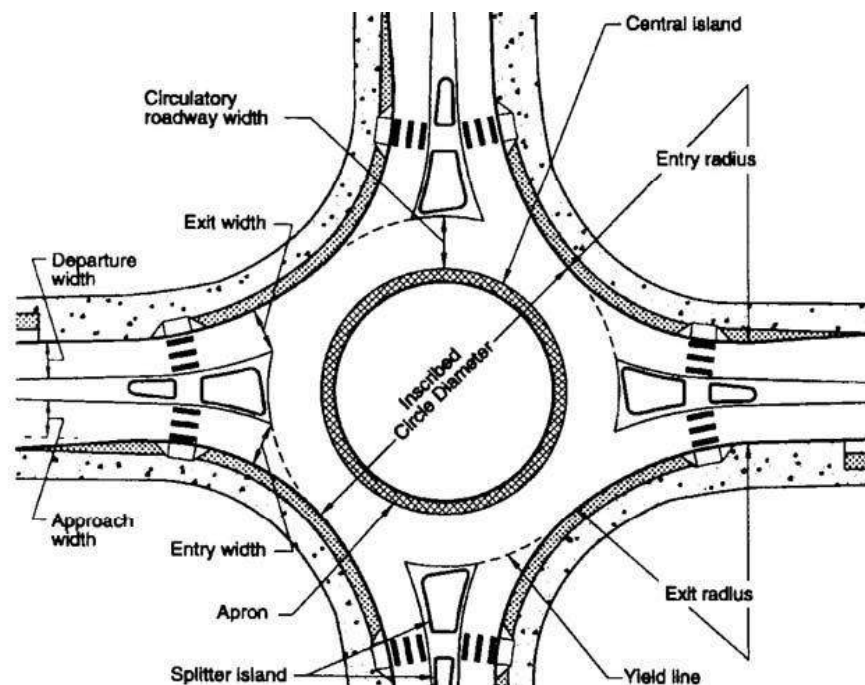
## Roundabouts

Many communities in the United States are beginning to embrace the concept of roundabouts. A roundabout is an intersection control measure used successfully in Europe and Australia for many years. A roundabout is a circular-raised-center island with deflecting islands on the intersecting streets to direct traffic movement around the circle. Traffic circulates counterclockwise direction, making right turns onto the intersecting streets. There are no traffic signals but entering traffic yields vehicles already in the roundabout.

Advantages of roundabouts include reduced traffic delays, increased safety, and reduced right-of-way requirements. They can reduce delays compared to a signalized intersection due to eliminating the stop phase. At the same time, roundabouts can improve safety because the number of potential impact points and conflict points the driver must monitor are both reduced over a conventional four-way intersection. Professionally designed roundabouts can accommodate emergency vehicles, trucks, and snow-plowing equipment.

Unlike the typical New England “traffic circle” or “rotary,” design standards for roundabouts are extremely specific, and the Federal Highway Administration (FHWA) has prepared a design guide for modern roundabouts in the United States. Development of a roundabout will only occur because of an intersection study performed by a qualified Traffic Engineer and when the minimum capacity and design criteria are met. The FHWA has determined that the maximum flow rate that a roundabout can accommodate depends on the geometric elements (circle diameter, number of lanes, etc.), the circulating flow (vehicles going around the circle), and entry flow (vehicles entering the roundabout). A single-lane roundabout can accommodate up to 1,800 vehicles per hour, and a double-lane roundabout can accommodate up to 3,400 vehicles per hour. [Figure 15](#) shows an example of a typical single-lane roundabout design.

**Figure 15: Typical Roundabout Design**



The National Transportation Research Board examined traffic delays before and after roundabouts were installed at eight intersections in the United States. The study determined that delays (the time spent stopped and moving up to the intersection) decreased on average by 78 percent and 76 percent during the AM Peak Hour and PM Peak Hour, respectively. The results indicate that roundabouts can reduce congestion in certain circumstances. In addition, the FHWA studied the safety characteristics of a sample of eleven roundabouts in the United States. The agency determined that the number of personal injury accidents and property damage-only accidents decreased by 51 percent and 29 percent, respectively, after roundabouts replaced conventional intersections. Roundabouts are an appropriate solution for certain problem intersections in the region. [Figure 7](#) shows the potential future roundabout locations. The city will build roundabouts at these locations pending, more detailed traffic analysis as the need arises.

## TRAFFIC CALMING

Street patterns are typically developed in response to the community's desires at construction time. In Utah, the history of using a grid system of large blocks and wide roads for planning and development purposes started long ago and has proven efficient for moving people and goods throughout a network of surface streets. However, the nature of a grid system with wide and long, straight roads can result in excessive speeds. For that reason, the city will implement traffic calming measures (TCMs) where appropriate speed reduction on residential roadways. The Institute of Transportation Engineers (ITE) has established a definition for traffic calming that reads: "Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users." Altering driver behavior includes lowering speeds, reducing aggressive driving, and increasing respect for non-motorized street users.

### TYPES OF TRAFFIC CALMING MEASURES

There are several types of TCM grouped into three categories depending on the level of control or effect on traffic flow and speeds. Category One measures are the least restrictive, while Category Three is the most dramatic. These categories are outlined in further detail below. Several factors can influence the choice of TCMs, including the location, street classification, street geometry, adjacent land uses, public transit needs, budget, climate, aesthetics, and community preferences.

#### ***Category One – Traffic Control Devices***

Traffic control devices consist of signs, signals, and pavement markings to regulate, warn, guide, and provide information to drivers. Examples include regulator signs (i.e., speed limit signs), warning signs (i.e., pedestrian warning signs), traffic signals, etc. Often traffic control devices are overused as TCMs. Though the function of traffic calming devices is often like that of TCMs, specific traffic control devices should not be overused to communicate different purposes. One of the primary purposes of traffic control devices is to inform drivers of traffic laws and specific right-of-ways to maintain order and safety. Overuse of such traffic control devices diminishes their intended purpose. For example, the MUTCD states that "stop signs should not be used for speed control." When used following the guidelines outlined in the MUTCD, traffic control devices can assist as part of roadway/intersection designs to calm traffic where necessary.

### ***Category Two – Street Modification***

Street modification TCMs include actions that physically alter the vertical or horizontal alignment of the roadway. Vertical changes include speed humps, speed tables, raised intersections, etc. Horizontal changes include chicanes and lateral shifts. Other street modification TCMs include constrictions (i.e., narrowing, pinch points, islands, chokers, etc.), narrow pavement widths (i.e., medians, edge treatments, bulb-outs, etc.), entrance features, roundabouts, small corner radii, street closures, and streetscaping (i.e., surface textures and colors, landscaping, street trees, street furniture, etc.).

### ***Category Three – Route Modification***

Route modifications consist of altering available routes of traffic flow. Examples include one-way streets, diverters, closures, and turn prohibitions. Instead of attempting to change drivers' behavior (Categories One and Two), route modification TCM attempts to alter drivers' routes altogether.

## **STREETSCAPING**

Streetscaping includes the planning and placement of items such as street furniture, lighting, art, trees, landscaping, and side treatments along streets and intersections. Although a city can implement streetscaping without traffic calming, TCMs need a certain element of streetscaping to be functional. Streetscaping softens the appearance of speed humps or tables and enhances the aesthetics of roundabouts and other constrictions. Landscaping and other roadside treatments make street closures more effective and safer by highlighting the presence of the measure.

## **OTHER CONSIDERATIONS**

An important consideration for TCMs is spacing. If TCMs are too far apart (greater than 600 to 1000 feet), speeding can occur between the measures. TCMs need spacing of 200 to 300 feet apart, so vehicles will not have sufficient distance to accelerate between measures. Other considerations when deciding which TCMs to install include snow removal maintenance and emergency vehicle access. Some TCMs, for example, speed humps or tables, may decrease the efficiency of snow removal and emergency vehicle access.

## **INSTALLATION OF TRAFFIC CALMING MEASURES**

The city will base its decision to implement TCMs on the engineering merits of a TCM application, as opposed to the results of a TCM popularity contest between neighborhoods. An engineering study documenting the need for such measures and the nature of the traffic problem via speed and volume measurements will be the determining factor.

The city will then determine if any TCMs can solve the problem and match the terrain, climate, and nature of the street in question. Based on the need and the available tools, the city will temporarily implement one or several measures subject to performance evaluations and neighborhood reviews. The city will compare the before and after results for speed and volume changes to see if the TCMs have performed as expected before implementing these improvements permanently.

To make any TCMs effective, traffic calming must be community-based and as widespread as possible. For example, the repercussions of traffic calming on one street can result in higher speeds on adjacent roads due to a shift in travel patterns. The need for a community-based traffic calming plan is fundamental to

the quality of life for the citizens of the community. The City will produce a more detailed and formal traffic calming plan as needs arise to address appropriate applications, obtain warrants for the installation of different TCMs, and outline suitable installation procedures of different TCMs more specifically.

As Pleasant Grove City develops a traffic-calming plan and implements TCMs, it will consult the latest engineering information to ensure the plan contains the latest and best guidelines. ITE is the definitive resource on traffic-calming issues and produces a significant amount of literature on the subject. A complete discussion on the latest TCMs and related issues is at <http://www.ite.org/traffic/index.asp>.

## ACCESS MANAGEMENT

Access management deals with coordinating the location, number, spacing, and design of access points to minimize site access conflicts and maximize traffic capacity and roadway safety. Uncoordinated growth along main travel corridors often results in strip development and the proliferation of access points. In many instances, each development along the corridor has its access driveway. Numerous access points along main travel corridors create unnecessary conflicts between turning and through traffic which causes delays and accidents. Numerous derived benefits are from controlling the location and number of access points to a roadway. Those benefits include:

- Improving overall roadway safety
- Reducing the total number of vehicle trips
- Decreasing interruptions in traffic flow
- Minimizing traffic delays and congestion
- Maintaining roadway capacity
- Extending the useful life of roads
- Avoiding costly highway projects
- Improving air quality
- Encouraging compact development patterns
- Improving access to adjacent land uses
- Enhancing pedestrian and bicycle facilities

Guidelines regarding access management throughout Pleasant Grove are referenced in the Appendix.

## CORRIDOR PRESERVATION

Corridor preservation is a transportation planning tool that agencies should use and apply to all future transportation corridors. This plan identifies several new transportation facilities. The city will use corridor preservation techniques when planning for these future facilities. The purposes of corridor preservation are to:

- Preserve the viability of future options,
- Reduce the cost of these options, and
- Minimize environmental and socio-economic impacts of future implementation.

Corridor Preservation seeks to preserve the right-of-way needed for future transportation facilities and prevent development that might be incompatible with these facilities. This is primarily accomplished by the community's ability to apply land use controls such as zoning and development approvals. Adoption of the TMP by Pleasant Grove City is a commitment to citizens and future leaders in the community that the identified future corridors will be the ultimate location for transportation facilities.

The main elements of corridor preservation are ensuring that the preserved corridors are in the correct location and meet the applicable design and right-of-way standards for the type of facility. As the master plan does not define the exact alignment of each future corridor, it becomes the City's responsibility to make sure that the preserved corridors are correct. This will have to be accomplished through the engineering and planning reviews done within the City as development and annexation requests are approved that involve properties within or adjacent to the future corridors.

## CORRIDOR PRESERVATION TECHNIQUES

Some examples of specific corridor preservation techniques that may be most beneficial and easily implemented include the following:

- Developer Incentives and Agreements: Public agencies can offer incentives like tax abatements, density credits, or timely site plan approvals to developers who maintain property within planned transportation corridors in an undeveloped state.
- Exactions: As development proposals are submitted to the city for review, efforts can be made to exact land identified within the future corridors. Exactions are like impact fees; except they pay with land rather than cash.
- Fee Simple Acquisitions: This will consist of hardship purchases or city acquisition of property identified within the corridors. Parcels obtained in fee title can later be sold at market value to the owner of the transportation facility when construction begins.
- Transfer of Development Rights and Density Transfers: Government entities can provide developers and landowners incentives to participate in corridor preservation programs using the transfer of development rights and density transfers. This is a powerful tool in that there seldom is any capital cost to local governments.
- Land Use Controls: This method allows government entities to use police power to regulate the intensity and types of land use. Zoning ordinances are the primary control over land use and the most important land use tools available in corridor preservation programs.
- Purchase of Options and Easements: Options and easements allow government agencies to purchase interests in property within highway corridors without obtaining the full title of the land. Usually, easements are far less expensive than fee title acquisitions.

## TRAFFIC IMPACT STUDIES

As growth occurs, the city needs to evaluate the impacts of future developments on the surrounding transportation networks before approving to build. To accomplish this, a required Traffic Impact Study (TIS) will need to be performed for any development that will generate more than one hundred peak-hour trips. [Table 1](#) gives examples of different land uses that generate more than one hundred peak-hour trips. A TIS will allow the City to determine the site-specific impacts of development, including internal site circulation, access issues, and adjacent roadway and intersection impacts. In addition, a TIS will assist in defining impacts on the overall transportation system in the vicinity of the development. The area and

items to be evaluated in a TIS include key intersections and roads as determined by the City Engineer on a case-by-case basis. Other items that need to be included in a TIS include:

- A description of the project site and study area boundaries, including a site plan and study area map showing the future project access locations and connections to the adjacent road network.
- A description of existing and planned land uses within the study area, including a discussion of the project land use.
- A description of existing and future main roadways and intersections in the study area, including lane configurations and traffic controls.
- A discussion of trip generation, distribution, and assignment methodologies and assumptions.
- A level of service (LOS) and capacity analysis of existing traffic levels and conditions for key roadway segments and intersections.
- A LOS and capacity analysis of background traffic levels and conditions (existing traffic plus additional traffic projected from normal growth rates and from other known developments in the study area at the time of completion) for main roadway segments and intersections.
- A LOS and capacity analysis of background plus project traffic levels and conditions (background traffic plus projected traffic associated with the new project) for key roadway segments and intersections.
- Safety analysis for key roadways and intersections, including applicable accident histories.
- Any applicable yield sign, stop sign, multi-way stop-signs, and traffic signal warrant analyses.
- A determination of the street system's ability to accommodate projected traffic levels.
- Identification of impacts to the existing street system because of the project.
- A discussion of improvements to be implemented as part of the project to accommodate project traffic, such as roadway and intersection widening to provide exclusive turn lanes or modifications to traffic controls.
- A discussion of mitigation measures to be implemented to restore or improve traffic operations to an acceptable LOS on any key roadway segments or at main intersections within the study area.

A qualified Traffic Engineer, chosen by the city at the developer's cost, will conduct each TIS. The City Engineer will determine the scope of each TIS review its contents once complete and provide comments. Upon receiving approval from the City Engineer, the TIS requirement related to the development will be satisfied. If a developer feels that their project does not meet the TIS requirements, the developer will need to provide documentation stating their case for the City Engineer review.

A TIS may be required for developments that do not meet the trip generation threshold ( $\geq 100$  peak-hour trips) if there are unique or controversial issues associated with the project that the City feels need to be addressed. These projects will be identified and evaluated on a case-by-case basis.

## AGENCY COORDINATION

Many of the roads in Pleasant Grove City are owned by or connected to roads owned by other agencies such as UDOT, neighboring cities, and Utah County. A close working relationship needs to be maintained between these different authorities and the city to ensure that roadway projects are coordinated and consistent.

## IMPACT FEES

Impact fees are a way for a community to obtain funds to assist in the construction of needed infrastructure improvements to serve new growth. The premise behind impact fees is that if new development were not allowed, the existing infrastructure would adequately serve the existing level of development in the city. Therefore, new development should pay for improvements required because of new growth. Impact fees are assessed for many types of infrastructure and facilities provided by a community, such as roads, sewer, water, parks, and trails. According to state law, Pleasant Grove cannot use impact fees to correct existing deficiencies in a system, only to fund growth-related capital improvements.

There are many ways to quantify the impact of new growth on the transportation system in Pleasant Grove City. One way to assess the traffic impact is to consider all the needed transportation improvements and eliminate the cost of those necessary improvements to correct existing deficiencies. Another way to determine the traffic impacts from new growth is to estimate the total traffic growth on each road due to new development, and then apply this percentage to the total improvement cost, thus identifying the cost of the eligible improvements for funding through impact fees. The city can use the TMP improvements to identify growth-related improvements and form the basis for a comprehensive impact fee program.

## PUBLIC INVOLVEMENT PROCESS

Public involvement is key to producing an effective and worthwhile transportation master plan for the City to implement and follow. Collecting and responding to public input allows City staff and decision-makers to consider all the issues and address them appropriately. An intensive effort was put forth to collect public comment regarding this update of the City's transportation master plan, including the following actions:

- Post a draft of the transportation master plan document on the City's website for anyone to download and review.
- Held a public open house on Wednesday, May 13th, 2009.
- Approximately eighty residents signed in at the open house, of which some included couples; as a result, the project team estimated that upwards of one hundred people attended the open house.
- Advertised the public open house by placing announcements on utility bills and the City's newsletter, posting details on the City's website, and mailing individual postcard invitations to any property owners whose property lay within two hundred feet of a planned roadway widening or new roadway alignment (over 1,300 postcards).
- Provided a comment form at the public open house for residents to communicate their concerns and approval of specific elements of the new plan.
- Presented a progress report of the Transportation Master Plan update process at both City Council and Planning Commission Meetings on May 26th and May 28th, respectively.
- Held a final public hearing on June 23rd, 2009, at a joint session of the City Council and Planning Commission.



Public involvement has proven to be a critical element of the transportation planning process. Details of the public involvement effort for this update of the City's TMP are in the appendix of this report. Lastly, as the city updates this plan in the future, the city will collect and consider public input as this plan evolves.

## ACCESS MANAGEMENT

Access management is a term that refers to providing and managing access to land development while maintaining traffic flow and being attentive to safety issues. It includes elements such as driveway spacing, signal spacing, and corner clearance. Access management is a key element in transportation planning, helping to make transportation corridors operate more efficiently and carry more traffic without costly road widening projects. Access management offers local governments a systematic approach to decision-making applying principles uniformly, equitably, and consistently throughout the area.

An access management program must address the balance between access and mobility. While the functional classification of roads implies the priority of access versus mobility, access management does much the same thing. Freeway moves vehicles over long distances at high speeds with very controlled access and great mobility. Conversely, residential streets offer high levels of access but at low speeds and with little mobility. Access management standards must account for these distinct functions of various facilities. The following gives the principles of access management and the full access management standards are in Appendix C:

### PRINCIPLES OF ACCESS MANAGEMENT

Constantly growing traffic congestion concerns over traffic safety and the ever-increasing cost of upgrading roads have generated interest in managing access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. Access management attempts to balance the need to provide good mobility through traffic with the requirements for reasonable access to adjacent land uses.

The most important concept in understanding the need for access management is to ensure the movement of traffic and access to the property are not mutually exclusive (See FIGURE X: Mobility vs. Land Access Representation). No facility can move traffic very well and provide unlimited access simultaneously. The extreme examples of this concept are the freeways and the cul-de-sac. A freeway moves traffic very well with few opportunities for road access, while a cul-de-sac has unlimited opportunities for road access but does not move traffic very well. In many cases, accidents and congestion are the result of streets trying to serve both mobility and access at the same time.

A good access management program will accomplish the following:

- Limit the number of conflict points at the driveway location.
- Separate conflict areas.
- Reduce the interference of through traffic.
- Provide sufficient spacing for at-grade, signalized intersections.
- Provide adequate on-site circulation and storage.

Access management attempts to end the endless cycle of road improvements followed by increased access, congestion, and the need for more road improvements.

Poor planning and inadequate access control can quickly lead to an unnecessarily high number of direct accesses along roadways. The movements on and off roads at driveway locations, when the spacing of those driveways is too close, can make it difficult for through traffic to flow smoothly at desired speeds and levels of safety. The American Association of State Highway and Transportation Officials (AASHTO) states, “The number of accidents is disproportionately higher at driveways than at other intersections...thus their design and location merit special consideration.” Studies have shown that anywhere between 50 and 70 percent of all crashes on the urban street system are access-related.

Fewer direct access, greater separation of driveways, and better driveway design and location are the basic elements of access management. There is less occasion for through traffic to brake and change lanes to avoid turning traffic when Pleasant Grove uses these techniques uniformly and comprehensively.

Consequently, with good access management, traffic flow will be smoother and average travel speeds higher. There will be less potential for accidents. According to the Federal Highway Administration (FHWA), before and after analysis shows that routes with well-managed access can experience 50 percent fewer accidents than comparable facilities with no access controls.

## 6.0 Potential Funding Sources

Funding sources for transportation are essential if Pleasant Grove City’s planned improvements are to be built. Presently there are three sources of revenue available to Pleasant Grove City: federal funding, state funding, and local general funding. The following paragraphs further describe the various transportation funding sources available to the city.

### FEDERAL FUNDING

Federal monies are available to cities and counties through the federal-aid program. The Utah Department of Transportation (UDOT) administers the funds. A project must be on the five-year Statewide Transportation Improvement Program (STIP) to be eligible.

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher. Both rehabilitation and new construction can use STP funds. The Joint Highway Committee programs a portion of the STP funds for projects around the State in urban areas. The State Transportation Commission can use another portion of the STP funds for projects in any area of the State at its discretion. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications, and then a portion of these applications are passed to the State Transportation Commission. Transportation enhancements include twelve categories ranging from historic preservation, bicycle, and pedestrian facilities, and water runoff mitigation. Other federal and State trail funds are available from the Utah State Parks and Recreation Program.

### STATE FUNDING

The State Legislation establishes the distribution of State Class B and C Program monies, and the State Department of Transportation administers it. State fuel taxes, registration fees, driver's license fees,

inspection fees, and transportation permits derive the revenue for the program. UDOT keeps seventy-five percent of these funds for its construction and maintenance programs. The rest is made available to counties and cities.

Class B and C funds are allocated to each city and county by a formula based on population, road mileage, and land area. Class B funds go to counties, and Class C funds go to cities and towns. Maintenance and construction projects can use Class B and C funds; however, construction or maintenance projects that exceed \$40,000 must use thirty percent of those funds. The remainder of these funds can be used to match federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

## LOCAL FUNDING

Most cities utilize general fund revenues for their transportation programs. Another option for transportation funding includes the creation of special improvement districts. These districts are organized to fund a project to benefit an identifiable group of properties. Another funding source cities use is revenue bonding for projects to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions, dedicate right-of-way, and participate in collector/arterial street construction adjacent to their developments. Developers can also be considered a source of funds for projects using impact fees. These fees are assessed because of the impacts a particular development project will have on the surrounding roadway system, such as the need for traffic signals or street widening.

## 7.0 Transportation Improvement Program

One of the main purposes of the TMP is to plan a street classification system that will serve Pleasant Grove City's transportation needs for the next 20 years. Designating a roadway functional classification system allows the city to preserve the necessary right-of-way along individual roadway corridors for the future upgrade of the existing infrastructure to the master-plan standard. After evaluating the roadway network and projecting future travel demands on each of those roadways, a roadway functional classification was developed ([Figure 11](#)).

After evaluating the projected travel demand and future deficiencies in the City's roadway network, a transportation improvement program (TIP) was developed. The TIP indicates the needed improvements at times, provides a planning level cost estimate for each improvement, and identifies potential funding sources (see [Table 12](#) and [Figure 16](#)).

If used correctly, this can be a valuable tool for City officials in the budgeting and planning process, as the TIP outlines the anticipated timing, costs, and potential funding sources for transportation improvements.

Improvements are separated into the following categories: short-range (0 to 5 years), mid-range (5 to 10 years), and long-range (10 to 20 years). Regardless of improvements or enhancements to alter transportation modes, private single-occupant vehicles will remain the predominant form of transportation in Pleasant Grove City for the near future. As such, most of the upcoming improvements

involve roadway infrastructure to accommodate future traffic demand projections and maintain acceptable operating conditions.

Several projects do not include planning-level cost estimates. These projects are either already funded, currently under construction, anticipated to be constructed by other jurisdictions or private developers and not require local funds, or are not far enough into the conceptual design stages to determine costs.

As development continues throughout Pleasant Grove City, the City will consult the TMP and TIP to identify improvements that may benefit from work or funds required by individual developers. Consulting the TMP and TIP would help preserve the correct amount of right-of-way. In addition, this would assist in identifying projects the developer may be required to construct or contribute to as part of their required on-site and off-site improvements. However, there are projects not anticipated to be part of any new developments or will not be able to wait for development to occur before the improvements are needed. These projects may not be able to benefit from private funding sources, and the city will have to produce other funding alternatives for these projects.

Finally, the TIP must be reviewed and updated continually to work as designed. The city will modify the TIP by deleting projects that have been completed or are no longer a priority and adding new projects not previously identified. A suitable time for an annual review and update is in January, as this provides sufficient time for any changes to the TIP to be incorporated into the budget planning process for that year. Continual maintenance is critical for the TIP to remain effective over time.

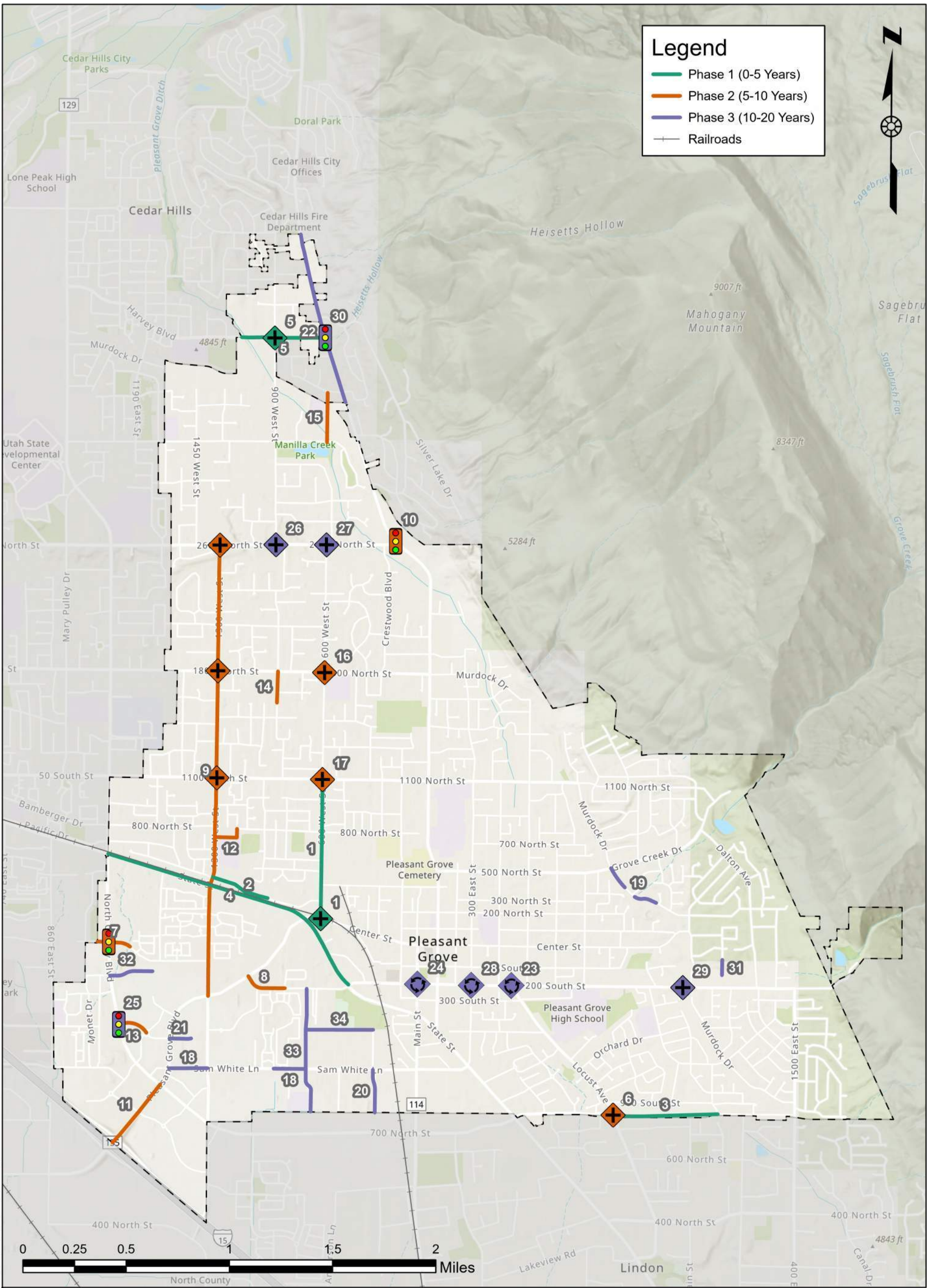
**Table 12: Pleasant Grove City Transportation Improvement Program**

Pleasant Grove City Transportation Improvement Program (TIP)				
Project No.	Type of Improvement <sup>1</sup>	Project Location	Jurisdiction(s)	Potential Funding Source <sup>2</sup>
<b>0-5 Years</b>				
1	Intersection Realignment/Capacity Improvement	600 West: Center Street to 1100 North	Pleasant Grove	C, O
2	Capacity Improvement / New Traffic Signal ( <b>Under Contract</b> )	State Street: American Fork to 200 South	UDOT	F, S, C, O
3	Alignment Extension	1000 South: Locust Avenue to 1150 East	Pleasant Grove/ Lindon	C, O
4	Alignment Extension/ New Railroad Crossing	Garden Drive: 1300 West to 1000 West	Pleasant Grove	C, O
5	Capacity Improvement with Potential Roundabout ( <b>Under Design</b> )	4000 North: Harvey Park to Canyon Road	Pleasant Grove	C, O
<b>5-10 Years</b>				
6	Intersection Improvement	Locust Ave & 1000 South	Pleasant Grove	C, O
7	Capacity Improvement / New Alignment/ New Traffic Signal	100 South: End of Existing to American Fork Border	Pleasant Grove	C, O
8	Capacity Improvement / New Alignment	220 South: PG Boulevard to 840 West	Pleasant Grove	C, O
9	Capacity Improvement / Intersection Improvements	1300 West: 2600 North to PG Boulevard	Pleasant Grove	C, O
10	Capacity Improvement / New Traffic Signal ( <b>Under Construction</b> )	2600 North: American Fork Boundary to 100 East	Pleasant Grove	C, O
11	Capacity Improvement	Pleasant Grove Blvd: 2000 West to I-15 Interchange	UDOT	F, S, C, O
12	Alignment Extension	800 North: 1300 West to 1100 West	Pleasant Grove	C, O
13	Alignment Extension	450 South: North County Blvd to Evermore Lane	Pleasant Grove	C, O
14	Alignment Extension	900 West: 1800 North to 1600 North	Pleasant Grove	C, O

Pleasant Grove City Transportation Improvement Program (TIP)				
Project No.	Type of Improvement <sup>1</sup>	Project Location	Jurisdiction(s)	Potential Funding Source <sup>2</sup>
15	New Alignment	Mill Creek Road: 3300 North to 3700 N (PG)/ Avanyu Dr (Cedar Hills)	Pleasant Grove	C, O
16	Intersection Improvement	600 West & 1800 North	Pleasant Grove	C, O
17	Intersection Improvement	600 West & 1100 North	Pleasant Grove	C, O
<b>10-20 Years</b>				
18	Capacity Improvement	700 South/Sam White Lane: PG Blvd to Proctor Ln and 910 West to 750 West	Pleasant Grove	C, O
19	Alignment Extension	Murdock Dr: 500 North to 300 North	Pleasant Grove	C, O
20	Alignment Extension	250 West: 700 South to 1000 South	Pleasant Grove	C, O
21	Capacity Improvement	Doterra Drive: PG Boulevard to Finish Section	Pleasant Grove	C, O
22	Capacity Improvement / New Traffic Signal	100 East: Valley View Drive to Approximately Mountaintop Cir	Pleasant Grove/ UDOT	F, S, C, O
23	Potential Roundabout	Locust Ave & 200 South	Pleasant Grove	C, O
24	Potential Roundabout	Main Street & 200 South	Pleasant Grove	C, O
25	Potential Signal	450 South & 2000 West	Pleasant Grove	C, O
26	Intersection Improvement	900 West/ 2600 North	Pleasant Grove	C, O
27	Intersection Improvement	600 West/ 2600 North	Pleasant Grove	C, O
28	Potential Roundabout	300 East/200 South	Pleasant Grove	C, O
29	Potential Intersection Improvement	Murdock Dr/ 200 South	Pleasant Grove	C, O
30	Potential Signal	4000 North/ Canyon Road	Pleasant Grove	C, O
31	Alignment Extension	1105 East: End of Existing to 125 South	Pleasant Grove	C, O
32	Alignment Extension	Quality Drive: North County Blvd to Garden Grove Lane	Pleasant Grove	C, O
33	New Alignment	750 West: 220 South to 700 South	Pleasant Grove	C, O
34	New Alignment	500 South: 750 West to 250 West	Pleasant Grove	C, O

<sup>1</sup>Miscellaneous local roads have not been included since they will most likely be built by developers as part of their developments.

<sup>2</sup>Potential Funding Sources: F-Federal, S-State, C-City, and O-Other.



C:\12021\UT-CV-3609-21 PG TMP Update\Project Data\GIS\Horrocks\IP\UT\_CV\_3609\_21\_PG\_TMP\_Update.aprx, 10/4/2023 10:21 AM, shane.eller



# Transportation Master Plan

Figure 16: TIP Project Map



Updated 10/4/2023

## Appendix A: Raw Traffic Data

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-247 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 1 - on 2600 N between 860 W and 600 W  
**Attribute:** Box 10  
**Direction:** 8 - East bound A>B, West bound B>A. **Lane:** 1  
**Survey Duration:** 10:10 Monday, May 9, 2022 => 12:07 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 1 - 2600 N Between 600 W & 900 W.EC0 (Plus )  
**Identifier:** FZ10RDWC MC56-L5 [MC55] (c)Microcom 19Oct04  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:11 Monday, May 9, 2022 => 12:07 Monday, May 16, 2022 (7.081)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = East, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 17131 / 17153 (99.87%)





# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-255 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 2 - On 1800 N between 750 W and 600 W  
**Attribute:** Box 1  
**Direction:** 8 - East bound A>B, West bound B>A. **Lane:** 1  
**Survey Duration:** 10:14 Monday, May 9, 2022 => 13:20 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 2 - On 1800 N between 750 W and 600 W.EC0 (Plus )  
**Identifier:** DD252GHQ MC56-L5 [MC55] (c)Microcom 19Oct04  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:15 Monday, May 9, 2022 => 13:20 Monday, May 16, 2022 (7.12897)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = East, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 9840 / 9855 (99.85%)

**\* Monday, May 9, 2022 - Total=2029 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
-	-	-	-	-	-	-	-	-	-	-	0	49	142	287	225	247	280	237	198	174	112	60	18
-	-	-	-	-	-	-	-	-	-	0	0	0	31	44	68	73	81	43	62	52	29	16	4
-	-	-	-	-	-	-	-	-	-	0	0	0	41	113	47	57	69	60	59	67	34	18	7
-	-	-	-	-	-	-	-	-	-	0	0	2	38	62	44	66	63	65	35	30	26	10	6
-	-	-	-	-	-	-	-	-	-	0	0	47	32	68	66	51	67	69	42	25	23	16	1

AM Peak 1415 - 1515 (311), PM PHF=0.69

**\* Tuesday, May 10, 2022 - Total=3155, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
13	1	4	2	5	20	32	261	191	128	140	158	181	167	301	211	285	289	239	174	142	130	51	30
5	0	1	1	1	1	7	33	65	36	21	38	55	43	48	65	59	68	53	58	38	36	20	9
4	0	2	0	1	4	5	53	42	24	30	33	39	42	116	47	78	80	43	45	27	37	12	9
2	0	0	1	1	7	9	56	46	39	44	37	40	40	72	47	61	65	79	33	35	35	11	7
2	1	1	0	2	8	11	119	38	29	45	50	47	42	65	52	87	76	64	38	42	22	8	5

AM Peak 0715 - 0815 (293), AM PHF=0.62 PM Peak 1415 - 1515 (318), PM PHF=0.69

**\* Wednesday, May 11, 2022 - Total=3382, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
5	4	4	4	6	19	49	239	200	127	136	188	199	197	252	248	285	337	285	226	172	126	46	28
3	0	0	2	0	3	5	20	71	32	26	39	56	56	40	62	66	88	70	70	41	29	13	8
0	2	2	1	1	4	10	54	50	33	24	46	46	52	94	61	80	90	86	58	48	30	15	6
1	2	1	0	1	6	12	45	39	34	45	40	50	46	57	51	67	76	68	56	42	39	11	9
1	0	1	1	4	6	22	120	40	28	41	63	47	43	61	74	72	83	61	42	41	28	7	5

AM Peak 0715 - 0815 (290), AM PHF=0.60 PM Peak 1700 - 1800 (337), PM PHF=0.94

**\* Thursday, May 12, 2022 - Total=1274, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
14	6	4	1	7	10	30	265	171	120	143	168	199	136	0	0	0	0	0	0	0	0	0	0
6	2	0	0	0	0	6	24	70	32	31	35	59	55	0	0	0	0	0	0	0	0	0	0
2	3	2	1	4	2	5	51	38	31	29	45	43	38	0	0	0	0	0	0	0	0	0	0
5	1	0	0	1	4	6	65	27	26	34	45	44	30	0	0	0	0	0	0	0	0	0	0
1	0	2	0	2	4	13	125	36	31	49	43	53	13	0	0	0	0	0	0	0	0	0	0

AM Peak 0715 - 0815 (311), AM PHF=0.62 PM Peak 1200 - 1300 (199), PM PHF=0.84

**\* Friday, May 13, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Saturday, May 14, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Sunday, May 15, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-264 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 3 - On 1300 W inbetween 1440 N and 1340 N  
**Attribute:** Box 15  
**Direction:** 7 - North bound A>B, South bound B>A. **Lane:** 1  
**Survey Duration:** 10:17 Monday, May 9, 2022 => 13:40 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 3 - 1300 W inbetween 1440 N and 1340 N.EC0 (Plus )  
**Identifier:** TE782G2C MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:18 Monday, May 9, 2022 => 13:40 Monday, May 16, 2022 (7.14031)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = North, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 12329 / 12337 (99.94%)

**\* Monday, May 9, 2022 - Total=2508 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
-	-	-	-	-	-	-	-	-	-	-	0	12	213	330	302	313	381	296	192	206	145	83	35	
-	-	-	-	-	-	-	-	-	-	0	0	0	54	54	82	70	110	82	55	62	41	27	11	4
-	-	-	-	-	-	-	-	-	-	0	0	0	54	76	73	82	103	69	41	56	35	22	9	11
-	-	-	-	-	-	-	-	-	-	0	0	0	58	94	69	77	92	63	66	49	36	20	9	4
-	-	-	-	-	-	-	-	-	-	0	0	12	47	106	78	84	76	82	30	39	33	14	6	2

AM Peak 1645 - 1745 (389), PM PHF=0.88

**\* Tuesday, May 10, 2022 - Total=4055, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
21	8	2	2	9	28	72	258	259	199	155	180	258	201	301	324	362	431	327	236	199	125	66	32	
4	2	1	0	1	3	9	45	70	59	39	38	76	41	41	79	96	101	97	81	54	45	17	9	4
11	3	0	0	1	8	17	45	73	45	43	54	59	49	76	91	98	125	82	59	43	38	20	12	2
4	2	0	1	1	8	18	84	54	46	34	35	64	49	104	80	79	101	65	55	59	21	14	8	1
2	1	1	1	6	9	28	84	62	49	39	53	59	62	80	74	89	104	83	41	43	21	15	3	5

AM Peak 0730 - 0830 (311), AM PHF=0.93 PM Peak 1700 - 1800 (431), PM PHF=0.86

**\* Wednesday, May 11, 2022 - Total=4132, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
12	5	4	6	13	34	71	265	233	207	159	229	320	298	240	330	337	407	306	224	207	133	65	27	
4	2	1	2	3	5	8	32	65	66	39	43	59	84	50	75	69	112	82	67	60	33	19	8	4
2	1	2	1	2	10	12	49	58	46	39	47	86	79	61	77	97	107	78	54	56	41	22	8	5
1	1	1	3	4	6	25	92	58	51	33	74	94	77	58	89	83	89	69	51	42	30	14	4	4
5	1	0	0	4	13	26	92	52	44	48	65	81	58	71	89	88	99	77	52	49	29	10	7	1

AM Peak 0730 - 0830 (307), AM PHF=0.83 PM Peak 1700 - 1800 (407), PM PHF=0.91

**\* Thursday, May 12, 2022 - Total=1634, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
14	6	4	0	10	24	52	258	263	185	157	185	267	209	0	0	0	0	0	0	0	0	0	0	0
4	2	2	0	2	3	9	40	78	63	32	42	64	61	0	0	0	0	0	0	0	0	0	0	0
5	2	2	0	1	4	8	54	61	40	36	48	71	54	0	0	0	0	0	0	0	0	0	0	0
4	1	0	0	2	5	15	73	62	43	38	40	57	52	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	5	12	20	91	62	39	51	55	75	42	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0730 - 0830 (303), AM PHF=0.83 PM Peak 1200 - 1300 (267), PM PHF=0.89

**\* Friday, May 13, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Saturday, May 14, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Sunday, May 15, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-274 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 4 - On 1100 N Between 860 W and 600 W  
**Attribute:** Box 12  
**Direction:** 8 - East bound A>B, West bound B>A. **Lane:** 0  
**Survey Duration:** 10:19 Monday, May 9, 2022 => 13:38 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 4 - 1100 N Between 860 W and 600 W.EC0 (Plus )  
**Identifier:** TD487P87 MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:20 Monday, May 9, 2022 => 13:38 Monday, May 16, 2022 (7.13804)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = East, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 20704 / 20746 (99.80%)

\* Monday, May 9, 2022 - Total=4070 (Incomplete) , 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Monday, May 9, 2022. Total count is 4070.

AM Peak 1715 - 1815 (623), PM PHF=0.96

\* Tuesday, May 10, 2022 - Total=6624, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Tuesday, May 10, 2022. Total count is 6624.

AM Peak 0745 - 0845 (492), AM PHF=0.81 PM Peak 1645 - 1745 (654), PM PHF=0.92

\* Wednesday, May 11, 2022 - Total=7035, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Wednesday, May 11, 2022. Total count is 7035.

AM Peak 1145 - 1245 (547), AM PHF=0.87 PM Peak 1615 - 1715 (627), PM PHF=0.90

\* Thursday, May 12, 2022 - Total=2975, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Thursday, May 12, 2022. Total count is 2975.

AM Peak 0715 - 0815 (493), AM PHF=0.82 PM Peak 1215 - 1315 (446), PM PHF=0.97

\* Friday, May 13, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Friday, May 13, 2022. Total count is 0.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Saturday, May 14, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Saturday, May 14, 2022. Total count is 0.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Sunday, May 15, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Sunday, May 15, 2022. Total count is 0.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops

Table with 24 columns (0000 to 2300) and 5 rows of data showing counts for Monday, May 16, 2022. Total count is 0.

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-284 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 5 - On 100 E between 1100 N and Pleasant Grove Middle School  
**Attribute:** New Box 2  
**Direction:** 7 - North bound A>B, South bound B>A. **Lane:** 2  
**Survey Duration:** 10:24 Monday, May 9, 2022 => 13:33 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 5 - 100 E between 1100 N and Pleasant Grove Middle School.EC0 (Plus )  
**Identifier:** TZ675G2B MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:25 Monday, May 9, 2022 => 13:33 Monday, May 16, 2022 (7.13087)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = North, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 48779 / 48867 (99.82%)



\* Monday, May 9, 2022 - Total=9552 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
-	-	-	-	-	-	-	-	-	-	-	0	0	557	1120	1203	1171	1502	1252	979	806	513	338	111	
-	-	-	-	-	-	-	-	-	-	0	0	0	0	206	277	275	361	299	276	256	149	124	36	25
-	-	-	-	-	-	-	-	-	-	0	0	0	200	297	319	283	394	313	279	237	138	90	33	14
-	-	-	-	-	-	-	-	-	-	0	0	0	164	319	310	287	389	328	215	155	109	73	24	10
-	-	-	-	-	-	-	-	-	-	0	0	0	193	298	297	326	358	312	209	158	117	51	18	8

PM Peak 1700 - 1800 (1502), PM PHF=0.95

\* Tuesday, May 10, 2022 - Total=16316, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
57	27	12	16	29	142	286	1048	1042	834	718	750	1001	843	1201	1308	1373	1569	1305	929	780	608	307	131	
25	8	2	3	8	11	45	142	330	235	167	180	246	232	234	336	355	413	335	259	198	171	91	35	24
14	6	6	2	1	28	54	241	229	211	172	158	231	212	330	323	346	370	331	245	192	157	91	37	13
10	9	2	3	5	44	74	319	242	188	187	176	263	195	330	324	328	399	330	227	201	152	65	35	16
8	4	2	8	15	59	113	346	241	200	192	236	261	204	307	325	344	387	309	198	189	128	60	24	13

AM Peak 0715 - 0815 (1236), AM PHF=0.89 PM Peak 1700 - 1800 (1569), PM PHF=0.95

\* Wednesday, May 11, 2022 - Total=16502, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
66	37	16	28	40	146	300	1052	1070	731	703	946	1199	1048	988	1219	1284	1513	1288	1053	821	561	272	121	
24	14	5	7	6	16	57	118	344	207	167	205	327	254	222	292	289	353	350	323	250	151	95	44	21
13	13	5	7	4	22	68	254	257	197	150	216	289	278	244	296	311	408	332	267	215	149	64	31	21
16	7	4	5	12	47	73	339	213	177	182	221	292	258	245	300	338	367	308	244	169	123	53	26	16
13	3	2	9	18	61	102	341	256	150	204	304	291	258	277	331	346	385	298	219	187	138	60	20	10

AM Peak 0730 - 0830 (1281), AM PHF=0.93 PM Peak 1700 - 1800 (1513), PM PHF=0.93

\* Thursday, May 12, 2022 - Total=6409, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
68	26	15	13	33	134	233	1084	989	821	645	812	963	570	3	0	0	0	0	0	0	0	0	0	0
21	11	6	2	8	11	38	143	315	233	155	173	241	246	0	0	0	0	0	0	0	0	0	0	0
21	8	5	3	4	32	51	281	220	234	162	197	228	224	3	0	0	0	0	0	0	0	0	0	0
16	4	2	5	5	36	69	354	212	162	173	190	247	100	0	0	0	0	0	0	0	0	0	0	0
10	3	2	3	16	55	75	306	242	192	155	252	247	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0715 - 0815 (1256), AM PHF=0.89 PM Peak 1215 - 1315 (968), PM PHF=0.98

\* Friday, May 13, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Saturday, May 14, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Sunday, May 15, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-294 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 6 - on 600 W between 550 N & 400 N  
**Attribute:** Box 20  
**Direction:** 7 - North bound A>B, South bound B>A. **Lane:** 0  
**Survey Duration:** 10:33 Monday, May 9, 2022 => 13:41 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 6 - 600 W between 550 N & 400 N.EC0 (Plus )  
**Identifier:** TD43MFAP MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:34 Monday, May 9, 2022 => 13:41 Monday, May 16, 2022 (7.13047)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = North, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 22438 / 22471 (99.85%)

**\* Monday, May 9, 2022 - Total=4987 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
-	-	-	-	-	-	-	-	-	-	-	222	393	401	476	548	570	632	548	407	340	257	131	62		
-	-	-	-	-	-	-	-	-	-	-	0	107	106	97	138	150	149	159	104	95	61	42	18	11	
-	-	-	-	-	-	-	-	-	-	-	45	95	115	118	117	116	154	125	128	94	76	36	19	9	
-	-	-	-	-	-	-	-	-	-	-	0	78	94	96	109	143	157	170	133	89	84	61	28	14	4
-	-	-	-	-	-	-	-	-	-	-	0	99	97	84	152	150	147	159	131	86	67	59	25	11	11

AM Peak 1715 - 1815 (642), PM PHF=0.94

**\* Tuesday, May 10, 2022 - Total=7184, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
35	13	6	8	29	133	226	391	437	325	283	346	370	369	487	597	599	657	586	441	376	268	152	50	
11	4	0	2	6	5	47	84	128	83	63	70	85	110	105	157	145	156	166	143	97	89	46	15	16
9	1	3	2	8	23	55	85	89	72	64	69	91	74	107	138	144	159	151	114	104	86	50	17	9
4	4	1	2	7	46	63	111	107	86	78	97	100	105	122	152	153	160	146	94	75	49	33	9	10
11	4	2	2	8	59	61	111	113	84	78	110	94	80	153	150	157	182	123	90	100	44	23	9	4

AM Peak 0730 - 0830 (439), AM PHF=0.86 PM Peak 1715 - 1815 (667), PM PHF=0.92

**\* Wednesday, May 11, 2022 - Total=7318, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
39	15	8	11	32	121	211	395	419	350	318	392	447	449	454	565	639	635	548	401	398	266	142	63	
16	5	3	3	7	12	45	85	111	99	71	84	115	111	99	137	144	163	128	109	101	78	51	16	11
9	7	2	2	12	24	50	85	113	78	90	96	109	120	122	130	155	160	139	108	104	85	38	28	7
10	1	1	2	8	33	56	116	82	88	75	106	117	105	96	142	173	148	147	88	101	57	31	9	6
4	2	2	4	5	52	60	109	113	85	82	106	106	113	137	156	167	164	134	96	92	46	22	10	2

AM Peak 0730 - 0830 (449), AM PHF=0.97 PM Peak 1630 - 1730 (663), PM PHF=0.96

**\* Thursday, May 12, 2022 - Total=2949, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
26	9	9	10	22	108	213	386	395	319	277	376	406	357	36	0	0	0	0	0	0	0	0	0	0
11	4	3	1	4	8	47	59	117	99	67	78	104	78	34	0	0	0	0	0	0	0	0	0	0
7	4	1	4	7	23	52	89	89	85	57	90	110	99	2	0	0	0	0	0	0	0	0	0	0
6	1	4	3	5	36	62	110	83	70	67	104	102	99	0	0	0	0	0	0	0	0	0	0	0
2	0	1	2	6	41	52	128	106	65	86	104	90	81	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0715 - 0815 (444), AM PHF=0.87 PM Peak 1200 - 1300 (406), PM PHF=0.92

**\* Friday, May 13, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Saturday, May 14, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Sunday, May 15, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-304 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 7 - on 500 N between 100 E and 200 E  
**Attribute:** Box 14  
**Direction:** 8 - East bound A>B, West bound B>A. **Lane:** 0  
**Survey Duration:** 10:35 Monday, May 9, 2022 => 13:29 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 7 - 500 N between 100 E and 200 E.EC0 (Plus )  
**Identifier:** TD0275QN MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:36 Monday, May 9, 2022 => 13:29 Monday, May 16, 2022 (7.12054)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = East, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 10201 / 10211 (99.90%)

**\* Monday, May 9, 2022 - Total=1914 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
-	-	-	-	-	-	-	-	-	-	-	0	0	81	269	239	242	263	260	198	142	112	81	27	
-	-	-	-	-	-	-	-	-	-	0	0	0	57	65	48	72	56	51	44	37	28	9	5	
-	-	-	-	-	-	-	-	-	-	0	0	14	71	46	76	68	61	44	37	25	25	7	1	
-	-	-	-	-	-	-	-	-	-	0	0	0	29	71	73	57	71	83	57	33	21	17	6	2
-	-	-	-	-	-	-	-	-	-	0	0	0	38	70	55	61	52	60	46	28	29	11	5	1

AM Peak 1415 - 1515 (277), PM PHF=0.98

**\* Tuesday, May 10, 2022 - Total=3640, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
9	6	8	5	8	49	88	174	239	228	204	208	224	171	311	260	245	279	300	208	182	121	70	43	
5	3	5	1	1	4	13	30	82	71	49	51	55	52	49	65	70	80	73	45	38	25	17	13	6
1	1	1	2	1	12	13	43	52	44	65	50	59	38	84	59	56	68	72	59	51	36	16	16	3
2	1	2	0	2	14	29	47	47	54	39	48	49	43	95	67	59	59	76	49	49	30	22	8	8
1	1	0	2	4	19	33	54	58	59	51	59	61	38	83	69	60	72	79	55	44	30	15	6	3

AM Peak 0800 - 0900 (239), AM PHF=0.73 PM Peak 1415 - 1515 (327), PM PHF=0.86

**\* Wednesday, May 11, 2022 - Total=3451, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
20	8	9	3	12	41	81	190	188	161	135	196	241	189	179	269	279	294	251	241	207	156	78	23	
6	2	1	2	1	7	12	26	52	43	34	36	64	63	34	74	74	75	75	67	66	39	33	11	3
3	1	2	0	2	7	18	61	50	37	23	37	62	43	40	50	64	75	54	60	53	47	19	6	3
8	3	3	1	2	11	25	54	43	35	34	51	57	37	57	71	71	77	63	57	46	34	15	3	2
3	2	3	0	7	16	26	49	43	46	44	72	58	46	48	74	70	67	59	57	42	36	11	3	2

AM Peak 1145 - 1245 (255), AM PHF=0.89 PM Peak 1645 - 1745 (297), PM PHF=0.96

**\* Thursday, May 12, 2022 - Total=1196, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
10	7	9	6	13	38	74	176	168	140	131	146	174	104	0	0	0	0	0	0	0	0	0	0	
3	2	5	1	3	3	12	32	57	48	37	24	40	49	0	0	0	0	0	0	0	0	0	0	0
3	2	2	1	1	8	13	44	46	37	34	42	47	46	0	0	0	0	0	0	0	0	0	0	0
2	2	1	2	3	13	26	59	26	32	28	34	43	9	0	0	0	0	0	0	0	0	0	0	0
2	1	1	2	6	14	23	41	39	23	32	46	44	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0730 - 0830 (203), AM PHF=0.86 PM Peak 1215 - 1315 (183), PM PHF=0.93

**\* Friday, May 13, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Saturday, May 14, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Sunday, May 15, 2022 - Total=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

**\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-315 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 8 - on 200 S between 100 E and 200 E  
**Attribute:** Box 16  
**Direction:** 8 - East bound A>B, West bound B>A. **Lane:** 2  
**Survey Duration:** 10:39 Monday, May 9, 2022 => 13:32 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 8 - 200 S between 100 E and 200 E.EC0 (Plus )  
**Identifier:** TD47ACV0 MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:40 Monday, May 9, 2022 => 13:32 Monday, May 16, 2022 (7.11953)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = East, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 21415 / 21443 (99.87%)

\* Monday, May 9, 2022 - Total=4045 (Incomplete) , 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Monday, May 9, 2022.

AM Peak 1700 - 1800 (628), PM PHF=0.92

\* Tuesday, May 10, 2022 - Total=6936, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Tuesday, May 10, 2022.

AM Peak 0700 - 0800 (480), AM PHF=0.78 PM Peak 1645 - 1745 (657), PM PHF=0.90

\* Wednesday, May 11, 2022 - Total=7463, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Wednesday, May 11, 2022.

AM Peak 1145 - 1245 (585), AM PHF=0.86 PM Peak 1715 - 1815 (621), PM PHF=0.87

\* Thursday, May 12, 2022 - Total=2971, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Thursday, May 12, 2022.

AM Peak 1145 - 1245 (531), AM PHF=0.87 PM Peak 1200 - 1300 (520), PM PHF=0.92

\* Friday, May 13, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Friday, May 13, 2022.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Saturday, May 14, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Saturday, May 14, 2022.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Sunday, May 15, 2022 - Total=0, 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Sunday, May 15, 2022.

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops

Table with 24 columns (0000-2300) and 5 rows of data showing counts for Monday, May 16, 2022.

AM Peak 0000 - 0100 (0), AM PHF=1.00

## MetroCount Traffic Executive Event Counts

### EventCount-324 -- English (ENU)

#### Datasets:

**Site:** [Pleasant Grove] Location 9 - on 100 E between 300 S and State St  
**Attribute:** Box 18  
**Input A:** 7 - North bound A>B, South bound B>A. - Lane= 0, Added to totals. (/2.000)  
**Input B:** 0 - Unused or unknown. - Lane= 1, Excluded from totals.  
**Survey Duration:** 10:41 Monday, May 9, 2022 => 13:23 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 9 - 100 E between 300 S and State St.EC0 (Plus )  
**Identifier:** TB352TVC MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Event Count (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

#### Profile:

**Filter time:** 10:42 Monday, May 9, 2022 => 13:23 Monday, May 16, 2022 (7.11197)  
**Separation:** GapX > 0 sec  
**Name:** Default Profile  
**Scheme:** Count events divided by setup divisor  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Events = 49063 / 49063 (100.00%)



**\* Monday, May 9, 2022=6145 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
-	-	-	-	-	-	-	-	-	-	-	0	0	127	695	831	815	1034	823	640	510	333	249	90
-	-	-	-	-	-	-	-	-	-	-	0	0	0	166	201	206	238	221	183	152	107	96	27
-	-	-	-	-	-	-	-	-	-	-	0	0	1	143	211	184	289	200	173	133	85	60	28
-	-	-	-	-	-	-	-	-	-	-	0	0	0	2	167	221	230	274	210	158	115	72	55
-	-	-	-	-	-	-	-	-	-	-	8	0	0	125	219	198	195	234	193	126	111	69	39

PM Peak 1700 - 1800 (1034), PM PHF=0.90

**\* Tuesday, May 10, 2022=11165, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
36	19	16	14	15	99	201	527	745	659	595	667	711	604	780	844	902	997	904	617	519	424	186	89
15	5	4	3	8	5	34	68	185	172	145	170	182	151	165	214	232	248	240	174	127	110	62	23
7	3	5	3	0	14	36	98	173	174	132	160	180	145	176	193	219	250	228	173	135	120	44	30
8	6	4	4	1	34	64	178	208	160	157	156	178	145	205	222	215	277	216	139	140	101	43	23
6	5	3	4	6	46	68	183	180	154	161	181	172	163	235	216	236	223	220	132	119	93	37	13

AM Peak 0745 - 0845 (748), AM PHF=0.90 PM Peak 1645 - 1745 (1010), PM PHF=0.91

**\* Wednesday, May 11, 2022=11001, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
56	37	13	22	22	95	209	483	657	516	469	602	768	759	719	795	911	1087	895	665	527	402	195	101
16	13	2	2	6	8	35	65	171	132	95	128	208	211	172	205	212	249	232	195	154	122	53	42
7	12	5	8	3	24	50	120	171	131	110	143	186	187	173	196	210	270	216	160	143	110	53	23
17	10	4	6	7	29	60	146	141	130	121	160	186	188	189	200	251	270	247	177	118	75	44	21
16	2	2	7	6	34	65	152	175	124	143	173	189	173	185	195	239	299	201	135	112	96	46	15

AM Peak 1145 - 1245 (752), AM PHF=0.90 PM Peak 1700 - 1800 (1087), PM PHF=0.91

**\* Thursday, May 12, 2022=4010, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
63	20	21	18	15	92	185	495	603	551	452	564	673	261	0	0	0	0	0	0	0	0	0	0
15	6	7	3	4	5	23	62	149	142	120	118	167	150	0	0	0	0	0	0	0	0	0	0
25	8	7	4	1	22	49	108	145	149	97	138	186	111	0	0	0	0	0	0	0	0	0	0
10	3	5	4	5	25	52	163	144	129	114	154	155	1	0	0	0	0	0	0	0	0	0	0
13	3	2	7	5	40	61	163	167	131	122	155	165	0	0	0	0	0	0	0	0	0	0	0

AM Peak 1145 - 1245 (662), AM PHF=0.89 PM Peak 1200 - 1300 (673), PM PHF=0.90

**\* Friday, May 13, 2022=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=-nan(ind) PM Peak 0000 - 0100 (0), PM PHF=-nan(ind)

**\* Saturday, May 14, 2022=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=-nan(ind) PM Peak 0000 - 0100 (0), PM PHF=-nan(ind)

**\* Sunday, May 15, 2022=0, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=-nan(ind) PM Peak 0000 - 0100 (0), PM PHF=-nan(ind)

**\* Monday, May 16, 2022=0 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=-nan(ind)

# MetroCount Traffic Executive Vehicle Counts

## VehicleCount-328 -- English (ENU)

### Datasets:

**Site:** [Pleasant Grove] Location 10 - on 300 E between 500 S and State St  
**Attribute:** Box 19  
**Direction:** 7 - North bound A>B, South bound B>A. **Lane:** 0  
**Survey Duration:** 10:43 Monday, May 9, 2022 => 13:27 Monday, May 16, 2022,  
**Zone:**  
**File:** Location 10 - 300 E between 500 S and State St.EC0 (Plus )  
**Identifier:** TC10GDG5 MC5900-X13 (c)MetroCount 09Nov16  
**Algorithm:** Factory default axle (v5.05)  
**Data type:** Axle sensors - Paired (Class/Speed/Count)

### Profile:

**Filter time:** 10:44 Monday, May 9, 2022 => 13:27 Monday, May 16, 2022 (7.11384)  
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
**Speed range:** 6 - 99 mph.  
**Direction:** North, East, South, West (bound), P = North, Lane = 0-16  
**Separation:** Headway > 0 sec, Span 0 - 328.084 ft  
**Name:** Default Profile  
**Scheme:** Vehicle classification (Scheme F3)  
**Units:** Non metric (ft, mi, ft/s, mph, lb, ton)  
**In profile:** Vehicles = 30096 / 30153 (99.81%)

\* Monday, May 9, 2022 - Total=5746 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
-	-	-	-	-	-	-	-	-	-	-	0	0	0	699	745	781	980	753	575	520	357	232	104	
-	-	-	-	-	-	-	-	-	-	0	0	0	138	180	202	240	212	172	124	101	67	34	13	
-	-	-	-	-	-	-	-	-	-	0	0	0	185	176	180	268	204	134	150	106	69	26	8	
-	-	-	-	-	-	-	-	-	-	0	0	0	172	210	203	245	167	134	118	92	58	23	20	
-	-	-	-	-	-	-	-	-	-	0	0	0	204	179	196	227	170	135	128	58	38	21	6	

PM Peak 1700 - 1800 (980), PM PHF=0.91

\* Tuesday, May 10, 2022 - Total=9915, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
47	19	22	17	43	148	276	643	527	388	378	470	617	497	702	799	845	913	759	592	505	384	218	106	
13	4	6	7	3	20	56	105	189	114	87	80	166	127	126	189	206	218	226	175	115	123	76	36	24
8	4	9	3	7	22	52	141	115	105	99	104	155	115	189	194	208	245	172	157	129	106	57	30	13
20	8	5	4	17	41	75	183	116	96	95	110	167	115	197	217	215	241	171	137	128	74	48	24	13
6	3	2	3	16	65	93	214	107	73	97	176	129	140	190	199	216	209	190	123	133	81	37	16	8

AM Peak 0715 - 0815 (727), AM PHF=0.85 PM Peak 1715 - 1815 (921), PM PHF=0.94

\* Wednesday, May 11, 2022 - Total=10289, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
58	21	19	18	41	136	283	611	582	507	459	564	641	643	693	685	818	857	843	631	512	387	203	77	
24	5	3	4	3	13	57	110	171	129	101	131	169	152	156	170	194	227	247	172	149	124	64	28	17
13	4	1	0	7	22	67	155	134	121	114	128	185	178	191	177	210	207	195	162	118	97	55	18	18
13	10	10	6	11	31	65	173	138	117	100	128	150	154	155	155	210	192	190	137	131	79	41	13	10
8	2	5	8	19	70	94	173	139	140	144	177	137	159	191	183	204	231	211	160	114	87	43	18	9

AM Peak 1145 - 1245 (681), AM PHF=0.92 PM Peak 1715 - 1815 (877), PM PHF=0.89

\* Thursday, May 12, 2022 - Total=4146, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
54	22	14	14	42	128	254	594	579	522	438	628	667	190	0	0	0	0	0	0	0	0	0	0	0
17	8	6	4	3	12	46	94	186	132	102	154	170	145	0	0	0	0	0	0	0	0	0	0	0
18	4	0	3	11	27	58	142	118	139	100	145	142	45	0	0	0	0	0	0	0	0	0	0	0
10	6	6	3	15	35	61	164	132	128	126	141	181	0	0	0	0	0	0	0	0	0	0	0	0
9	4	2	4	13	54	89	194	143	123	110	188	174	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0715 - 0815 (686), AM PHF=0.88 PM Peak 1200 - 1300 (667), PM PHF=0.92

\* Friday, May 13, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Saturday, May 14, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Sunday, May 15, 2022 - Total=0, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1200 - 1300 (0), PM PHF=1.00

\* Monday, May 16, 2022 - Total=0 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0000 - 0100 (0), AM PHF=1.00

## Appendix B: Existing Synchro Model Output

### HCM Signalized Intersection Capacity Analysis

#### 9: SR-89 & 2000 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑			↑↑↑			↑		
Volume (vph)	279	431	14	4	494	344	15	5	16	450	6	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1647	1770	1863	1583	1770
Flt Permitted	0.32	1.00	1.00	0.47	1.00	1.00	0.75	1.00	0.74	1.00	1.00	1.00
Satd. Flow (perm)	603	5085	1583	883	5085	1583	1403	1647	1384	1863	1583	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	468	15	4	537	374	16	5	17	489	7	327
RTOR Reduction (vph)	0	0	9	0	0	269	0	10	0	0	0	189
Lane Group Flow (vph)	303	468	6	4	537	105	16	12	0	489	7	138
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm	Perm	Perm			Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	57.5	50.7	50.7	34.4	33.6	33.6	50.5	50.5	50.5	50.5	50.5	50.5
Effective Green, g (s)	57.5	50.7	50.7	34.4	33.6	33.6	50.5	50.5	50.5	50.5	50.5	50.5
Actuated g/C Ratio	0.48	0.42	0.42	0.29	0.28	0.28	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	463	2148	669	259	1424	443	590	693	582	784	679	666
v/s Ratio Prot	c0.10	0.09		0.00	0.11		0.01			0.00		
v/s Ratio Perm	c0.22		0.00	0.00		0.07	0.01		c0.35		0.09	
v/c Ratio	0.65	0.22	0.01	0.02	0.38	0.24	0.03	0.02	0.84	0.01	0.21	
Uniform Delay, d1	20.4	22.0	20.1	30.6	34.8	33.3	20.4	20.3	31.1	20.2	22.0	
Progression Factor	1.00	1.00	1.00	0.70	0.66	0.60	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	0.2	0.0	0.0	0.7	1.2	0.0	0.0	10.6	0.0	0.2	
Delay (s)	23.7	22.3	20.1	21.5	23.7	21.1	20.4	20.3	41.7	20.2	22.2	
Level of Service	C	C	C	C	C	C	C	C	D	C	C	
Approach Delay (s)	22.8			22.6			20.3			33.8		
Approach LOS	C			C			C			C		

#### Intersection Summary

HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

### HCM Signalized Intersection Capacity Analysis

#### 10: SR-89 & 1300 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑↑↑			↑			↑		
Volume (vph)	51	602	197	9	600	81	264	159	42	146	249	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96	1.00	0.98	1.00	0.97	1.00	0.97	1.00	0.98	1.00	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4897	1770	4995	1770	1804	1770	1804	1770	1827	1770	1827
Flt Permitted	0.34	1.00	0.28	1.00	0.45	1.00	0.56	1.00	0.56	1.00	1.00	1.00
Satd. Flow (perm)	626	4897	529	4995	832	1804	1042	1827	1042	1827	1827	1827
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	654	214	10	652	88	287	173	46	159	271	40
RTOR Reduction (vph)	0	33	0	0	10	0	13	0	7	0	7	0
Lane Group Flow (vph)	55	835	0	10	730	0	287	206	0	159	304	0
Turn Type	Perm		Perm	Perm		Perm	Perm	Perm	Perm		Perm	Perm
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	63.4	63.4		63.4	63.4		44.6	44.6		44.6	44.6	
Effective Green, g (s)	63.4	63.4		63.4	63.4		44.6	44.6		44.6	44.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.37	0.37		0.37	0.37	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	331	2587		279	2639		309	670		387	679	
v/s Ratio Prot	c0.17			0.15			0.11			0.17		
v/s Ratio Perm	0.09			0.02			c0.35			0.15		
v/c Ratio	0.17	0.32		0.04	0.28		0.93	0.31		0.41	0.45	
Uniform Delay, d1	14.6	16.1		13.6	15.6		36.2	26.8		28.0	28.4	
Progression Factor	1.06	0.95		0.47	0.52		1.01	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3		0.2	0.3		32.8	0.3		0.7	0.5	
Delay (s)	16.6	15.6		6.7	8.4		69.2	27.1		28.7	28.9	
Level of Service	B	B		A	A		E	C		C	C	
Approach Delay (s)	15.7			8.3			51.0			28.8		
Approach LOS	B			A			D			C		

#### Intersection Summary

HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

11: SR-89 & Pleasant Grove Blvd

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	144	695	35	72	559	19	41	139	46	37	390	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5049		3433	5060		3433	3407		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5049		3433	5060		3433	3407		3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	157	755	38	78	608	21	45	151	50	40	424	193
RTOR Reduction (vph)	0	4	0	0	2	0	0	30	0	0	0	148
Lane Group Flow (vph)	157	789	0	78	627	0	45	171	0	40	424	45
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												8
Actuated Green, G (s)	10.8	59.6		9.6	58.4		5.9	21.1		5.7	20.9	20.9
Effective Green, g (s)	10.8	59.6		9.6	58.4		5.9	21.1		5.7	20.9	20.9
Actuated g/C Ratio	0.09	0.50		0.08	0.49		0.05	0.18		0.05	0.17	0.17
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	309	2508		275	2463		169	599		163	616	276
v/s Ratio Prot	c0.05	c0.16		0.02	c0.12		0.01	c0.05		0.01	c0.12	
v/s Ratio Perm												0.03
v/c Ratio	0.51	0.31		0.28	0.25		0.27	0.28		0.25	0.69	0.16
Uniform Delay, d1	52.1	18.0		52.0	18.0		55.0	42.9		55.1	46.5	42.1
Progression Factor	0.79	0.75		0.98	0.98		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	0.3		0.6	0.2		0.8	0.3		0.8	3.2	0.3
Delay (s)	42.3	13.8		51.4	17.9		55.8	43.2		55.9	49.7	42.4
Level of Service	D	B		D	B		E	D		E	D	D
Approach Delay (s)	18.5			21.6			45.5			47.9		
Approach LOS	B			C			D			D		

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

12: SR-89 & Geneva Road

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	2	415	260	45	317	57	147	123	26	121	339	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	0.95
Frt	1.00	0.94		1.00	1.00		1.00	0.85		1.00	0.85	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	4791		1770	5085		1770	1583		1770	1863	1583
Flt Permitted	0.54	1.00		0.36	1.00		0.43	1.00		1.00	0.63	1.00
Satd. Flow (perm)	1000	4791		667	5085		792	1863		1177	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	451	283	49	345	62	160	134	28	132	368	21
RTOR Reduction (vph)	0	49	0	0	0	20	0	0	22	0	0	16
Lane Group Flow (vph)	2	685	0	49	345	42	160	134	6	132	368	5
Turn Type	Perm			Perm			Perm	Perm		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			8			2		6
Actuated Green, G (s)	81.7	81.7		81.7	81.7		81.7	26.3		26.3	26.3	26.3
Effective Green, g (s)	81.7	81.7		81.7	81.7		81.7	26.3		26.3	26.3	26.3
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.68	0.22		0.22	0.22	0.22
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	681	3262		454	3462		1078	174		408	347	258
v/s Ratio Prot		c0.14			0.07			0.07			0.10	
v/s Ratio Perm	0.00			0.07			0.03	c0.20		0.00	0.11	0.00
v/c Ratio	0.00	0.21		0.11	0.10		0.04	0.92		0.33	0.51	0.47
Uniform Delay, d1	6.1	7.1		6.6	6.6		6.3	45.8		39.4	36.7	41.2
Progression Factor	0.47	0.44		0.68	0.73		0.21	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1		0.5	0.1		0.1	45.1		0.5	0.0	1.7
Delay (s)	2.9	3.3		5.0	4.8		1.4	90.9		39.9	36.7	42.9
Level of Service	A	A		A	A		A	F		D	D	D
Approach Delay (s)	3.3			4.4			65.0			41.5		
Approach LOS	A			A			E			D		

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
14: 700 South & SR-89

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	22	45	49	292	166	16	36	556	74	3	636	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00		0.91
Frt	1.00	0.92		1.00	0.99		1.00	1.00	0.85	1.00		0.99
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1770	1718		1770	1839		1770	5085	1583	1770		5050
Flt Permitted	0.40	1.00		0.66	1.00		0.31	1.00	1.00	0.41		1.00
Satd. Flow (perm)	745	1718		1238	1839		570	5085	1583	769		5050
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	49	53	317	180	17	39	604	80	3	691	34
RTOR Reduction (vph)	0	36	0	0	4	0	0	0	21	0	3	0
Lane Group Flow (vph)	24	66	0	317	193	0	39	604	59	3	722	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	16.3	10.0		34.8	22.5		66.0	66.0	66.0	62.7	62.7	
Effective Green, g (s)	16.3	10.0		34.8	22.5		66.0	66.0	66.0	62.7	62.7	
Actuated g/C Ratio	0.14	0.08		0.29	0.19		0.55	0.55	0.55	0.52	0.52	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	155	143		442	345		359	2797	871	412	2639	
v/s Ratio Prot	0.01	0.04		c0.11	0.10		0.00	c0.12	0.00	c0.14		
v/s Ratio Perm	0.01			c0.10			0.06		0.04	0.00		
v/c Ratio	0.15	0.46		0.72	0.56		0.11	0.22	0.07	0.01	0.27	
Uniform Delay, d1	50.8	52.4		37.6	44.2		12.9	13.8	12.6	13.7	16.0	
Progression Factor	1.00	1.00		1.00	1.00		0.84	0.82	0.72	0.70	0.67	
Incremental Delay, d2	0.5	2.4		5.5	2.0		0.1	0.2	0.1	0.0	0.3	
Delay (s)	51.3	54.8		43.1	46.2		10.9	11.5	9.3	9.6	11.0	
Level of Service	D	D		D	D		B	B	A	A	B	
Approach Delay (s)		54.1			44.3			11.2			11.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
15: 700 North & SR-89

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	48	85	134	52	200	38	151	524	43	32	876	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.37	1.00	1.00	0.70	1.00	1.00	0.28	1.00	1.00	0.43	1.00	1.00
Satd. Flow (perm)	694	1863	1583	1299	1863	1583	528	5085	1583	796	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	92	146	57	217	41	164	570	47	35	952	60
RTOR Reduction (vph)	0	0	122	0	0	18	0	0	12	0	0	16
Lane Group Flow (vph)	52	92	24	57	217	23	164	570	35	35	952	44
Turn Type	Perm		Perm	Perm			Perm	Perm		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	19.4	19.4	19.4	19.4	19.4	19.4	88.6	88.6	88.6	88.6	88.6	88.6
Effective Green, g (s)	19.4	19.4	19.4	19.4	19.4	19.4	88.6	88.6	88.6	88.6	88.6	88.6
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.74	0.74	0.74	0.74	0.74	0.74
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	112	301	256	210	301	256	390	3754	1169	588	3754	1169
v/s Ratio Prot		0.05			c0.12			0.11			0.19	
v/s Ratio Perm	0.07		0.01	0.04		0.01	c0.31		0.02	0.04		0.03
v/c Ratio	0.46	0.31	0.09	0.27	0.72	0.09	0.42	0.15	0.03	0.06	0.25	0.04
Uniform Delay, d1	45.6	44.4	42.8	44.1	47.7	42.8	6.0	4.6	4.2	4.3	5.1	4.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.47	0.06
Incremental Delay, d2	3.0	0.6	0.2	0.7	8.2	0.1	3.3	0.1	0.0	0.2	0.2	0.1
Delay (s)	48.6	44.9	43.0	44.8	56.0	42.9	9.3	4.7	4.2	2.3	2.6	0.3
Level of Service	D	D	D	D	E	D	A	A	A	A	A	A
Approach Delay (s)		44.6			52.2		5.6			2.4		
Approach LOS		D			D		A			A		

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
40: 700 South & Geneva Road

Timing Plan: AM Peak

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	←	→	↘	←	→	↘	←	→	↘	←	→	↘
Lane Configurations	↘	↘		↘	↘	↘		↘	↘	↘	↘	↘
Volume (vph)	25	61	59	169	50	29	28	157	40	32	508	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.93		1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1725		1770	1863	1583		3513	1583	1770	3539	1583
Flt Permitted	0.72	1.00		0.67	1.00	1.00		0.85	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1345	1725		1255	1863	1583		2999	1583	1165	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	66	64	184	54	32	30	171	43	35	552	10
RTOR Reduction (vph)	0	43	0	0	0	22	0	0	28	0	0	7
Lane Group Flow (vph)	27	87	0	184	54	10	0	201	15	35	552	3
Turn Type	Perm			Perm		Perm		Perm		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	7.8	7.8		7.8	7.8	7.8		8.5	8.5	8.5		8.5
Effective Green, g (s)	7.8	7.8		7.8	7.8	7.8		8.5	8.5	8.5		8.5
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32		0.35	0.35	0.35		0.35
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	432	554		403	598	508		1049	554	408	1238	554
v/s Ratio Prot		0.05			0.03				0.01		c0.16	
v/s Ratio Perm	0.02			c0.15		0.01		0.07	0.01	0.03		0.00
v/c Ratio	0.06	0.16		0.46	0.09	0.02		0.19	0.03	0.09	0.45	0.01
Uniform Delay, d1	5.7	5.9		6.6	5.8	5.6		5.5	5.2	5.3	6.1	5.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.8	0.1	0.0		0.1	0.0	0.1	0.3	0.0
Delay (s)	5.8	6.0		7.4	5.8	5.7		5.6	5.2	5.4	6.3	5.2
Level of Service	A	A		A	A	A		A	A	A	A	A
Approach Delay (s)		6.0			6.9			5.5			6.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	24.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
73: 200 South & 100 East

Timing Plan: AM Peak

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	←	→	↘	←	→	↘	←	→	↘	←	→	↘
Lane Configurations	↘	↘		↘	↘	↘		↘	↘	↘	↘	↘
Volume (vph)	25	50	25	25	150	25	25	225	25	75	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85		1.00	0.99	1.00	0.98	0.98
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1770		1770	1863	1583		1770	1835	1770	1830	1830
Flt Permitted	0.65	1.00		0.70	1.00	1.00		0.54	1.00	0.59	1.00	1.00
Satd. Flow (perm)	1218	1770		1312	1863	1583		1009	1835	1103	1830	1830
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	27	27	163	27	27	245	27	82	326	43
RTOR Reduction (vph)	0	21	0	0	0	21	0	7	0	0	9	0
Lane Group Flow (vph)	27	60	0	27	163	6	27	265	0	82	360	0
Turn Type	Perm			Perm		Perm		Perm		Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	6.3	6.3		6.3	6.3	6.3	9.3	9.3	6.3	9.3	9.3	9.3
Effective Green, g (s)	6.3	6.3		6.3	6.3	6.3	9.3	9.3	6.3	9.3	9.3	9.3
Actuated g/C Ratio	0.23	0.23		0.23	0.23	0.23	0.34	0.34	0.23	0.34	0.34	0.34
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	278	404		299	425	361	340	618	372	617		617
v/s Ratio Prot		0.03			c0.09			0.14			c0.20	
v/s Ratio Perm	0.02			0.02		0.00	0.03		0.00		0.07	
v/c Ratio	0.10	0.15		0.09	0.38	0.02	0.08	0.43	0.22	0.58		0.58
Uniform Delay, d1	8.4	8.5		8.4	9.0	8.3	6.2	7.1	6.6	7.6		7.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		0.1	0.6	0.0	0.1	0.5	0.3	1.4		1.4
Delay (s)	8.6	8.7		8.5	9.6	8.3	6.3	7.6	6.9	9.0		9.0
Level of Service	A	A		A	A	A	A	A	A	A		A
Approach Delay (s)		8.6			9.3			7.5			8.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	27.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis  
87: 700N & Pleasant Grove Blvd.

Timing Plan: AM Peak

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	T	T	T	T	T	T	T	T	T	T	T	T
Volume (vph)	10	33	10	369	65	12	74	650	299	20	1000	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.97	0.95	0.97	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3372	3433	3523	3433	3523
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3372	3433	3523	3433	3523
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	36	11	401	71	13	80	707	325	22	1087	34
RTOR Reduction (vph)	0	0	10	0	0	10	0	34	0	0	2	0
Lane Group Flow (vph)	11	36	1	401	71	3	80	998	0	22	1119	0
Turn Type	Prot	Perm	Prot	Perm	Prot	Perm	Prot	Perm	Prot	Perm	Prot	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2						
Actuated Green, G (s)	1.0	4.6	4.6	17.2	20.8	20.8	6.0	44.2		2.2	40.4	
Effective Green, g (s)	1.0	4.6	4.6	17.2	20.8	20.8	6.0	44.2		2.2	40.4	
Actuated g/C Ratio	0.01	0.05	0.05	0.19	0.23	0.23	0.07	0.49		0.02	0.45	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	38	180	81	655	816	365	228	1652		84	1578	
v/s Ratio Prot	0.00	c0.01		c0.12	0.02		c0.02	c0.30		0.01	c0.32	
v/s Ratio Perm			0.00			0.00						
v/c Ratio	0.29	0.20	0.01	0.61	0.09	0.01	0.35	0.60		0.26	0.71	
Uniform Delay, d1	44.2	41.0	40.6	33.4	27.2	26.7	40.2	16.7		43.2	20.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.5	0.0	1.7	0.0	0.0	0.9	0.6		1.7	1.5	
Delay (s)	48.4	41.6	40.7	35.1	27.3	26.8	41.2	17.3		44.9	21.6	
Level of Service	D	D	D	D	C	C	D	B		D	C	
Approach Delay (s)	42.7			33.8			19.0			22.1		
Approach LOS	D			C			B			C		
<b>Intersection Summary</b>												
HCM Average Control Delay	23.3			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	90.2			Sum of lost time (s)			28.0					
Intersection Capacity Utilization	58.9%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
91: I-15 SB Ramp & Pleasant Grove Blvd.

Timing Plan: AM Peak

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	T	T	T					T	T	T	T	T
Volume (vph)	643	3	53	0	0	0	0	30	29	564	116	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1686	1583					3539	1583	3433	1863	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1686	1583					3539	1583	3433	1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	699	3	58	0	0	0	0	33	32	613	126	0
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	30	0	0	0
Lane Group Flow (vph)	349	353	18	0	0	0	0	33	2	613	126	0
Turn Type	Perm	Perm	Perm					Perm	Prot	Perm	Prot	
Protected Phases		6						4		3	8	
Permitted Phases	6		6						4			
Actuated Green, G (s)	13.8	13.8	13.8					3.3	3.3	10.5	19.8	
Effective Green, g (s)	13.8	13.8	13.8					3.3	3.3	10.5	19.8	
Actuated g/C Ratio	0.30	0.30	0.30					0.07	0.07	0.23	0.43	
Clearance Time (s)	6.0	6.0	6.0					6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	509	510	479					256	115	790	809	
v/s Ratio Prot								0.01		c0.18	c0.07	
v/s Ratio Perm	0.21	0.21	0.01						0.00			
v/c Ratio	0.69	0.69	0.04					0.13	0.02	0.78	0.16	
Uniform Delay, d1	14.0	14.0	11.2					19.8	19.6	16.4	7.8	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	4.0	0.0					0.2	0.1	4.8	0.1	
Delay (s)	17.8	18.1	11.2					20.0	19.7	21.3	7.9	
Level of Service	B	B	B					C	B	C	A	
Approach Delay (s)	17.4		0.0		19.9		19.0		19.0			
Approach LOS	B		A		B		B					
<b>Intersection Summary</b>												
HCM Average Control Delay	18.3			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	45.6			Sum of lost time (s)			12.0					
Intersection Capacity Utilization	91.4%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
94: I-15 NB Ramp & Pleasant Grove Blvd.

Timing Plan: AM Peak

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔	↔	↔	↔			↔	↔
Volume (vph)	0	0	0	131	0	430	69	509	0	0	650	609
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0	6.0	6.0			6.0	6.0	
Lane Util. Factor				1.00	1.00	1.00	0.95			0.95	1.00	
Frt				1.00	0.85	1.00	1.00			1.00	0.85	
Flt Protected				0.95	1.00	0.95	1.00			1.00	1.00	
Satd. Flow (prot)				1770	1583	1770	3539			3539	1583	
Flt Permitted				0.95	1.00	0.36	1.00			1.00	1.00	
Satd. Flow (perm)				1770	1583	679	3539			3539	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	142	0	467	75	553	0	0	707	662
RTOR Reduction (vph)	0	0	0	0	0	121	0	0	0	0	0	387
Lane Group Flow (vph)	0	0	0	142	346	75	553	0	0	707	275	
Turn Type	Perm		Perm	Perm	Perm				Perm		Perm	
Protected Phases				2				4			8	
Permitted Phases	2			2		4					8	
Actuated Green, G (s)				14.5	14.5	18.8	18.8			18.8	18.8	
Effective Green, g (s)				14.5	14.5	18.8	18.8			18.8	18.8	
Actuated g/C Ratio				0.32	0.32	0.42	0.42			0.42	0.42	
Clearance Time (s)				6.0	6.0	6.0	6.0			6.0	6.0	
Vehicle Extension (s)				3.0	3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)				567	507	282	1469			1469	657	
v/s Ratio Prot							0.16			0.20		
v/s Ratio Perm				0.08	0.22	0.11					0.17	
v/c Ratio				0.25	0.68	0.27	0.38			0.48	0.42	
Uniform Delay, d1				11.4	13.4	8.7	9.2			9.7	9.4	
Progression Factor				1.00	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2				0.2	3.8	0.5	0.2			0.2	0.4	
Delay (s)				11.6	17.2	9.2	9.3			9.9	9.8	
Level of Service				B	B	A	A			A	A	
Approach Delay (s)	0.0			15.9			9.3			9.9		
Approach LOS	A			B			A			A		
<b>Intersection Summary</b>												
HCM Average Control Delay				11.1	HCM Level of Service			B				
HCM Volume to Capacity ratio				0.57								
Actuated Cycle Length (s)				45.3	Sum of lost time (s)			12.0				
Intersection Capacity Utilization				91.4%	ICU Level of Service			F				
Analysis Period (min)				15								
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
100: 1100 North & 100 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔		↔	↔	
Volume (vph)	28	116	226	40	178	38	108	327	34	22	881	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1678		1770	1814		1770	1836		1770	1846	
Flt Permitted	0.58	1.00		0.36	1.00		0.12	1.00		0.52	1.00	
Satd. Flow (perm)	1079	1678		677	1814		231	1836		976	1846	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	126	246	43	193	41	117	355	37	24	958	62
RTOR Reduction (vph)	0	101	0	0	14	0	7	0	0	4	0	0
Lane Group Flow (vph)	30	271	0	43	220	0	117	385	0	24	1016	0
Turn Type	Perm			Perm		Perm		Perm		Perm		
Protected Phases			4			8			2			6
Permitted Phases	4					8			2			6
Actuated Green, G (s)			11.0			11.0			32.2			32.2
Effective Green, g (s)			11.0			11.0			32.2			32.2
Actuated g/C Ratio			0.20			0.20			0.58			0.58
Clearance Time (s)			6.0			6.0			6.0			6.0
Vehicle Extension (s)			2.0			2.0			2.0			2.0
Lane Grp Cap (vph)			215			334			135			1071
v/s Ratio Prot			0.16			0.12			0.21			0.55
v/s Ratio Perm			0.03			0.06			0.51			0.02
v/c Ratio			0.14			0.32			0.87			0.36
Uniform Delay, d1			18.2			21.1			9.7			6.1
Progression Factor			1.00			1.00			1.00			1.00
Incremental Delay, d2			0.1			13.2			39.2			0.1
Delay (s)			18.3			34.3			48.9			6.1
Level of Service			B			C			D			A
Approach Delay (s)	33.1					21.8		16.0		25.6		
Approach LOS	C					C		B			C	
<b>Intersection Summary</b>												
HCM Average Control Delay				24.3	HCM Level of Service			C				
HCM Volume to Capacity ratio				0.91								
Actuated Cycle Length (s)				55.2	Sum of lost time (s)			12.0				
Intersection Capacity Utilization				107.3%	ICU Level of Service			G				
Analysis Period (min)				15								
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
141: Center Street & 100 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘
Volume (vph)	76	98	32	8	244	16	37	249	3	34	550	166
Ideal Flow (veh/h)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1846		1770	1860		1770	1798	
Flt Permitted	0.31	1.00	1.00	0.69	1.00		0.16	1.00		0.53	1.00	
Satd. Flow (perm)	574	1863	1583	1281	1846		295	1860		994	1798	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	107	35	9	265	17	40	271	3	37	598	180
RTOR Reduction (vph)	0	0	25	0	2	0	0	1	0	0	12	0
Lane Group Flow (vph)	83	107	10	9	280	0	40	273	0	37	766	0
Turn Type	pm+pt		Perm	pm+pt		pm+pt		pm+pt		pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	27.0	20.9	20.9	16.5	15.4		29.0	25.3		28.8	25.2	
Effective Green, g (s)	27.0	20.9	20.9	16.5	15.4		29.0	25.3		28.8	25.2	
Actuated g/C Ratio	0.37	0.29	0.29	0.23	0.21		0.40	0.35		0.40	0.35	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	1.0	1.0	3.0	1.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	321	534	454	297	390		192	646		431	622	
v/s Ratio Prot	c0.02	0.06		0.00	c0.15		c0.01	0.15		0.00	c0.43	
v/s Ratio Perm	0.07		0.01	0.01			0.07			0.03		
v/c Ratio	0.26	0.20	0.02	0.03	0.72		0.21	0.42		0.09	1.23	
Uniform Delay, d1	15.9	19.7	18.7	21.9	26.7		16.7	18.2		13.7	23.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1	0.0	0.0	5.2		0.5	0.4		0.1	117.5	
Delay (s)	16.3	19.7	18.7	22.0	31.9		17.2	18.7		13.8	141.4	
Level of Service	B	B	B	C	C		B	B		B	F	
Approach Delay (s)		18.3			31.6			18.5			135.6	
Approach LOS		B			C			B			F	
<b>Intersection Summary</b>												
HCM Average Control Delay		78.8										E
HCM Volume to Capacity ratio		0.88										
Actuated Cycle Length (s)		72.9			Sum of lost time (s)			22.0				
Intersection Capacity Utilization		71.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis  
13: SR-89 & 100 East

Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↗	↗	↗	↗	↗
Volume (veh/h)	55	493	466	260	253	46
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	536	507	283	275	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage (veh)		2	2			
Upstream signal (ft)		629	1179			
pX, platoon unblocked	0.97			0.97	0.97	
vC, conflicting volume	789			805	253	
vC1, stage 1 conf vol				507		
vC2, stage 2 conf vol				298		
vCu, unblocked vol	718			734	165	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)				5.8		
IF (s)	2.2			3.5	3.3	
p0 queue free %	93			47	94	
cM capacity (veh/h)	852			518	824	
<b>Direction, Lane #</b>						
Volume Total	60	179	179	253	283	325
Volume Left	60	0	0	0	0	275
Volume Right	0	0	0	0	0	283
cSH	852	1700	1700	1700	1700	550
Volume to Capacity	0.07	0.11	0.11	0.11	0.15	0.17
Queue Length 95th (ft)	6	0	0	0	0	95
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	20.6
Lane LOS	A					C
Approach Delay (s)	1.0			0.0		20.6
Approach LOS						C
<b>Intersection Summary</b>						
Average Delay			4.2			
Intersection Capacity Utilization			43.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
42: 500 North & 100 East

Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↔	↔	↑
Volume (veh/h)	32	72	377	18	51	852
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	78	410	20	55	926
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		TWLT	
Median storage (veh)					2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1447	410			429	
vC1, stage 1 conf vol	410					
vC2, stage 2 conf vol	1037					
vCu, unblocked vol	1447	410			429	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	88			95	
cM capacity (veh/h)	302	642			1130	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	113	410	20	55	926	
Volume Left	35	0	0	55	0	
Volume Right	78	0	20	0	0	
cSH	477	1700	1700	1130	1700	
Volume to Capacity	0.24	0.24	0.01	0.05	0.54	
Queue Length 95th (ft)	23	0	0	4	0	
Control Delay (s)	14.9	0.0	0.0	8.3	0.0	
Lane LOS	B			A		
Approach Delay (s)	14.9	0.0		0.5		
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.4			
Intersection Capacity Utilization			57.7%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
48: 1100 North & 1300 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔		↔	↔	
Volume (veh/h)	8	106	25	54	214	9	24	71	40	27	152	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	115	27	59	233	10	26	77	43	29	165	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			TWLT							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	242			142			594	506	129	570	515	238
vC1, stage 1 conf vol							146	146		355	355	
vC2, stage 2 conf vol							448	360		215	160	
vCu, unblocked vol	242			142			594	506	129	570	515	238
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			93	86	95	94	70	98
cM capacity (veh/h)	1324			1440			383	561	921	521	559	801
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	9	142	59	242	147	210						
Volume Left	9	0	59	0	26	29						
Volume Right	0	27	0	10	43	15						
cSH	1324	1700	1440	1700	580	566						
Volume to Capacity	0.01	0.08	0.04	0.14	0.25	0.37						
Queue Length 95th (ft)	0	0	3	0	25	43						
Control Delay (s)	7.7	0.0	7.6	0.0	13.3	15.1						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.4		1.5		13.3	15.1						
Approach LOS					B	C						
<b>Intersection Summary</b>												
Average Delay				7.0								
Intersection Capacity Utilization				38.1%			ICU Level of Service			A		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
72: Center Street & Main Street

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕			↕			↕	↕
Sign Control		Stop			Stop			Stop			Stop	Stop
Volume (vph)	2	146	155	89	302	1	97	16	28	5	56	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	159	168	97	328	1	105	17	30	5	61	14
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	161	168	97	329	153	80						
Volume Left (vph)	2	0	97	0	105	5						
Volume Right (vph)	0	168	0	1	30	14						
Hadj (s)	0.04	-0.67	0.53	0.03	0.05	-0.06						
Departure Headway (s)	5.8	5.1	6.2	5.7	5.9	5.9						
Degree Utilization, x	0.26	0.24	0.17	0.52	0.25	0.13						
Capacity (veh/h)	586	669	560	618	551	534						
Control Delay (s)	9.6	8.5	9.2	13.4	10.8	9.9						
Approach Delay (s)	9.1		12.4		10.8	9.9						
Approach LOS	A		B		B	A						
<b>Intersection Summary</b>												
Delay			10.8									
HCM Level of Service			B									
Intersection Capacity Utilization			48.3%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
74: 200 South & Main Street

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕			↕			↕	↕
Sign Control		Stop			Stop			Stop			Stop	Stop
Volume (vph)	4	46	103	57	93	22	81	151	21	10	228	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	50	112	62	101	24	88	164	23	11	248	8
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	54	112	62	125	88	187	266					
Volume Left (vph)	4	0	62	0	88	0	11					
Volume Right (vph)	0	112	0	24	0	23	8					
Hadj (s)	0.07	-0.67	0.53	-0.10	0.53	-0.05	0.03					
Departure Headway (s)	6.5	5.7	6.9	6.2	6.4	5.9	5.9					
Degree Utilization, x	0.10	0.18	0.12	0.22	0.16	0.30	0.44					
Capacity (veh/h)	512	577	486	536	530	582	580					
Control Delay (s)	9.0	8.7	9.6	9.7	9.5	10.2	13.5					
Approach Delay (s)	8.8		9.7		10.0		13.5					
Approach LOS	A		A		A		B					
<b>Intersection Summary</b>												
Delay			10.7									
HCM Level of Service			B									
Intersection Capacity Utilization			42.0%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
79: Pleasant Grove Blvd. & 220 South

Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Volume (veh/h)	264	49	32	568	76	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	287	53	35	617	83	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)					6	
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			340		974	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			340		974	287
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		70	98
cM capacity (veh/h)			1219		271	752
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	287	53	35	617	100	
Volume Left	0	0	35	0	83	
Volume Right	0	53	0	0	17	
cSH	1700	1700	1219	1700	328	
Volume to Capacity	0.17	0.03	0.03	0.36	0.30	
Queue Length 95th (ft)	0	0	2	0	31	
Control Delay (s)	0.0	0.0	8.0	0.0	21.5	
Lane LOS			A		C	
Approach Delay (s)	0.0		0.4		21.5	
Approach LOS					C	
<b>Intersection Summary</b>						
Average Delay	2.2					
Intersection Capacity Utilization	40.8%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
83: Pleasant Grove Blvd. & 1300 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↑	↑		↑	↑	↑
Volume (veh/h)	392	346	2	30	552	26	1	35	19	4	42	607
Sign Control	Free	Free		Free	Free		Stop	Stop		Stop	Stop	Stop
Grade	0%	0%		0%	0%		0%	0%		0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	426	376	2	33	600	28	1	38	21	4	46	660
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)											4	
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	628			378			2247	1923	377	1947	1910	614
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	628			378			2247	1923	377	1947	1910	614
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	55			97			0	0	97	0	0	0
cM capacity (veh/h)	954			1180			0	36	669	0	37	492
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	426	378	33	628	1	59	710					
Volume Left	426	0	33	0	1	0	4					
Volume Right	0	2	0	28	0	21	660					
cSH	954	1700	1180	1700	0	54	238					
Volume to Capacity	0.45	0.22	0.03	0.37	Err	1.09	2.99					
Queue Length 95th (ft)	58	0	2	0	Err	125	1580					
Control Delay (s)	11.8	0.0	8.1	0.0	Err	273.2	936.0					
Lane LOS	B		A		F	F	F					
Approach Delay (s)	6.2		0.4		Err		936.0					
Approach LOS					F		F					
<b>Intersection Summary</b>												
Average Delay	Err											
Intersection Capacity Utilization	81.5%			ICU Level of Service			D					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
97: 2600 North & 1300 West

Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (veh/h)	70	84	17	204	68	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	91	18	222	74	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			167		380	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			167		380	122
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		88	99
cM capacity (veh/h)			1410		614	929
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total (vph)	167	240	84			
Volume Left (vph)	0	18	74			
Volume Right (vph)	91	0	10			
cSH	1700	1410	639			
Volume to Capacity	0.10	0.01	0.13			
Queue Length 95th (ft)	0	1	11			
Control Delay (s)	0.0	0.7	11.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.7	11.5			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			2.3			
Intersection Capacity Utilization			34.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
101: 1800 North & 1300 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Sign Control	Stop			Stop			Stop			Stop		Stop
Volume (vph)	6	26	13	27	40	15	22	60	11	15	122	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	28	14	29	43	16	24	65	12	16	133	17
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total (vph)	49	89	101	166								
Volume Left (vph)	7	29	24	16								
Volume Right (vph)	14	16	12	17								
Hadj (s)	-0.11	-0.01	0.01	-0.01								
Departure Headway (s)	4.5	4.6	4.4	4.3								
Degree Utilization, x	0.06	0.11	0.12	0.20								
Capacity (veh/h)	737	735	777	792								
Control Delay (s)	7.8	8.1	8.0	8.4								
Approach Delay (s)	7.8	8.1	8.0	8.4								
Approach LOS	A	A	A	A								
<b>Intersection Summary</b>												
Delay				8.2								
HCM Level of Service				A								
Intersection Capacity Utilization				25.4%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
103: 1800 North & 100 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔			↔	
Volume (veh/h)	0	5	92	2	5	10	64	268	4	6	652	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	100	2	5	11	70	291	4	7	709	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLT			TWLT		
Median storage (veh)							2			2		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1170	1161	713	1261	1163	293	717			296		
vC1, stage 1 conf vol	726	726		433	433							
vC2, stage 2 conf vol	444	435		829	730							
vCu, unblocked vol	1170	1161	713	1261	1163	293	717			296		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	77	99	98	99	92			99		
cM capacity (veh/h)	348	362	432	197	323	746	884			1266		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>							
Volume Total	105	18	70	296	724							
Volume Left	0	2	70	0	7							
Volume Right	100	11	0	4	9							
cSH	428	435	884	1700	1266							
Volume to Capacity	0.25	0.04	0.08	0.17	0.01							
Queue Length 95th (ft)	24	3	6	0	0							
Control Delay (s)	16.2	13.6	9.4	0.0	0.1							
Lane LOS	C	B	A		A							
Approach Delay (s)	16.2	13.6	1.8		0.1							
Approach LOS	C	B										
<b>Intersection Summary</b>												
Average Delay	2.2											
Intersection Capacity Utilization	59.5%			ICU Level of Service		B						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
105: 2600 North & Canyon Road

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔		↔	↔	
Volume (veh/h)	15	0	108	0	0	0	0	457	61	80	149	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	117	0	0	0	0	497	66	87	162	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	866	868	530	984	900	163	164			563		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	866	868	530	984	900	163	164			563		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	79	100	100	100	100			91		
cM capacity (veh/h)	256	265	549	167	254	882	1414			1008		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SE 1</b>	<b>NW 1</b>	<b>NW 2</b>							
Volume Total	134	0	563	87	164							
Volume Left	16	0	0	87	0							
Volume Right	117	0	66	0	2							
cSH	482	1700	1414	1008	1700							
Volume to Capacity	0.28	0.00	0.00	0.09	0.10							
Queue Length 95th (ft)	28	0	0	7	0							
Control Delay (s)	15.3	0.0	0.0	8.9	0.0							
Lane LOS	C	A		A								
Approach Delay (s)	15.3	0.0	0.0	3.1								
Approach LOS	C	A										
<b>Intersection Summary</b>												
Average Delay	3.0											
Intersection Capacity Utilization	53.2%			ICU Level of Service		A						
Analysis Period (min)	15											



HCM Unsignalized Intersection Capacity Analysis  
106: 2600 North & 900 West

Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	12	75	149	47	63	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	82	162	51	68	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	213				295	188
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				295	188
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	93
cM capacity (veh/h)	1357				689	855
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total (vph)	95	213	128			
Volume Left (vph)	13	0	68			
Volume Right (vph)	0	51	60			
cSH	1357	1700	758			
Volume to Capacity	0.01	0.13	0.17			
Queue Length 95th (ft)	1	0	15			
Control Delay (s)	1.1	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	1.1	0.0	10.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			27.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
108: Huntsman Lane & 900 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	29	3	0	23	0	10	20	3	3	43	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	3	0	25	0	11	22	3	3	47	0
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total (vph)	35	25	36	50								
Volume Left (vph)	0	0	11	3								
Volume Right (vph)	3	0	3	0								
Hadj (s)	-0.02	0.03	0.04	0.05								
Departure Headway (s)	4.1	4.2	4.1	4.1								
Degree Utilization, x	0.04	0.03	0.04	0.06								
Capacity (veh/h)	856	843	848	857								
Control Delay (s)	7.3	7.3	7.3	7.4								
Approach Delay (s)	7.3	7.3	7.3	7.4								
Approach LOS	A	A	A	A								
<b>Intersection Summary</b>												
Delay				7.3								
HCM Level of Service				A								
Intersection Capacity Utilization				14.8%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
114: 2600 North & 600 West

Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	119	38	9	151	18	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	129	41	10	164	20	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			171		334	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			171		334	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	100
cM capacity (veh/h)			1407		657	896
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	171	174	23			
Volume Left	0	10	20			
Volume Right	41	0	3			
cSH	1700	1407	683			
Volume to Capacity	0.10	0.01	0.03			
Queue Length 95th (ft)	0	1	3			
Control Delay (s)	0.0	0.5	10.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		25.3%		ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
116: 1800 North & 600 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	53	65	76	81	16	11	19	17	6	69	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	58	71	83	88	17	12	21	18	7	75	7
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	133	188	12	39	7	82						
Volume Left (vph)	4	83	12	0	7	0						
Volume Right (vph)	71	17	0	18	0	7						
Hadj (s)	-0.28	0.07	0.53	-0.30	0.53	-0.02						
Departure Headway (s)	4.2	4.5	5.9	5.0	5.8	5.3						
Degree Utilization, x	0.15	0.23	0.02	0.05	0.01	0.12						
Capacity (veh/h)	822	771	574	663	577	640						
Control Delay (s)	8.0	8.8	7.8	7.1	7.7	7.8						
Approach Delay (s)	8.0	8.8	7.3		7.8							
Approach LOS	A	A	A		A							
Intersection Summary												
Delay				8.2								
HCM Level of Service				A								
Intersection Capacity Utilization			30.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
123: 1100 North & 600 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Volume (veh/h)	12	188	26	79	205	22	10	46	19	35	124	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	204	28	86	223	24	11	50	21	38	135	27
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	247			233			734	663	218	697	665	235
vC1, stage 1 conf vol							245	245		407	407	
vC2, stage 2 conf vol							489	418		290	259	
vCu, unblocked vol	247			233			734	663	218	697	665	235
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			94			97	90	97	92	73	97
cM capacity (veh/h)	1319			1335			356	498	821	468	491	804
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>							
Volume Total	246	86	247	82	200							
Volume Left	13	86	0	11	38							
Volume Right	28	0	24	21	27							
cSH	1319	1335	1700	522	513							
Volume to Capacity	0.01	0.06	0.15	0.16	0.39							
Queue Length 95th (ft)	1	5	0	14	46							
Control Delay (s)	0.5	7.9	0.0	13.2	16.4							
Lane LOS	A	A		B	C							
Approach Delay (s)	0.5	2.0		13.2	16.4							
Approach LOS				B	C							
<b>Intersection Summary</b>												
Average Delay	6.0											
Intersection Capacity Utilization	49.4%			ICU Level of Service		A						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
124: 800 North & 600 West

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	1	8	18	18	18	3	5	67	3	3	257	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	9	20	20	20	3	5	73	3	3	279	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	389	377	284	399	380	74	288			76		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	389	377	284	399	380	74	288			76		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	97	96	96	100	100			100		
cM capacity (veh/h)	550	551	755	537	549	987	1274			1523		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	29	42	82	291								
Volume Left	1	20	5	3								
Volume Right	20	3	3	9								
cSH	672	562	1274	1523								
Volume to Capacity	0.04	0.08	0.00	0.00								
Queue Length 95th (ft)	3	6	0	0								
Control Delay (s)	10.6	11.9	0.6	0.1								
Lane LOS	B	B	A	A								
Approach Delay (s)	10.6	11.9	0.6	0.1								
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay	2.0											
Intersection Capacity Utilization	30.3%			ICU Level of Service		A						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
 127: 1100 North & 300 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	
Volume (veh/h)	1	68	60	81	168	3	54	20	30	1	54	17
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	74	65	88	183	3	59	22	33	1	59	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWLTL				TWLTL							
Median storage (veh)	2				2							
Upstream signal (ft)	1157											
pX, platoon unblocked												
vC, conflicting volume	186			139			515	471	107	480	502	184
vC1, stage 1 conf vol							109	109			360	360
vC2, stage 2 conf vol							407	362			120	141
vCu, unblocked vol	186			139			515	471	107	480	502	184
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5			6.1	5.5
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			94			88	96	97	100	89	98
cM capacity (veh/h)	1389			1444			496	561	948	573	549	858
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	1	139	88	186	113	78						
Volume Left	1	0	88	0	59	1						
Volume Right	0	65	0	3	33	18						
cSH	1389	1700	1444	1700	591	600						
Volume to Capacity	0.00	0.08	0.06	0.11	0.19	0.13						
Queue Length 95th (ft)	0	0	5	0	18	11						
Control Delay (s)	7.6	0.0	7.7	0.0	12.5	11.9						
Lane LOS	A			A			B			B		
Approach Delay (s)	0.1			2.5			12.5			11.9		
Approach LOS							B					B
Intersection Summary												
Average Delay	5.0											
Intersection Capacity Utilization	34.9%		ICU Level of Service		A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
 130: 1100 North & 500 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	5	58	10	4	173	2	14	4	0	3	10	9
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	63	11	4	188	2	15	4	0	3	11	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWLTL				TWLTL							
Median storage (veh)	2				2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	190			74			292	278	68	279	283	189
vC1, stage 1 conf vol							79	79			198	198
vC2, stage 2 conf vol							213	199			82	85
vCu, unblocked vol	190			74			292	278	68	279	283	189
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5			6.1	5.5
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	99	100	100	98	99
cM capacity (veh/h)	1384			1526			730	696	995	761	698	853
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	79	195	20	24								
Volume Left	5	4	15	3								
Volume Right	11	2	0	10								
cSH	1384	1526	722	763								
Volume to Capacity	0.00	0.00	0.03	0.03								
Queue Length 95th (ft)	0	0	2	2								
Control Delay (s)	0.6	0.2	10.1	9.9								
Lane LOS	A	A	B	A								
Approach Delay (s)	0.6	0.2	10.1	9.9								
Approach LOS												
Intersection Summary												
Average Delay	1.6											
Intersection Capacity Utilization	20.9%		ICU Level of Service		A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
134: 1100 North & Murdock Drive

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	6	52	11	0	152	2	34	1	0	2	2	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	57	12	0	165	2	37	1	0	2	2	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			None							
Median storage (veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	167			68			258	243	62	242	248	166
vC1, stage 1 conf vol							76	76		166	166	
vC2, stage 2 conf vol							183	167		76	82	
vCu, unblocked vol	167			68			258	243	62	242	248	166
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	100	100	100	100	98
cM capacity (veh/h)	1410			1533			762	719	1002	794	722	878
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	75	167	38	20								
Volume Left	7	0	37	2								
Volume Right	12	2	0	15								
cSH	1410	1533	761	848								
Volume to Capacity	0.00	0.00	0.05	0.02								
Queue Length 95th (ft)	0	0	4	2								
Control Delay (s)	0.7	0.0	10.0	9.3								
Lane LOS	A		A	A								
Approach Delay (s)	0.7	0.0	10.0	9.3								
Approach LOS			A	A								
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			23.8%		ICU Level of Service			A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
139: 500 North & 700 East

Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	54	25	10	114	32	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	27	11	124	35	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			86		218	72
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			86		218	72
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	99
cM capacity (veh/h)			1510		765	990
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	86	135	46			
Volume Left	0	11	35			
Volume Right	27	0	11			
cSH	1700	1510	809			
Volume to Capacity	0.05	0.01	0.06			
Queue Length 95th (ft)	0	1	4			
Control Delay (s)	0.0	0.6	9.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.6	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			23.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
145: 200 South & Locust Ave

Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↔		↔		↔	
Volume (veh/h)	121	55	39	178	84	25
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	132	60	42	193	91	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			191		440	161
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		440	161
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		84	97
cM capacity (veh/h)			1382		557	884
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NW 1</b>			
Volume Total	191	236	118			
Volume Left	0	42	91			
Volume Right	60	0	27			
cSH	1700	1382	609			
Volume to Capacity	0.11	0.03	0.19			
Queue Length 95th (ft)	0	2	18			
Control Delay (s)	0.0	1.6	12.3			
Lane LOS	A		B			
Approach Delay (s)	0.0	1.6	12.3			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay	3.4					
Intersection Capacity Utilization	37.4%		ICU Level of Service	A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
146: Center Street & 700 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Volume (veh/h)	4	27	13	12	77	13	4	25	4	10	54	6
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	29	14	13	84	14	4	27	4	11	59	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	98			43			198	169	36	180	169	91
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	98			43			198	169	36	180	169	91
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	96	100	99	92	99
cM capacity (veh/h)	1495			1565			702	716	1036	750	716	967
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	48	111	36	76								
Volume Left	4	13	4	11								
Volume Right	14	14	4	7								
cSH	1495	1565	742	737								
Volume to Capacity	0.00	0.01	0.05	0.10								
Queue Length 95th (ft)	0	1	4	9								
Control Delay (s)	0.7	0.9	10.1	10.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.7	0.9	10.1	10.4								
Approach LOS	B		B									
<b>Intersection Summary</b>												
Average Delay	4.8											
Intersection Capacity Utilization	19.8%				ICU Level of Service	A						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
149: 200 South & Murdock Drive

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	15	39	18	0	96	0	45	12	0	15	39	18
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	42	20	0	104	0	49	13	0	16	42	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	104			62			230	189	52	196	199	104
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	104			62			230	189	52	196	199	104
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			93	98	100	98	94	98
cM capacity (veh/h)	1487			1541			671	698	1015	746	689	950
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	78	104	62	78								
Volume Left	16	0	49	16								
Volume Right	20	0	0	20								
cSH	1487	1541	677	753								
Volume to Capacity	0.01	0.00	0.09	0.10								
Queue Length 95th (ft)	1	0	8	9								
Control Delay (s)	1.6	0.0	10.9	10.3								
Lane LOS	A		B	B								
Approach Delay (s)	1.6	0.0	10.9	10.3								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay				5.0								
Intersection Capacity Utilization				26.7%			ICU Level of Service			A		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
152: 200 South & 1300 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	4	13	10	4	25	8	23	10	2	2	25	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	14	11	4	27	9	25	11	2	2	27	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	36			25			96	73	20	76	74	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	36			25			96	73	20	76	74	32
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			97	99	100	100	97	99
cM capacity (veh/h)	1575			1589			849	813	1058	899	812	1042
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	29	40	38	43								
Volume Left	4	4	25	2								
Volume Right	11	9	2	14								
cSH	1575	1589	848	879								
Volume to Capacity	0.00	0.00	0.04	0.05								
Queue Length 95th (ft)	0	0	4	4								
Control Delay (s)	1.1	0.8	9.4	9.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.1	0.8	9.4	9.3								
Approach LOS			A	A								
<b>Intersection Summary</b>												
Average Delay				5.5								
Intersection Capacity Utilization				18.6%			ICU Level of Service			A		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
157: Murdock Drive & 1500 East

Timing Plan: AM Peak

Movement	EBL	EBR	EBR2	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	Y				+			+				Y
Volume (veh/h)	0	14	71	97	29	5	3	134	0	63	47	3
Sign Control	Stop				Free			Free				Stop
Grade	0%				0%			0%				0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	77	105	32	5	3	146	0	68	51	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type				None			None					
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	426	400	146	146			37			482	397	34
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	426	400	146	146			37			482	397	34
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	100	97	91	93			100			84	90	100
cM capacity (veh/h)	467	498	901	1436			1574			416	499	1039
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>	<b>NW 1</b>								
Volume Total	92	142	149	123								
Volume Left	0	105	3	68								
Volume Right	77	5	0	3								
cSH	795	1436	1574	455								
Volume to Capacity	0.12	0.07	0.00	0.27								
Queue Length 95th (ft)	10	6	0	27								
Control Delay (s)	10.1	5.9	0.2	15.8								
Lane LOS	B	A	A	C								
Approach Delay (s)	10.1	5.9	0.2	15.8								
Approach LOS	B			C								
<b>Intersection Summary</b>												
Average Delay	7.4											
Intersection Capacity Utilization	39.3%			ICU Level of Service	A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
165: 1000 South & Locust Ave

Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			+	+	
Volume (veh/h)	49	15	36	63	84	173
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	16	39	68	91	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	332	185	279			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	332	185	279			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	98	97			
cM capacity (veh/h)	643	857	1283			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	70	108	279			
Volume Left	53	39	0			
Volume Right	16	0	188			
cSH	683	1283	1700			
Volume to Capacity	0.10	0.03	0.16			
Queue Length 95th (ft)	8	2	0			
Control Delay (s)	10.9	3.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.9	3.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay	2.4					
Intersection Capacity Utilization	34.0%			ICU Level of Service	A	
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
166: Center Street & 300 East

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	11	63	68	34	208	5	50	82	5	3	421	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	68	74	37	226	5	54	89	5	3	458	100
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total (vph)	154	268	149	561								
Volume Left (vph)	12	37	54	3								
Volume Right (vph)	74	5	5	100								
Hadj (s)	-0.24	0.05	0.09	-0.07								
Departure Headway (s)	6.4	6.4	6.5	5.5								
Degree Utilization, x	0.28	0.48	0.27	0.86								
Capacity (veh/h)	514	526	512	638								
Control Delay (s)	11.8	15.1	11.8	33.2								
Approach Delay (s)	11.8	15.1	11.8	33.2								
Approach LOS	B	C	B	D								
<b>Intersection Summary</b>												
Delay	23.2											
HCM Level of Service	C											
Intersection Capacity Utilization	66.1%			ICU Level of Service			C					
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis  
9: SR-89 & 2000 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	431	825	36	4	826	398	18	6	16	523	9	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1665	1770	1863	1583	1583
Flt Permitted	0.14	1.00	1.00	0.31	1.00	1.00	0.75	1.00	0.74	1.00	1.00	1.00
Satd. Flow (perm)	266	5085	1583	569	5085	1583	1399	1665	1381	1863	1583	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	468	897	39	4	898	433	20	7	17	568	10	407
RTOR Reduction (vph)	0	0	16	0	354	0	10	0	0	0	0	231
Lane Group Flow (vph)	468	897	23	4	898	79	20	14	0	568	10	176
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	56.2	49.4	49.4	22.8	22.0	22.0	51.8	51.8	51.8	51.8	51.8	51.8
Effective Green, g (s)	56.2	49.4	49.4	22.8	22.0	22.0	51.8	51.8	51.8	51.8	51.8	51.8
Actuated g/C Ratio	0.47	0.41	0.41	0.19	0.18	0.18	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	478	2093	652	116	932	290	604	719	596	804	683	683
v/s Ratio Prot	c0.23	0.18		0.00	0.18		0.01		0.01		0.01	
v/s Ratio Perm	c0.23		0.01	0.01		0.05	0.01			c0.41		0.11
w/c Ratio	0.98	0.43	0.03	0.03	0.96	0.27	0.03	0.02		0.95	0.01	0.26
Uniform Delay, d1	34.9	25.2	21.1	39.5	48.6	42.1	19.7	19.5		32.9	19.5	21.8
Progression Factor	1.00	1.00	1.00	0.55	0.70	1.12	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	35.3	0.6	0.1	0.1	19.6	2.0	0.0	0.0		25.5	0.0	0.2
Delay (s)	70.2	25.9	21.2	21.7	53.5	49.3	19.7	19.6		58.5	19.5	22.0
Level of Service	E	C	C	C	D	D	B	B		E	B	C
Approach Delay (s)	40.5			52.1			19.6			43.0		
Approach LOS	D			D			B			D		
<b>Intersection Summary</b>												
HCM Average Control Delay	45.0			HCM Level of Service			D					
HCM Volume to Capacity ratio	0.94											
Actuated Cycle Length (s)	120.0			Sum of lost time (s)			12.0					
Intersection Capacity Utilization	90.5%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

10: SR-89 & 1300 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Volume (vph)	89	1315	156	56	1356	202	204	203	46	174	123	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5004		1770	4986		1770	1811		1770	1795	
Flt Permitted	0.10	1.00		0.12	1.00		0.57	1.00		0.40	1.00	
Satd. Flow (perm)	193	5004		220	4986		1057	1811		752	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	1429	170	61	1474	220	222	221	50	189	134	43
RTOR Reduction (vph)	0	12	0	0	16	0	7	0	0	10	0	0
Lane Group Flow (vph)	97	1587	0	61	1678	0	222	264	0	189	167	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	77.2	77.2		77.2	77.2		30.8	30.8		30.8	30.8	
Effective Green, g (s)	77.2	77.2		77.2	77.2		30.8	30.8		30.8	30.8	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.26	0.26		0.26	0.26	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	124	3219		142	3208		271	465		193	461	
v/s Ratio Prot		0.32			0.34			0.15			0.09	
v/s Ratio Perm	c0.50			0.28			0.21			c0.25		
v/c Ratio	0.78	0.49		0.43	0.52		0.82	0.57		0.98	0.36	
Uniform Delay, d1	15.4	11.2		10.5	11.5		42.0	38.8		44.3	36.6	
Progression Factor	1.20	1.21		0.59	0.25		1.01	1.01		1.00	1.00	
Incremental Delay, d2	33.6	0.5		7.8	0.5		17.3	1.6		58.1	0.5	
Delay (s)	52.1	14.0		14.0	3.3		59.5	40.7		102.3	37.0	
Level of Service	D	B		B	A		E	D		F	D	
Approach Delay (s)		16.2			3.7			49.2			70.8	
Approach LOS		B			A			D			E	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

11: SR-89 & Pleasant Grove Blvd

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Volume (vph)	259	1153	84	176	1072	55	94	377	101	35	291	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5034		1770	5048		3433	3427		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5034		1770	5048		3433	3427		3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	282	1253	91	191	1165	60	102	410	110	38	316	216
RTOR Reduction (vph)	0	6	0	0	5	0	0	20	0	0	0	179
Lane Group Flow (vph)	282	1338	0	191	1220	0	102	500	0	38	316	37
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												8
Actuated Green, G (s)	30.0	51.2		17.4	38.6		6.9	25.0		2.4	20.5	20.5
Effective Green, g (s)	30.0	51.2		17.4	38.6		6.9	25.0		2.4	20.5	20.5
Actuated g/C Ratio	0.25	0.43		0.14	0.32		0.06	0.21		0.02	0.17	0.17
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	443	2148		257	1624		197	714		69	605	270
v/s Ratio Prot	0.16	c0.27		0.11	c0.24		c0.03	c0.15		0.01	0.09	
v/s Ratio Perm												0.02
v/c Ratio	0.64	0.62		0.74	0.75		0.52	0.70		0.55	0.52	0.14
Uniform Delay, d1	40.1	26.9		49.2	36.4		54.9	44.0		58.3	45.3	42.2
Progression Factor	0.64	0.54		1.06	0.76		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	1.2		10.9	3.2		2.3	3.1		9.2	0.8	0.2
Delay (s)	28.3	15.8		63.0	31.0		57.2	47.1		67.4	46.1	42.5
Level of Service	C	B		E	C		E	D		E	D	D
Approach Delay (s)		18.0			35.3			48.8			46.2	
Approach LOS		B			D			D			D	

Intersection Summary

HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

### HCM Signalized Intersection Capacity Analysis

12: SR-89 & Geneva Road

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↑↑↑		↔	↔ ↑↑↑		↔	↔ ↑		↔	↔ ↑↑↑		↔
Volume (vph)	16	559	166	45	555	144	383	310	121	164	223	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4911		1770	5085	1583	1770	1863	1583	1770	3539	1583
Flt Permitted	0.38	1.00		0.29	1.00	1.00	0.60	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	713	4911		546	5085	1583	1120	1863	1583	886	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	608	180	49	603	157	416	337	132	178	242	5
RTOR Reduction (vph)	0	36	0	0	0	87	0	0	36	0	0	3
Lane Group Flow (vph)	17	752	0	49	603	70	416	337	96	178	242	2
Turn Type	Perm			Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	4			8			2		2	6		6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	50.7	50.7		50.7	50.7	50.7	57.3	57.3	57.3	57.3	57.3	57.3
Effective Green, g (s)	50.7	50.7		50.7	50.7	50.7	57.3	57.3	57.3	57.3	57.3	57.3
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	301	2075		231	2148	669	535	890	756	423	1690	756
v/s Ratio Prot	c0.15			0.12			0.18			0.07		
v/s Ratio Perm	0.02			0.09			c0.37			0.20		
v/c Ratio	0.06	0.36		0.21	0.28	0.11	0.78	0.38	0.13	0.42	0.14	0.00
Uniform Delay, d1	20.5	23.6		22.0	22.7	20.9	26.1	20.0	17.4	20.5	17.6	16.4
Progression Factor	0.64	0.53		0.70	0.68	1.57	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.4		1.8	0.3	0.3	7.0	0.3	0.1	0.7	0.0	0.0
Delay (s)	13.5	12.8		17.2	15.8	33.0	33.1	20.3	17.5	21.2	17.6	16.4
Level of Service	B			B		C	C	C	B	C	B	B
Approach Delay (s)	12.8			19.2			25.9			19.1		
Approach LOS	B			B			C			B		

#### Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

### HCM Signalized Intersection Capacity Analysis

14: 700 South & SR-89

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↑↑↑		↔	↔ ↑↑↑		↔	↔ ↑↑↑		↔	↔ ↑↑↑		↔
Volume (vph)	114	264	73	302	151	16	119	1355	279	19	959	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.97		1.00	0.99	1.00	1.00	0.85	1.00	0.85	1.00	0.99
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1802		1770	1837	1770	1770	5085	1583	1770	5037	1770
Flt Permitted	0.64	1.00		0.16	1.00	1.00	0.16	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1198	1802		290	1837	294	5085	1583	178	5037	178	5037
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	287	79	328	164	17	129	1473	303	21	1042	70
RTOR Reduction (vph)	0	9	0	0	0	3	0	0	47	0	6	0
Lane Group Flow (vph)	124	357	0	328	178	0	129	1473	256	21	1106	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	Perm		
Protected Phases	7		4	3		8	5		2	6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	33.2	27.2		53.2	41.2	54.8	54.8	54.8	54.8	41.8	41.8	
Effective Green, g (s)	33.2	27.2		53.2	41.2	54.8	54.8	54.8	54.8	41.8	41.8	
Actuated g/C Ratio	0.28	0.23		0.44	0.34	0.46	0.46	0.46	0.46	0.35	0.35	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	360	408		375	631	220	2322	723	62	1755		
v/s Ratio Prot	0.02	0.20		c0.15	0.10	0.03	c0.29			0.22		
v/s Ratio Perm	0.08			c0.24		0.23			0.16	0.12		
v/c Ratio	0.34	0.88		0.87	0.28	0.59	0.63	0.35	0.34	0.63		
Uniform Delay, d1	33.8	44.8		28.9	28.6	38.8	24.9	21.1	28.9	32.6		
Progression Factor	1.00	1.00		1.00	1.00	0.81	0.76	0.69	0.84	0.86		
Incremental Delay, d2	0.6	18.6		19.7	0.2	3.4	1.2	1.2	14.0	1.7		
Delay (s)	34.3	63.3		48.6	28.9	34.8	20.0	15.7	38.4	29.7		
Level of Service	C		E	D		C	C	B	D	C		
Approach Delay (s)	56.0			41.6			20.3			29.9		
Approach LOS	E			D			C			C		

#### Intersection Summary

HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
15: 700 North & SR-89

Timing Plan: PM Peak

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Movement</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	191	233	159	89	107	93	131	1661	62	81	1107	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.66	1.00	1.00	0.34	1.00	1.00	0.21	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1232	1863	1583	632	1863	1583	388	5085	1583	182	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	253	173	97	116	101	142	1805	67	88	1203	89
RTOR Reduction (vph)	0	0	91	0	0	28	0	0	9	0	0	23
Lane Group Flow (vph)	208	253	82	97	116	73	142	1805	58	88	1203	66
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2		6		6
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.7	22.7	22.7	22.7	22.7	22.7	85.3	85.3	85.3	85.3	85.3	85.3
Effective Green, g (s)	22.7	22.7	22.7	22.7	22.7	22.7	85.3	85.3	85.3	85.3	85.3	85.3
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.71	0.71	0.71	0.71	0.71	0.71
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	233	352	299	120	352	299	276	3615	1125	129	3615	1125
v/s Ratio Prot		0.14		0.06		0.05	0.37		0.04	0.48		0.04
v/s Ratio Perm	0.17		0.05	0.15		0.05	0.37		0.04	0.48		0.04
v/c Ratio	0.89	0.72	0.27	0.81	0.33	0.25	0.51	0.50	0.05	0.68	0.33	0.06
Uniform Delay, d1	47.5	45.7	41.6	46.6	42.1	41.4	7.9	7.8	5.2	9.7	6.6	5.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	0.28	0.31	0.31
Incremental Delay, d2	31.9	6.9	0.5	31.5	0.6	0.4	6.7	0.5	0.1	19.0	0.2	0.1
Delay (s)	79.4	52.5	42.1	78.1	42.6	41.8	14.6	8.3	5.3	32.0	2.0	1.7
Level of Service	E	D	D	E	D	D	B	A	A	C	A	A
Approach Delay (s)	58.5		53.3				8.6				3.9	
Approach LOS	E		D				A				A	

Intersection Summary		
HCM Average Control Delay	17.6	HCM Level of Service
HCM Volume to Capacity ratio	0.72	
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	73.8%	ICU Level of Service
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis  
40: 700 South & Geneva Road

Timing Plan: PM Peak

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Movement</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	34	150	38	122	151	16	64	700	200	54	402	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95
Frt	1.00	0.97	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1807	1770	1863	1583		3524	1583	1770	3539	1583	
Flt Permitted	0.65	1.00	0.63	1.00	1.00		0.89	1.00	0.32	1.00	1.00	
Satd. Flow (perm)	1217	1807	1173	1863	1583		3155	1583	594	3539	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	163	41	133	164	17	70	761	217	59	437	25
RTOR Reduction (vph)	0	21	0	0	0	13	0	0	101	0	0	12
Lane Group Flow (vph)	37	183	0	133	164	4	0	831	116	59	437	13
Turn Type	Perm		Perm		Perm	Perm		Perm	Perm		Perm	Perm
Protected Phases		4			8		2		2	6		6
Permitted Phases	4		8		8	2		2	6		6	6
Actuated Green, G (s)	7.8	7.8	7.8	7.8	7.8		18.3	18.3	18.3	18.3	18.3	18.3
Effective Green, g (s)	7.8	7.8	7.8	7.8	7.8		18.3	18.3	18.3	18.3	18.3	18.3
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	278	413	268	426	362		1693	850	319	1899	850	
v/s Ratio Prot		0.10		0.09			0.26	0.07	0.10		0.12	
v/s Ratio Perm	0.03		0.11		0.00		0.26	0.07	0.10		0.12	
v/c Ratio	0.13	0.44	0.50	0.38	0.01		0.49	0.14	0.18	0.23	0.02	
Uniform Delay, d1	10.5	11.3	11.4	11.1	10.2		5.0	4.0	4.1	4.2	3.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.8	1.4	0.6	0.0		0.2	0.1	0.3	0.1	0.0	
Delay (s)	10.7	12.0	12.9	11.7	10.2		5.2	4.0	4.3	4.2	3.7	
Level of Service	B	B	B	B	B		A	A	A	A	A	
Approach Delay (s)	11.8		12.1				5.0				4.2	
Approach LOS	B		B				A				A	

Intersection Summary		
HCM Average Control Delay	6.6	HCM Level of Service
HCM Volume to Capacity ratio	0.49	
Actuated Cycle Length (s)	34.1	Sum of lost time (s)
Intersection Capacity Utilization	62.6%	ICU Level of Service
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis  
73: 200 South & 100 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	50	150	25	25	200	25	50	400	50	50	200	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1823		1770	1863	1583	1770	1832		1770	1807	
Flt Permitted	0.43	1.00		0.50	1.00	1.00	0.59	1.00		0.45	1.00	
Satd. Flow (perm)	802	1823		930	1863	1583	1104	1832		841	1807	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	163	27	27	217	27	54	435	54	54	217	54
RTOR Reduction (vph)	0	9	0	0	22	0	2	0	0	5	0	0
Lane Group Flow (vph)	54	181	0	27	217	5	54	487	0	54	266	0
Turn Type	Perm		Perm			Perm		Perm			Perm	
Protected Phases	4		8			8		2			6	
Permitted Phases	4		8			8		2			6	
Actuated Green, G (s)	17.3	17.3		17.3	17.3	17.3	70.7	70.7		70.7	70.7	
Effective Green, g (s)	17.3	17.3		17.3	17.3	17.3	70.7	70.7		70.7	70.7	
Actuated g/C Ratio	0.17	0.17		0.17	0.17	0.17	0.71	0.71		0.71	0.71	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	139	315		161	322	274	781	1295		595	1278	
v/s Ratio Prot	0.10		c0.12			0.00		c0.27			0.15	
v/s Ratio Perm	0.07		0.03			0.00		0.05			0.06	
v/c Ratio	0.39	0.57		0.17	0.67	0.02	0.07	0.38		0.09	0.21	
Uniform Delay, d1	36.7	38.0		35.2	38.7	34.3	4.5	5.8		4.6	5.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.13	0.08	
Incremental Delay, d2	1.8	2.5		0.5	5.5	0.0	0.2	0.8		0.2	0.3	
Delay (s)	38.5	40.5		35.7	44.2	34.3	4.7	6.7		4.8	5.3	
Level of Service	D		D			C		A			A	
Approach Delay (s)	40.0		42.4			6.5		0.7				
Approach LOS	D		D			A		A				
<b>Intersection Summary</b>												
HCM Average Control Delay	18.1		HCM Level of Service			B						
HCM Volume to Capacity ratio	0.43											
Actuated Cycle Length (s)	100.0		Sum of lost time (s)			12.0						
Intersection Capacity Utilization	67.1%		ICU Level of Service			C						
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
87: 700 North & Pleasant Grove Blvd.

Timing Plan: PM Peak

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	55	84	15	418	46	42	40	825	205	46	633	13	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	1.00	1.00	1.00		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3434	3433	3433	3529		
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3434	3433	3433	3529		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	60	91	16	454	50	46	43	897	223	50	688	14	
RTOR Reduction (vph)	0	0	15	0	0	36	0	15	0	0	1	0	
Lane Group Flow (vph)	60	91	1	454	50	10	43	1105	0	50	701	0	
Turn Type	Prot		Perm			Prot		Perm		Prot		Prot	
Protected Phases	1		6			5		2		7		4	
Permitted Phases	1		6			5		2		7		4	
Actuated Green, G (s)	5.6	6.2	6.2	18.9	19.5	19.5	3.9	41.3		5.3	42.7		
Effective Green, g (s)	5.6	6.2	6.2	18.9	19.5	19.5	3.9	41.3		5.3	42.7		
Actuated g/C Ratio	0.06	0.07	0.07	0.20	0.21	0.21	0.04	0.44		0.06	0.46		
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0		5.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	205	234	105	692	737	329	143	1514		194	1608		
v/s Ratio Prot	0.02	c0.03		c0.13	0.01		0.01	c0.32		c0.01	0.20		
v/s Ratio Perm			0.00			0.01							
v/c Ratio	0.29	0.39	0.01	0.66	0.07	0.03	0.30	0.73		0.26	0.44		
Uniform Delay, d1	42.2	41.9	40.9	34.4	29.8	29.6	43.6	21.6		42.3	17.3		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.8	1.1	0.0	2.2	0.0	0.0	1.2	1.8		0.7	0.2		
Delay (s)	43.0	43.0	40.9	36.7	29.8	29.6	44.8	23.4		43.0	17.5		
Level of Service	D		D		C		C		D		B		
Approach Delay (s)	42.8		35.4			24.2		19.2					
Approach LOS	D		D			C		B					
<b>Intersection Summary</b>													
HCM Average Control Delay	26.3		HCM Level of Service			C							
HCM Volume to Capacity ratio	0.65												
Actuated Cycle Length (s)	93.7		Sum of lost time (s)			22.0							
Intersection Capacity Utilization	57.9%		ICU Level of Service			B							
Analysis Period (min)	15												
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 91: Pleasant Grove Blvd & I-15 SB Ramp

Timing Plan: PM Peak

Movement	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations		↑↑	↑	↑	↑	↑				↑↑	↑	
Volume (vph)	0	686	145	677	3	56	0	0	0	595	91	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0	6.0				6.0	6.0	
Lane Util. Factor		0.88	1.00	0.95	0.95	1.00				0.97	1.00	
Frt		0.85	0.85	1.00	1.00	0.85				1.00	1.00	
Flt Protected		1.00	1.00	0.95	0.95	1.00				0.95	0.95	
Satd. Flow (prot)		2787	1583	1681	1686	1583				3433	1770	
Flt Permitted		1.00	1.00	0.95	0.95	1.00				0.95	0.95	
Satd. Flow (perm)		2787	1583	1681	1686	1583				3433	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	746	158	736	3	61	0	0	0	647	99	0
RTOR Reduction (vph)	0	0	112	0	0	45	0	0	0	0	0	0
Lane Group Flow (vph)	0	746	46	368	371	16	0	0	0	647	99	0
Turn Type		custom	custom	Perm	Perm					Prot		
Protected Phases		4			6					3	8	
Permitted Phases			4	6		6						
Actuated Green, G (s)		21.4	21.4	18.8	18.8	18.8				15.0	42.4	
Effective Green, g (s)		21.4	21.4	18.8	18.8	18.8				15.0	42.4	
Actuated g/C Ratio		0.29	0.29	0.26	0.26	0.26				0.20	0.58	
Clearance Time (s)		6.0	6.0	6.0	6.0	6.0				6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		815	463	432	433	407				703	1025	
v/s Ratio Prot		c0.27								c0.19	0.06	
v/s Ratio Perm			0.03	0.22	0.22	0.01						
v/c Ratio		0.92	0.10	0.85	0.86	0.04				0.92	0.10	
Uniform Delay, d1		25.0	18.9	25.9	25.9	20.4				28.5	6.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2		14.7	0.1	14.9	15.3	0.0				17.4	0.0	
Delay (s)		39.8	19.0	40.8	41.2	20.5				45.9	6.9	
Level of Service		D	B	D	D	C				D	A	
Approach Delay (s)	36.1				39.4		0.0				40.7	
Approach LOS	D				D		A				D	
<b>Intersection Summary</b>												
HCM Average Control Delay			38.6				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			73.2			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			52.8%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 94: I-15 NB Ramp & Pleasant Grove Blvd

Timing Plan: PM Peak

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↑	↑↑	↑↑		↑↑	↑
Volume (vph)	0	0	0	48	6	727	77	729	0	0	561	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	6.0	6.0	6.0			6.0	6.0
Lane Util. Factor					1.00	1.00	1.00	0.95			0.95	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					1784	1583	1770	3539			3539	1583
Flt Permitted					0.96	1.00	0.33	1.00			1.00	1.00
Satd. Flow (perm)					1784	1583	620	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	52	7	790	84	792	0	0	610	712
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	0	0	0	521
Lane Group Flow (vph)	0	0	0	0	59	781	84	792	0	0	610	191
Turn Type				Perm	Perm	Perm				Perm		Perm
Protected Phases				2	2	4			4		8	
Permitted Phases				2	2	4					8	
Actuated Green, G (s)				30.7	30.7	15.6		15.6			15.6	15.6
Effective Green, g (s)				30.7	30.7	15.6		15.6			15.6	15.6
Actuated g/C Ratio				0.53	0.53	0.27		0.27			0.27	0.27
Clearance Time (s)				6.0	6.0	6.0		6.0			6.0	6.0
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)				939	834	166		947			947	424
v/s Ratio Prot								c0.22				0.17
v/s Ratio Perm				0.03	c0.49	0.14						0.12
v/c Ratio				0.06	0.94	0.51		0.84			0.64	0.45
Uniform Delay, d1				6.8	12.9	18.1		20.1			18.9	17.8
Progression Factor				1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2				0.0	17.5	2.4		6.5			1.5	0.8
Delay (s)				6.8	30.4	20.5		26.6			20.4	18.5
Level of Service				A	C	C		C			C	B
Approach Delay (s)		0.0			28.8			26.1			19.4	
Approach LOS		A			C			C			B	
<b>Intersection Summary</b>												
HCM Average Control Delay				23.9			HCM Level of Service			C		
HCM Volume to Capacity ratio				0.90								
Actuated Cycle Length (s)				58.3			Sum of lost time (s)			12.0		
Intersection Capacity Utilization				75.2%			ICU Level of Service			D		
Analysis Period (min)				15								
c Critical Lane Group												

### HCM Signalized Intersection Capacity Analysis

100: 1100 North & 100 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	90	160	100	26	83	25	79	611	32	47	385	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Frt	1.00	0.94		1.00	0.97		1.00	0.99		1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	1755		1770	1798		1770	1849		1770	1842		
Flt Permitted	0.68	1.00		0.56	1.00		0.47	1.00		0.26	1.00		
Satd. Flow (perm)	1270	1755		1045	1798		882	1849		483	1842		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	98	174	109	28	90	27	86	664	35	51	418	33	
RTOR Reduction (vph)	0	38	0	0	18	0	4	0	0	0	6	0	
Lane Group Flow (vph)	98	245	0	28	99	0	86	695	0	51	445	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	9.8	9.8		9.8	9.8		22.4	22.4		22.4	22.4		
Effective Green, g (s)	9.8	9.8		9.8	9.8		22.4	22.4		22.4	22.4		
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.51	0.51		0.51	0.51		
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		
Lane Grp Cap (vph)	282	389		232	399		447	937		245	934		
v/s Ratio Prot	c0.14			0.06			c0.38			0.24			
v/s Ratio Perm	0.08			0.03			0.10			0.11			
v/c Ratio	0.35	0.63		0.12	0.25		0.19	0.74		0.21	0.48		
Uniform Delay, d1	14.5	15.6		13.8	14.2		6.0	8.6		6.0	7.1		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.3	2.3		0.1	0.1		0.1	2.8		0.2	0.1		
Delay (s)	14.8	17.9		13.8	14.3		6.0	11.4		6.2	7.2		
Level of Service	B	B		B	B		A	B		A	A		
Approach Delay (s)	17.1			14.2			10.8			7.1			
Approach LOS	B			B			B			A			
<b>Intersection Summary</b>													
HCM Average Control Delay	11.4		HCM Level of Service					B					
HCM Volume to Capacity ratio	0.71												
Actuated Cycle Length (s)	44.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	83.2%		ICU Level of Service					E					
Analysis Period (min)	15												
c Critical Lane Group													

### HCM Signalized Intersection Capacity Analysis

141: Center Street & 100 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	174	244	41	12	180	14	50	716	12	38	375	109	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0		
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Frt	1.00	1.00		0.85	1.00		1.00	1.00		1.00	0.97		
Flt Protected	0.95	1.00		1.00	0.95		1.00	0.95		1.00	0.95		
Satd. Flow (prot)	1770	1863		1583	1770		1770	1843		1770	1858		
Flt Permitted	0.37	1.00		1.00	0.60		1.00	0.22		1.00	0.10		
Satd. Flow (perm)	684	1863		1583	1110		1843	414		1858	194		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	189	265	45	13	196	15	54	778	13	41	408	118	
RTOR Reduction (vph)	0	0	0	0	2	0	0	1	0	0	8	0	
Lane Group Flow (vph)	189	265	14	13	209	0	54	790	0	41	518	0	
Turn Type	pm+pt			Perm	pm+pt		pm+pt			pm+pt			
Protected Phases	7	4			3		8			5	2		
Permitted Phases	4			4	8			2			6		
Actuated Green, G (s)	38.6	32.2		32.2	20.1		18.7			46.0	40.0		
Effective Green, g (s)	38.6	32.2		32.2	20.1		18.7			46.0	40.0		
Actuated g/C Ratio	0.39	0.32		0.32	0.20		0.19			0.46	0.40		
Clearance Time (s)	5.0	6.0		6.0	5.0		6.0			5.0	6.0		
Vehicle Extension (s)	3.0	1.0		1.0	3.0		1.0			3.0	3.0		
Lane Grp Cap (vph)	426	600		510	232		345			272	743		
v/s Ratio Prot	c0.07	0.14		0.00	c0.11		c0.01			c0.43	0.01		
v/s Ratio Perm	0.11			0.01	0.01		0.08			0.08	0.10		
v/c Ratio	0.44	0.44		0.03	0.06		0.60			0.20	1.06		
Uniform Delay, d1	21.7	26.8		23.2	32.2		37.3			17.4	30.0		
Progression Factor	1.00	1.00		1.00	1.00		1.00			0.90	0.88		
Incremental Delay, d2	0.7	0.2		0.0	0.1		2.0			0.4	51.1		
Delay (s)	22.4	27.0		23.2	32.3		39.3			16.0	77.5		
Level of Service	C	C		C	C		D			B	E		
Approach Delay (s)	24.9				38.9					73.6			
Approach LOS	C				D					E			
<b>Intersection Summary</b>													
HCM Average Control Delay	47.8		HCM Level of Service					D					
HCM Volume to Capacity ratio	0.74												
Actuated Cycle Length (s)	100.0				Sum of lost time (s)				16.0				
Intersection Capacity Utilization	75.7%		ICU Level of Service					D					
Analysis Period (min)	15												
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis  
13: SR-89 & 100 East

Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↘	↗↗↗	↗↗	↗	↘	↘		
Volume (veh/h)	55	700	666	360	253	46		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	60	761	724	391	275	50		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	TWLT	L				
Median storage (veh)				2				
Upstream signal (ft)		629	1179					
pX, platoon unblocked	0.86			0.88	0.86			
vC, conflicting volume	1115			1097	362			
vC1, stage 1 conf vol				724				
vC2, stage 2 conf vol				373				
vCu, unblocked vol	809			589	0			
tC, single (s)	4.1			6.8	6.9			
tC, 2 stage (s)				5.8				
tF (s)	2.2			3.5	3.3			
p0 queue free %	91			48	95			
cM capacity (veh/h)	699			524	933			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>SB 1</b>
Volume Total	60	254	254	254	362	362	391	325
Volume Left	60	0	0	0	0	0	0	275
Volume Right	0	0	0	0	0	0	391	50
cSH	699	1700	1700	1700	1700	1700	1700	562
Volume to Capacity	0.09	0.15	0.15	0.15	0.21	0.21	0.23	0.58
Queue Length 95th (ft)	7	0	0	0	0	0	0	92
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	0.0	0.0	19.8
Lane LOS	B							C
Approach Delay (s)	0.8				0.0			19.8
Approach LOS								C
<b>Intersection Summary</b>								
Average Delay	3.1							
Intersection Capacity Utilization	48.6%		ICU Level of Service				A	
Analysis Period (min)	15							

HCM Unsignalized Intersection Capacity Analysis  
42: 500 North & 100 East

Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↘	↗	↑	↗	↘	↗	
Volume (veh/h)	27	45	761	63	41	621	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	29	49	827	68	45	675	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None		TWLT	L	
Median storage (veh)						2	
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1591	827			896		
vC1, stage 1 conf vol	827						
vC2, stage 2 conf vol	764						
vCu, unblocked vol	1591	827			896		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	91	87			94		
cM capacity (veh/h)	317	371			758		
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>		
Volume Total	78	827	68	45	675		
Volume Left	29	0	0	45	0		
Volume Right	49	0	68	0	0		
cSH	349	1700	1700	758	1700		
Volume to Capacity	0.22	0.49	0.04	0.06	0.40		
Queue Length 95th (ft)	21	0	0	5	0		
Control Delay (s)	18.3	0.0	0.0	10.0	0.0		
Lane LOS	C			B			
Approach Delay (s)	18.3	0.0		0.6			
Approach LOS	C						
<b>Intersection Summary</b>							
Average Delay	1.1						
Intersection Capacity Utilization	51.0%		ICU Level of Service				A
Analysis Period (min)	15						



HCM Unsignalized Intersection Capacity Analysis  
48: 1100 North & 1300 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔				
Volume (veh/h)	23	249	56	27	194	20	41	219	66	16	105	14				
Sign Control	Free		Free		Free		Stop		Stop		Stop					
Grade	0%		0%		0%		0%		0%		0%					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92				
Hourly flow rate (vph)	25	271	61	29	211	22	45	238	72	17	114	15				
Pedestrians																
Lane Width (ft)																
Walking Speed (ft/s)																
Percent Blockage																
Right turn flare (veh)																
Median type	TWLTL				TWLTL											
Median storage (veh)	2				2											
Upstream signal (ft)																
pX, platoon unblocked																
vC, conflicting volume	233		332		693		642		301		792		662		222	
vC1, stage 1 conf vol					351		351				280		280			
vC2, stage 2 conf vol					342		291				511		382			
vCu, unblocked vol	233		332		693		642		301		792		662		222	
tC, single (s)	4.1		4.1		7.1		6.5		6.2		7.1		6.5		6.2	
tC, 2 stage (s)					6.1		5.5				6.1		5.5			
tF (s)	2.2		2.2		3.5		4.0		3.3		3.5		4.0		3.3	
p0 queue free %	98		98		90		55		90		93		78		98	
cM capacity (veh/h)	1335		1228		455		529		739		260		514		818	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1										
Volume Total	25	332	29	233	354	147										
Volume Left	25	0	29	0	45	17										
Volume Right	0	61	0	22	72	15										
cSH	1335	1700	1228	1700	549	477										
Volume to Capacity	0.02	0.20	0.02	0.14	0.64	0.31										
Queue Length 95th (ft)	1	0	2	0	115	32										
Control Delay (s)	7.7	0.0	8.0	0.0	22.7	15.9										
Lane LOS	A		A		C	C										
Approach Delay (s)	0.5		0.9		22.7	15.9										
Approach LOS					C	C										
Intersection Summary																
Average Delay	9.6															
Intersection Capacity Utilization	53.2%				ICU Level of Service				A							
Analysis Period (min)	15															

HCM Unsignalized Intersection Capacity Analysis  
72: Center Steet & Main Street

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Volume (vph)	9	365	164	76	278	5	273	18	75	6	27	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	397	178	83	302	5	297	20	82	7	29	9
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	407	178	83	308	398	45						
Volume Left (vph)	10	0	83	0	297	7						
Volume Right (vph)	0	178	0	5	82	9						
Hadj (s)	0.05	-0.67	0.53	0.02	0.06	-0.05						
Departure Headway (s)	6.9	6.2	7.7	7.2	6.6	7.8						
Degree Utilization, x	0.78	0.31	0.18	0.61	0.73	0.10						
Capacity (veh/h)	506	561	447	477	525	385						
Control Delay (s)	29.5	10.7	11.1	19.6	25.4	11.6						
Approach Delay (s)	23.8		17.8		25.4	11.6						
Approach LOS	C		C		D	B						
Intersection Summary												
Delay	22.2											
HCM Level of Service	C											
Intersection Capacity Utilization	72.0%				ICU Level of Service				C			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
74: 200 South & Man Street

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔		↔	↔		↔	↔	↔
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	178	143	59	121	18	53	283	53	17	237	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	193	155	64	132	20	58	308	58	18	258	13
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>					
Volume Total (vph)	211	155	64	151	58	365	289					
Volume Left (vph)	17	0	64	0	58	0	18					
Volume Right (vph)	0	155	0	20	0	58	13					
Hadj (s)	0.08	-0.67	0.53	-0.06	0.53	-0.08	0.02					
Departure Headway (s)	7.5	6.7	8.2	7.6	7.6	6.9	7.2					
Degree Utilization, x	0.44	0.29	0.15	0.32	0.12	0.70	0.58					
Capacity (veh/h)	453	500	399	422	456	499	470					
Control Delay (s)	15.0	11.2	11.4	13.0	10.4	23.5	19.5					
Approach Delay (s)	13.4	12.5		21.7	19.5							
Approach LOS	B	B		C	C							

**Intersection Summary**

Delay	17.3											
HCM Level of Service	C											
Intersection Capacity Utilization	55.0%	ICU Level of Service	A									
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
79: Pleasant Grove Blvd. & 220 South

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (veh/h)	566	39	33	495	67	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	615	42	36	538	73	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type	None					None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			658			615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			658			615
IC, single (s)			4.1			6.2
IC, 2 stage (s)						
IF (s)			2.2			3.3
p0 queue free %			96			90
cM capacity (veh/h)			930			491

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	615	42	36	538	124
Volume Left	0	0	36	0	73
Volume Right	0	42	0	0	51
cSH	1700	1700	930	1700	323
Volume to Capacity	0.36	0.02	0.04	0.32	0.38
Queue Length 95th (ft)	0	0	3	0	44
Control Delay (s)	0.0	0.0	9.0	0.0	26.2
Lane LOS			A		
Approach Delay (s)	0.0		0.6	26.2	
Approach LOS				D	

**Intersection Summary**

Average Delay	2.6				
Intersection Capacity Utilization	40.2%	ICU Level of Service	A		
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis  
83: Pleasant Grove Blvd. & 1300 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔		↔	↔	↔
Volume (veh/h)	810	964	5	57	570	26	4	48	66	1	29	492
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	880	1048	5	62	620	28	4	52	72	1	32	535
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												4
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	648			1053			3838	3583	1051	3664	3572	634
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	648			1053			3838	3583	1051	3664	3572	634
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	6			91			0	0	74	0	0	0
cM capacity (veh/h)	938			661			0	0	276	0	0	479
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total	880	1053	62	648	4	124	567					
Volume Left	880	0	62	0	4	0	1					
Volume Right	0	5	0	28	0	72	535					
cSH	938	1700	661	1700	0	1	0					
Volume to Capacity	0.94	0.62	0.09	0.38	Err	169.76	2476.24					
Queue Length 95th (ft)	373	0	8	0	Err	Err	Err					
Control Delay (s)	37.6	0.0	11.0	0.0	Err	Err	Err					
Lane LOS	E		B		F	F	F					
Approach Delay (s)	17.1		1.0		Err	Err	Err					
Approach LOS					F		F					
<b>Intersection Summary</b>												
Average Delay	Err											
Intersection Capacity Utilization	93.0%			ICU Level of Service				F				
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
97: 2600 North & 1300 West

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	↔
Volume (veh/h)	173	61	10	169	80	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	66	11	184	87	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			254		427	221
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		427	221
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		85	97
cM capacity (veh/h)			1311		580	818
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	254	195	113			
Volume Left	0	11	87			
Volume Right	66	0	26			
cSH	1700	1311	622			
Volume to Capacity	0.15	0.01	0.18			
Queue Length 95th (ft)	0	1	16			
Control Delay (s)	0.0	0.5	12.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	12.1			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay	2.6					
Intersection Capacity Utilization	29.6%		ICU Level of Service			A
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
101: 1800 North & 1300 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	31	87	20	19	56	10	26	182	21	12	94	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	95	22	21	61	11	28	198	23	13	102	18
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total (vph)	150	92	249	134								
Volume Left (vph)	34	21	28	13								
Volume Right (vph)	22	11	23	18								
Hadj (s)	-0.01	0.01	0.00	-0.03								
Departure Headway (s)	5.0	5.1	4.7	4.8								
Degree Utilization, x	0.21	0.13	0.33	0.18								
Capacity (veh/h)	667	645	727	695								
Control Delay (s)	9.3	8.8	10.0	8.9								
Approach Delay (s)	9.3	8.8	10.0	8.9								
Approach LOS	A	A	A	A								

**Intersection Summary**

Delay	9.4			
HCM Level of Service	A			
Intersection Capacity Utilization	33.7%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis  
103: 1800 North & 100 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔			↔	
Volume (veh/h)	12	3	56	11	1	8	70	595	10	10	377	13
Sign Control	Stop			Stop			Free			Free		
Grade	0%											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	61	12	1	9	76	647	11	11	410	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL		TWLTL			
Median storage (veh)							2		2			
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1247	1248	417	1305	1250	652	424			658		
vC1, stage 1 conf vol	439	439		804	804							
vC2, stage 2 conf vol	808	810		501	446							
vCu, unblocked vol	1247	1248	417	1305	1250	652	424			658		
IC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
IC, 2 stage (s)	6.1	5.5		6.1	5.5							
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	90	96	100	98	93			99		
cM capacity (veh/h)	302	322	636	284	320	468	1135			930		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>							
Volume Total	77	22	76	658	435							
Volume Left	13	12	76	0	11							
Volume Right	61	9	0	11	14							
cSH	518	339	1135	1700	930							
Volume to Capacity	0.15	0.06	0.07	0.39	0.01							
Queue Length 95th (ft)	13	5	5	0	1							
Control Delay (s)	13.2	16.3	8.4	0.0	0.4							
Lane LOS	B	C	A		A							
Approach Delay (s)	13.2	16.3	0.9		0.4							
Approach LOS	B	C										

Average Delay	1.7			
Intersection Capacity Utilization	53.3%	ICU Level of Service		A
Analysis Period (min)	15			

**Intersection Summary**

Average Delay	1.7			
Intersection Capacity Utilization	53.3%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis  
105: 2600 North & Canyon Road

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔		↔		
Volume (veh/h)	15	0	108	0	0	0	0	457	61	80	149	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	117	0	0	0	0	497	66	87	162	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	866	866	530	983	899	162	162			563		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	866	866	530	983	899	162	162			563		
IC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	79	100	100	100	100			91		
cM capacity (veh/h)	256	266	549	167	255	883	1417			1008		
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2							
Volume Total	134	0	563	87	162							
Volume Left	16	0	0	87	0							
Volume Right	117	0	66	0	0							
cSH	482	1700	1417	1008	1700							
Volume to Capacity	0.28	0.00	0.00	0.09	0.10							
Queue Length 95th (ft)	28	0	0	7	0							
Control Delay (s)	15.3	0.0	0.0	8.9	0.0							
Lane LOS	C	A		A								
Approach Delay (s)	15.3	0.0	0.0	3.1								
Approach LOS	C	A										
Intersection Summary												
Average Delay			3.0									
Intersection Capacity Utilization			53.1%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
106: 2600 North & 900 West

Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Volume (veh/h)	52	142	116	57	33	26
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	154	126	62	36	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188			424	157	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188			424	157	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	96			94	97	
cM capacity (veh/h)	1386			563	888	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	211	188	64			
Volume Left	57	0	36			
Volume Right	0	62	28			
cSH	1386	1700	671			
Volume to Capacity	0.04	0.11	0.10			
Queue Length 95th (ft)	3	0	8			
Control Delay (s)	2.3	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	2.3	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			33.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
108: Huntsman Lane & 900 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	0	29	3	0	23	0	10	21	3	3	44	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	32	3	0	25	0	11	23	3	3	48	0
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total (vph)	35	25	37	51								
Volume Left (vph)	0	0	11	3								
Volume Right (vph)	3	0	3	0								
Hadj (s)	-0.02	0.03	0.04	0.05								
Departure Headway (s)	4.1	4.2	4.1	4.1								
Degree Utilization, x	0.04	0.03	0.04	0.06								
Capacity (veh/h)	855	842	848	857								
Control Delay (s)	7.3	7.3	7.3	7.4								
Approach Delay (s)	7.3	7.3	7.3	7.4								
Approach LOS	A	A	A	A								

**Intersection Summary**

Delay	7.3				
HCM Level of Service	A				
Intersection Capacity Utilization	14.9%		ICU Level of Service		A
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis  
114: 2600 North & 600 West

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕		
Volume (veh/h)	132	29	4	166	49	18
Sign Control	Free			Free		Stop
Grade	0%			0%		0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	143	32	4	180	53	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			175	348		159
vC2, stage 2 conf vol						
vCu, unblocked vol			175	348		159
IC, single (s)			4.1	6.4		6.2
IC, 2 stage (s)						
IF (s)			2.2	3.5		3.3
p0 queue free %			100	92		98
cM capacity (veh/h)			1401	647		886
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	175	185	73			
Volume Left	0	4	53			
Volume Right	32	0	20			
cSH	1700	1401	697			
Volume to Capacity	0.10	0.00	0.10			
Queue Length 95th (ft)	0	0	9			
Control Delay (s)	0.0	0.2	10.8			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.2	10.8			
Approach LOS	B					

Average Delay	1.9			
Intersection Capacity Utilization	22.4%	ICU Level of Service		A
Analysis Period (min)	15			

**Intersection Summary**

Average Delay	1.9			
Intersection Capacity Utilization	22.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis  
116: 1800 North & 600 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↖	↗		↖	↗	
Sign Control	Stop			Stop				Stop			Stop	
Volume (vph)	14	69	21	29	70	6	47	86	50	5	51	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	75	23	32	76	7	51	93	54	5	55	12
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total (vph)	113	114	51	148	5	67						
Volume Left (vph)	15	32	51	0	5	0						
Volume Right (vph)	23	7	0	54	0	12						
Hadj (s)	-0.06	0.05	0.53	-0.22	0.53	-0.09						
Departure Headway (s)	4.6	4.8	5.7	4.9	5.8	5.2						
Degree Utilization, x	0.15	0.15	0.08	0.20	0.01	0.10						
Capacity (veh/h)	723	709	607	699	584	655						
Control Delay (s)	8.4	8.6	8.0	8.0	7.7	7.5						
Approach Delay (s)	8.4	8.6	8.0	7.5								
Approach LOS	A	A	A	A								
<b>Intersection Summary</b>												
Delay			8.2									
HCM Level of Service			A									
Intersection Capacity Utilization			26.2%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
123: 1100 North & 600 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗			↔			↖	↗
Volume (veh/h)	30	262	23	39	186	19	31	140	96	13	85	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	285	25	42	202	21	34	152	104	14	92	25
<b>Pedestrians</b>												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage (veh)	2			2								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	223			310			721	670	297	840	672	212
vC1, stage 1 conf vol							362	362		297	297	
vC2, stage 2 conf vol							358	308		543	375	
vCu, unblocked vol	223			310			721	670	297	840	672	212
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
IC, 2 stage (s)							6.1	5.5		6.1	5.5	
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			92	70	86	95	82	97
cM capacity (veh/h)	1346			1251			444	511	742	277	501	828
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>							
Volume Total	342	42	223	290	132							
Volume Left	33	42	0	34	14							
Volume Right	25	0	21	104	25							
cSH	1346	1251	1700	565	495							
Volume to Capacity	0.02	0.03	0.13	0.51	0.27							
Queue Length 95th (ft)	2	3	0	73	27							
Control Delay (s)	0.9	8.0	0.0	17.9	14.9							
Lane LOS	A	A		C	B							
Approach Delay (s)	0.9	1.3		17.9	14.9							
Approach LOS				C	B							
<b>Intersection Summary</b>												
Average Delay			7.6									
Intersection Capacity Utilization			58.1%	ICU Level of Service		B						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
124: 800 North & 600 West

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	7	9	18	23	9	7	25	261	20	2	173	7
Sign Control	Stop			Stop			Free			Free		
Grade	0%											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	10	20	25	10	8	27	284	22	2	188	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	558	556	192	570	549	295	196			305		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	558	556	192	570	549	295	196			305		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	98	98	94	98	99	98			100		
cM capacity (veh/h)	422	430	850	409	434	745	1377			1255		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	37	42	333	198								
Volume Left	8	25	27	2								
Volume Right	20	8	22	8								
cSH	579	451	1377	1255								
Volume to Capacity	0.06	0.09	0.02	0.00								
Queue Length 95th (ft)	5	8	2	0								
Control Delay (s)	11.6	13.8	0.8	0.1								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.6	13.8	0.8	0.1								
Approach LOS	B	B										
Intersection Summary												
Average Delay	2.1											
Intersection Capacity Utilization	41.2%			ICU Level of Service				A				
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
127: 1100 North & 300 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	
Volume (veh/h)	14	199	19	35	100	7	35	25	68	2	10	13
Sign Control	Free			Free			Stop			Stop		
Grade	0%											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	216	21	38	109	8	38	27	74	2	11	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	TWTLT						TWTLT					
Median storage (veh)	2						2					
Upstream signal (ft)	1157											
pX, platoon unblocked												
vC, conflicting volume	116			237			461	449	227	523	456	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	116			237			461	449	227	523	456	112
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			94	96	91	100	98	98
cM capacity (veh/h)	1472			1330			637	611	813	521	594	940
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	15	237	38	116	139	27						
Volume Left	15	0	38	0	38	2						
Volume Right	0	21	0	8	74	14						
cSH	1472	1700	1330	1700	713	725						
Volume to Capacity	0.01	0.14	0.03	0.07	0.20	0.04						
Queue Length 95th (ft)	1	0	2	0	18	3						
Control Delay (s)	7.5	0.0	7.8	0.0	11.3	10.2						
Lane LOS	A		A		B	B						
Approach Delay (s)	0.5		1.9		11.3	10.2						
Approach LOS					B	B						
Intersection Summary												
Average Delay	3.9											
Intersection Capacity Utilization	39.0%			ICU Level of Service				A				
Analysis Period (min)	15											



HCM Unsignalized Intersection Capacity Analysis  
 130: 1100 North & 500 Ear

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diagram												
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	8	193	29	3	103	1	20	14	8	1	10	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	210	32	3	112	1	22	15	9	1	11	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	113			241			375	362	226	378	378	112
vC1, stage 1 conf vol							243	243		119	119	
vC2, stage 2 conf vol							132	120		259	259	
vCu, unblocked vol	113			241			375	362	226	378	378	112
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			97	98	99	100	98	99
cM capacity (veh/h)	1476			1325			698	658	814	677	648	940
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	250	116	46	20								
Volume Left	9	3	22	1								
Volume Right	32	1	9	8								
cSH	1476	1325	702	739								
Volume to Capacity	0.01	0.00	0.06	0.03								
Queue Length 95th (ft)	0	0	5	2								
Control Delay (s)	0.3	0.2	10.5	10.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.3	0.2	10.5	10.0								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.8									
Intersection Capacity Utilization			31.2%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 134: 1100 North & Murdock Drive

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Diagram												
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	18	181	37	3	97	1	23	1	3	4	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	197	40	3	105	1	25	1	3	4	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	107			237			379	369	217	372	389	106
vC1, stage 1 conf vol							256	256		112	112	
vC2, stage 2 conf vol							123	113		260	276	
vCu, unblocked vol	107			237			379	369	217	372	389	106
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	100	100	99	100	99
cM capacity (veh/h)	1484			1330			689	647	823	690	635	948
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	257	110	29	15								
Volume Left	20	3	25	4								
Volume Right	40	1	3	11								
cSH	1484	1330	700	857								
Volume to Capacity	0.01	0.00	0.04	0.02								
Queue Length 95th (ft)	1	0	3	1								
Control Delay (s)	0.7	0.2	10.4	9.3								
Lane LOS	A	A	B	A								
Approach Delay (s)	0.7	0.2	10.4	9.3								
Approach LOS			B	A								
<b>Intersection Summary</b>												
Average Delay			1.6									
Intersection Capacity Utilization			29.9%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
139: 500 North & 700 East

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	↔
Volume (veh/h)	152	59	30	68	23	44
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	165	64	33	74	25	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			229		336	197
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			229		336	197
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		96	94
cM capacity (veh/h)			1339		643	844
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	229	107	73			
Volume Left	0	33	25			
Volume Right	64	0	48			
cSH	1700	1339	762			
Volume to Capacity	0.13	0.02	0.10			
Queue Length 95th (ft)	0	2	8			
Control Delay (s)	0.0	2.5	10.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	2.5	10.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			2.5			
Intersection Capacity Utilization			30.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
145: 200 South & Locust Ave

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↔		↔	↔	↔	↔
Volume (veh/h)	352	125	40	194	86	72
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	383	136	43	211	93	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			518		748	451
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			518		748	451
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		74	87
cM capacity (veh/h)			1048		364	609
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NW 1</b>			
Volume Total	518	254	172			
Volume Left	0	43	93			
Volume Right	136	0	78			
cSH	1700	1048	446			
Volume to Capacity	0.30	0.04	0.39			
Queue Length 95th (ft)	0	3	45			
Control Delay (s)	0.0	1.8	18.1			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.8	18.1			
Approach LOS			C			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			57.7%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
146: Center Street & 700 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	19	177	9	30	63	5	9	87	47	9	40	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	192	10	33	68	5	10	95	51	10	43	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	74			202			422	378	197	473	380	71
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	74			202			422	378	197	473	380	71
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			98	82	94	98	92	97
cM capacity (veh/h)	1526			1370			482	534	844	396	532	991
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	223	107	155	78								
Volume Left	21	33	10	10								
Volume Right	10	5	51	25								
cSH	1526	1370	602	594								
Volume to Capacity	0.01	0.02	0.26	0.13								
Queue Length 95th (ft)	1	2	26	11								
Control Delay (s)	0.8	2.5	13.0	12.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.8	2.5	13.0	12.0								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay	6.0											
Intersection Capacity Utilization	28.0%				ICU Level of Service				A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
149: 200 South & Murdock Drive

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	50	99	52	8	89	10	37	41	10	8	25	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	108	57	9	97	11	40	45	11	9	27	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	108			164			427	370	136	397	392	102
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	108			164			427	370	136	397	392	102
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			92	92	99	98	95	95
cM capacity (veh/h)	1483			1414			474	536	913	504	520	953
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	218	116	96	85								
Volume Left	54	9	40	9								
Volume Right	57	11	11	49								
cSH	1483	1414	532	702								
Volume to Capacity	0.04	0.01	0.18	0.12								
Queue Length 95th (ft)	3	0	16	10								
Control Delay (s)	2.1	0.6	13.2	10.8								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.1	0.6	13.2	10.8								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay	5.3											
Intersection Capacity Utilization	36.0%				ICU Level of Service				A			
Analysis Period (min)	15											

### HCM Unsignalized Intersection Capacity Analysis

152: 200 South & 1300 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	48	55	23	2	47	4	16	23	4	12	14	14
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	60	25	2	51	4	17	25	4	13	15	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	55			85			257	236	72	251	247	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			85			257	236	72	251	247	53
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			97	96	100	98	98	98
cM capacity (veh/h)	1549			1512			655	641	990	660	633	1014
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	137	58	47	43								
Volume Left	52	2	17	13								
Volume Right	25	4	4	15								
cSH	1549	1512	668	739								
Volume to Capacity	0.03	0.00	0.07	0.06								
Queue Length 95th (ft)	3	0	6	5								
Control Delay (s)	3.0	0.3	10.8	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	3.0	0.3	10.8	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay				4.8								
Intersection Capacity Utilization				23.7%	ICU Level of Service	A						
Analysis Period (min)				15								

### HCM Unsignalized Intersection Capacity Analysis

157: Murdock Drive & 1500 East

Timing Plan: PM Peak

Movement	EBL	EBR	EBR2	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR		
Lane Configurations	↔				↔			↔				↔		
Volume (veh/h)	0	17	61	49	103	54	2	47	5	21	16	0		
Sign Control	Stop			Free			Free			Stop				
Grade	0%			0%			0%			0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	0	18	66	53	112	59	2	51	5	23	17	0		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)														
Median type							None			None				
Median storage (veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	315	335	54	57				171				382	309	141
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	315	335	54	57				171				382	309	141
tC, single (s)	7.1	6.5	6.2	4.1				4.1				7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	3.5	4.0	3.3	2.2				2.2				3.5	4.0	3.3
p0 queue free %	100	97	93	97				100				96	97	100
cM capacity (veh/h)	606	564	1013	1548				1407				511	584	907
Direction, Lane #	EB 1	NB 1	SB 1	NW 1										
Volume Total	85	224	59	40										
Volume Left	0	53	2	23										
Volume Right	66	59	5	0										
cSH	864	1548	1407	540										
Volume to Capacity	0.10	0.03	0.00	0.07										
Queue Length 95th (ft)	8	3	0	6										
Control Delay (s)	9.6	2.0	0.3	12.2										
Lane LOS	A	A	A	B										
Approach Delay (s)	9.6	2.0	0.3	12.2										
Approach LOS	A				B									
Intersection Summary														
Average Delay				4.3										
Intersection Capacity Utilization				36.3%	ICU Level of Service	A								
Analysis Period (min)				15										

HCM Unsignalized Intersection Capacity Analysis  
165: 1000 South & Locust Ave

Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	273	58	36	130	98	114
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	63	39	141	107	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	388	168	230			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	388	168	230			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	50	93	97			
cM capacity (veh/h)	597	876	1337			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	360	180	230			
Volume Left	297	39	0			
Volume Right	63	0	124			
cSH	633	1337	1700			
Volume to Capacity	0.57	0.03	0.14			
Queue Length 95th (ft)	89	2	0			
Control Delay (s)	17.9	1.9	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.9	1.9	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		8.8				
Intersection Capacity Utilization		49.6%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis  
166: Center Street & 300 East

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	36	139	65	19	125	0	26	148	24	9	136	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	151	71	21	136	0	28	161	26	10	148	34
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	261	157	215	191								
Volume Left (vph)	39	21	28	10								
Volume Right (vph)	71	0	26	34								
Hadj (s)	-0.10	0.06	-0.01	-0.06								
Departure Headway (s)	5.2	5.5	5.3	5.3								
Degree Utilization, x	0.38	0.24	0.32	0.28								
Capacity (veh/h)	644	593	613	615								
Control Delay (s)	11.3	10.2	10.8	10.4								
Approach Delay (s)	11.3	10.2	10.8	10.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			10.8									
HCM Level of Service			B									
Intersection Capacity Utilization			43.9%		ICU Level of Service				A			
Analysis Period (min)			15									

## Appendix C: Access Management Guidelines

## ***Access Management***

Access management is the practice of coordinating the location, number, spacing, and design of access points to minimize site access conflicts and maximize the traffic capacity and safety of a roadway. Uncoordinated growth along major travel corridors often results in strip development and a proliferation of access points. In many of these instances, each individual development along the corridor has its own access driveway. Numerous access points along major travel corridors create unnecessary conflicts between turning and through traffic which causes delays and accidents. Numerous benefits are derived from controlling the location and number of access points to a roadway. Those benefits include:

- Improving overall roadway safety
- Reducing the total number of vehicle trips
- Decreasing interruptions in traffic flow
- Minimizing traffic delays and congestion
- Maintaining roadway capacity
- Extending the useful life of roads
- Avoiding costly highway projects
- Improving air quality
- Encouraging compact development patterns
- Improving access to adjacent land uses
- Enhancing pedestrian and bicycle facilities

### **Principles of Access Management**

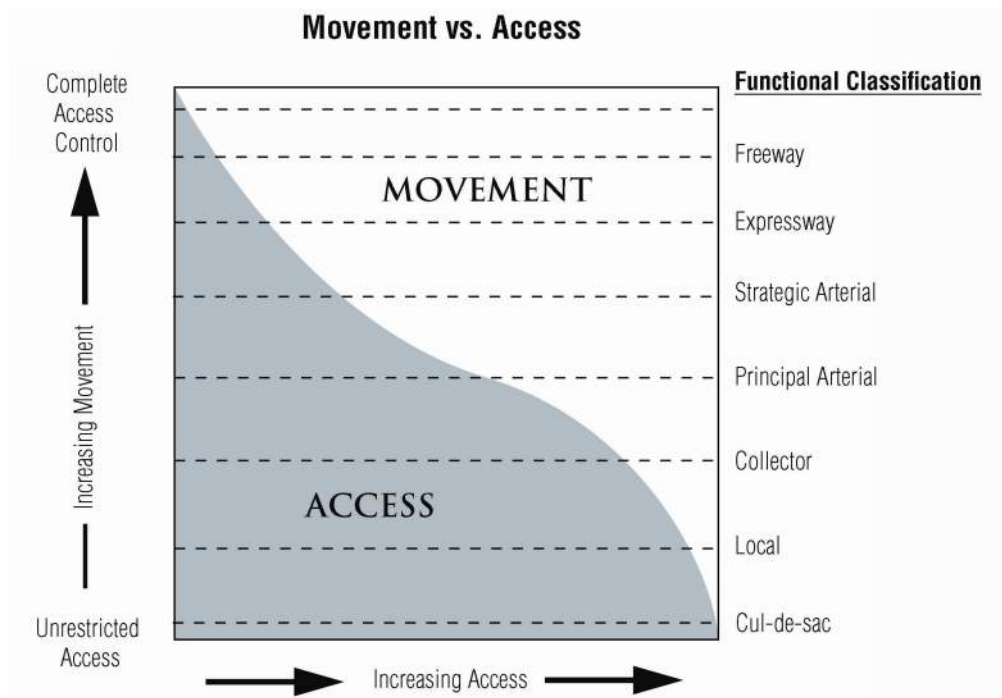
Constantly growing traffic congestion, concerns over traffic safety, and the ever increasing cost of upgrading roads have generated interest in managing the access to not only the highway system, but to surface streets as well. Access management is the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. Access management attempts to balance the need to provide good mobility for through traffic with the requirements for reasonable access to adjacent land uses.

Arguably the most important concept in understanding the need for access management is to insure the movement of traffic and access to property is mutually exclusive. No facility can move traffic very well and provide unlimited access at the same time. Figure 1 shows the relationship between mobility, access, and the functional classification of streets. The extreme examples of this concept are the freeways and the cul-de-sac. The freeway moves traffic very well with few opportunities for access, while the cul-de-sac has unlimited opportunities for access, but doesn't move traffic very well. In many

cases, accidents and congestion are the result of streets trying to serve both mobility and access at the same time.

A good access management program will accomplish the following:

- Limit the number of conflict points at driveway locations.
- Separate conflict areas.
- Reduce the interference of through traffic.
- Provide sufficient spacing for at-grade, signalized intersections.
- Provide adequate on-site circulation and storage.



**Figure 1 Mobility vs. Access by Functional Classification**

Access management attempts to put an end to the seemingly endless cycle of road improvements followed by increased access, increased congestion, and the need for more road improvements.

Poor planning and inadequate control of access can quickly lead to an unnecessarily high number of direct accesses along roadways. The movements that occur on and off roadways at driveway locations, when those driveways are too closely spaced, can make it very difficult for through traffic to flow smoothly at desired speeds and levels of safety. The American Association of State Highways and Transportation Officials (AASHTO) state that “the number of accidents is disproportionately higher at driveways than at other intersections...thus their design and location merits special consideration.”



Studies have shown that anywhere between 50 and 70 percent of all crashes that occur on the urban street system are access related.

Fewer direct accesses, greater separation of driveways, and better driveway design and location are the basic elements of access management. There is less occasion for through traffic to brake and change lanes in order to avoid turning traffic when these techniques are implemented uniformly and comprehensively.

Consequently, with good access management, the flow of traffic will be smoother and average travel speeds higher. There will definitely be less potential for accidents. According to the Federal Highway Administration (FHWA), before and after analyses show that routes with well managed access can experience 50 percent fewer accidents than comparable facilities with no access controls.

### **Roadway Functional Classification**

Access spacing should recognize that access and mobility are competing functions. This recognition is fundamental to the design of roadway systems that preserve public investments, contribute to traffic safety, reduce fuel consumption and vehicle emissions, and do not become functionally obsolete. Suitable functional design of the roadway system also preserves the private investment in residential and commercial development

A typical trip on an urban street system can be described as occurring in identifiable steps. These steps can be sorted into a definite hierarchy with respect to how the competing functions of mobility and access are satisfied. At the low end of the hierarchy are highway facilities that provide good access to abutting properties, but provide limited opportunity for through movement. Vehicles entering or exiting a roadway typically perform the ingress or egress maneuver at a very low speed, momentarily blocking through traffic and impeding the movement of traffic on the roadway. At the high end of the hierarchy are facilities that provide good mobility by limiting and controlling access to the roadway, thereby reducing conflicts that slow the flow of through traffic.

Roadway specialization simply means using each individual street facility to perform the desired mix of the functions of access or movement. This is accomplished by classifying highways with respect to the amount of access or mobility they are to provide and then identifying and using the most effective facility to perform that function.

The functional system of classification divides streets into three basic classes identified as arterials, collectors, and local streets. The function of an arterial is to provide for mobility of through traffic. Access to an arterial is controlled to reduce interferences and facilitate through movement. Collector streets provide a mix for the functions of mobility and access, and therefore accomplish neither well. The predominate purpose of local streets is to provide good access. Each class of roadway has its own geometric, traffic control, and spacing requirements.

## Roadway Network and Access Management Standards

The access management concepts and standards presented below are consistent with guidelines established by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), and the Institute of Transportation Engineers (ITE).

### Access Management Techniques

There are a number of access management techniques that can be used to preserve or enhance the capacity of a roadway. Specific techniques for managing access are discussed in this section and illustrated with examples. Not all techniques will apply to every situation. Some of them are more appropriate to less developed rural areas of the City, whereas others are more appropriate in the urban areas. In the urban areas, the techniques can be applied when existing sites are redeveloped or when negotiations with landowners are successful. Therefore, it is up to the City's Planning Board to determine what will work best based in each situation.

#### Number of Access Points

Controlling the number of access points or driveways from a site to a roadway reduces potential conflicts between cars, pedestrians, and bicycles. Each parcel should normally be allowed one access point, and shared access is required where possible. Provisions can be made in the local land use regulations to allow for more than one access point where special circumstances would require additional accesses. Incentives such as density bonuses or reduced frontage requirements can encourage developers to utilize access from existing side roads or to construct side roads rather than directly access an arterial or a collector road.

#### Spacing of Access Points

Establishing a minimum distance between access points reduces the number of points a driver has to observe and reduces the opportunity for conflicts. Spacing requirements should be based on the classification and design speed of the road, the existing and projected volume of traffic as a result of the proposed development, and the physical conditions of the site. Minimum spacing standards should be applied to both residential and commercial/industrial developments.

To ensure efficient traffic flow, new signals should be limited to locations where the progressive movement of traffic will not be impeded significantly. Uniform, or near uniform, spacing of signals is essential for the progression of traffic. As a minimum, signals should be spaced no closer than one-quarter mile (1,320 feet). It may be recommended on principal arterial streets that signals be spaced at one-third mile (1,760 feet) to one-half mile (2,640 feet).

Unsignalized driveways are far more common than signalized driveways. They affect all kinds of activity, not merely large activity centers. Traffic operational factors leading toward wider spacing of driveways (especially medium- and higher-volume driveways) include weaving and merging distances, stopping sight distance, acceleration rates, and storage distance for back-to-

back left turns. From a spacing perspective, these driveways should be treated the same as public streets. Sound traffic engineering criteria indicates that 500 feet or more should be provided between full-movement unsignalized accesses.

Restricted access movement (i.e., right-in/right-out access) can provide for additional access to promote economic development with minimum impact to the roadway facility. This type of access should be spaced to allow for a minimum of traffic conflicts and provide distance for deceleration and acceleration of traffic in and out of the access. The spacing requirement of accesses is based on the functional classification of the roadway facility and is shown in Table 1. Access spacing shall be measured from center of access to center of access. The spacing of right-turn accesses on each side of a divided roadway can be treated separately; however, where left-turn at median breaks are involved, the access on both sides should line up or be offset from the median break by a minimum of 300 feet. On undivided roadways, access on both sides of the road should be aligned. Where this is not possible, driveways should have an offset distance based on the roadway classification (Table 2). This offset is the distance from the center of an access to the center of the next access on the opposite side of the road.

**Table 1 Access Spacing Based on Functional Classification**

Functional Classification	Minimum Signal Spacing (ft)*	Minimum Unsignalized Full-Movement Access Spacing (ft)*	Minimum Right-In/Right-Out Access Spacing (ft)*
Major Arterial	2,640	660	330
Minor Arterial	1,320	500	250
Collector	1,320	500	250
Commercial Local	1,320	660	330
Residential Local	1,320	125	100
Residential Sub-Local	1,320	100	75

\*Distances in table are measured from center to center of driveway.

**Table 2 Minimum Offset between Driveways on Opposite Sides of Undivided Roadways**

Functional Classification	Minimum Offset (ft)*
Major Arterial	600 for speed $\geq$ 45 mph and 300 for speeds < 45 mph
Minor Arterial	220
Collector	200
Commercial Local	200
Residential Local	N/A
Residential Sub-Local	N/A

\*Distances in table are measured from center to center of driveway.

Note: Values are based on TRB Access Management Guidelines.

## **Medians**

Medians are used to control and manage left turns and crossing movements as well as separating traffic moving in opposite directions. Restricting left turning movements reduces the conflicts between through and turning traffic resulting in improved safety. Studies have shown that the installation of a non-traversable median will reduce crashes by 30 % over that of a two way left turn lane (TWLTL). Medians are typically used on arterial or other roadways with high volumes of traffic and four or more lanes of traffic.

The use and design of a median is determined by the characteristics of the roadway such as: traffic volumes, speed, number and configuration of lanes, right-of-way width and land uses along the roadway. The need for a median can be identified through engineering review, a traffic study assessing the impact of a proposed project, and should be considered on any roadway that has a speed limit greater than 40 MPH. Medians can improve pedestrian safety by providing a refuge area for those crossing the street. The designer should consider incorporating pedestrian refuge at all major intersection crossings.

In addition, medians are often used in commercial and residential developments to separate lanes of traffic and limit conflicts caused by left turns. Medians can also add to the overall aesthetics of a roadway corridor or a development by incorporating landscaping or other items of visual interest. A well designed roadway with good access management can be aesthetically pleasing. It provides the landscape architect greater opportunity in the development of practical and efficient landscape plans. However care should be taken to maintain sight distance around the intersection /access locations. It is therefore required that only ground cover plantings be planted within 350 feet of an intersection/access opening. Also care should be taken to select landscape materials and location of the materials that will not intrude into the roadway which could result a safety problem for the motorist. Also care should be taken in selection of trees that when mature will not be larger than a 4 inch diameter.

Continuous two way left turn lanes can reduce the conflict and delays caused by vehicles turning left through on-coming traffic. Left turn lanes also reduce accidents caused by slowing vehicles and traffic going around on the right. Two way left turn lanes should only be used to retrofit areas of existing development and shall be limited to a roadway with less than 18,000 ADT. New roads that utilize other access management techniques should not need a two way left turn lane.

Median openings are provided at all signalized at-grade intersections. They are also generally provided at unsignalized junctions of arterial and collector streets. They may be provided at driveways, where they will have minimum impact on roadway flow. The spacing of median openings for signalize driveways should reflect traffic signal coordination requirements and the storage-space needed for left turns. Minimum desired spacing of unsignalized median openings at driveways shall be based on the left turn storage requirements. Median openings for left-

turn entrances (where there is no left-turn exit from the activity center) should be spaced to allow sufficient storage for left-turning vehicles.

Left-turn ingress or egress requires a median opening when traffic traveling in opposing directions is separated by a barrier median. Median widths commonly vary from 30 inches to over 30 feet. A 14 foot median is desirable in order to provide for an adequate left turn lane at intersections.

Design elements include the median width, the spacing of median openings and the geometries of median noses at opening. Typically, median widths at intersections are 30 inches formed by two 15 inch curbs back to back with a plowable (tapered) end.

### Corner Clearance

Corner Clearance is the distance between a driveway and an intersection. Providing adequate corner clearance improves traffic flow and roadway safety by ensuring that the traffic turning into the driveway does not interfere with the function of the intersection. Local regulations should require that driveways be located a minimum distance from an intersection based on roadway classification or speed. Any access opening shall not be located within the functional area of the intersection as shown in Figure 2.

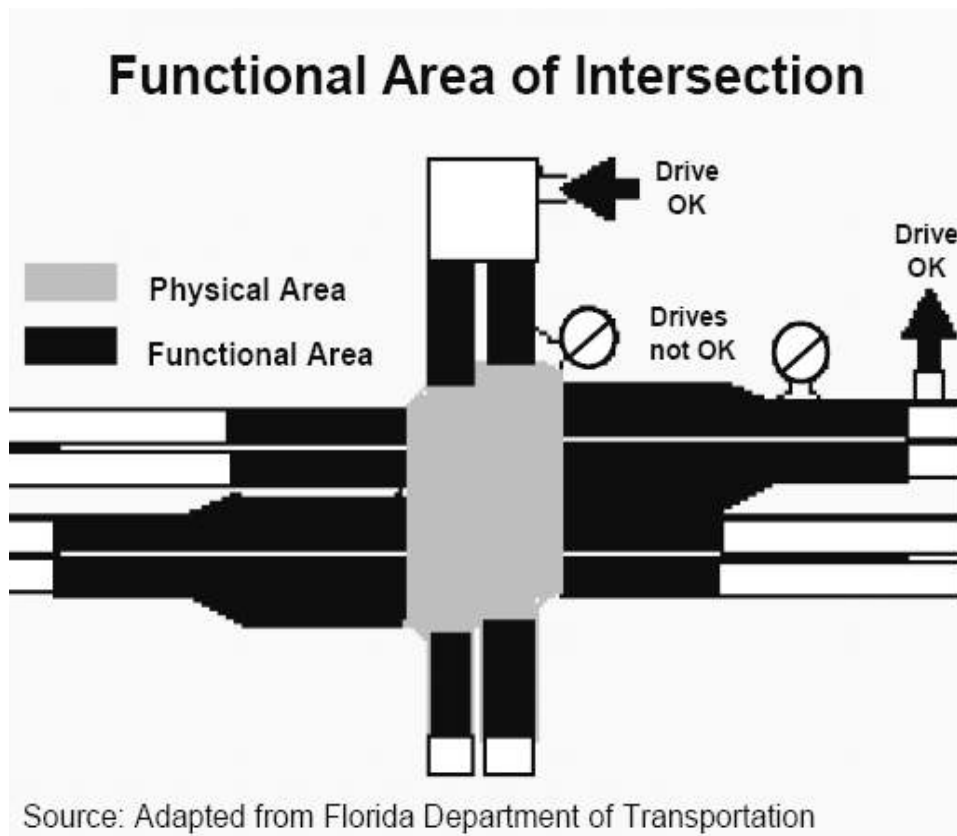


Figure 2 Functional Area of Intersections

Corner Clearance shall be based on an engineering study that includes the following distances illustrated in Figure 4 and Table 3. Figure 4 shows an example inadequate corner clearance that can inhibit roadway capacity and decrease safety.

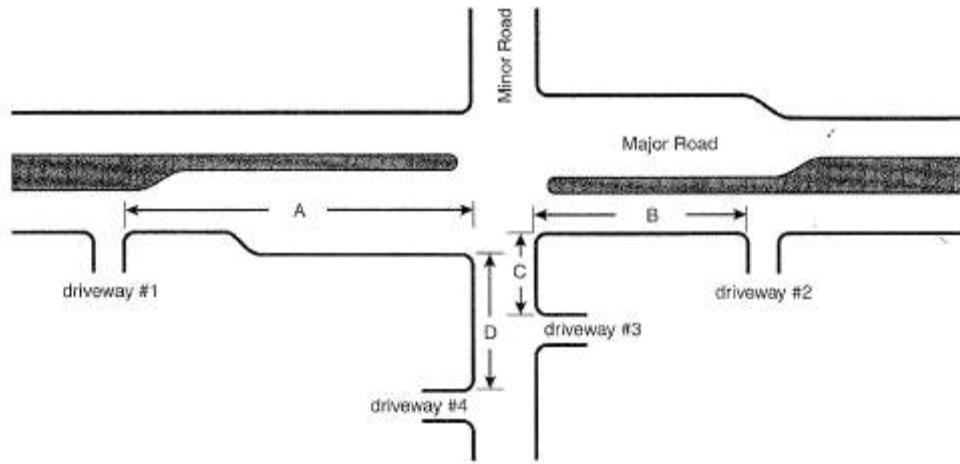
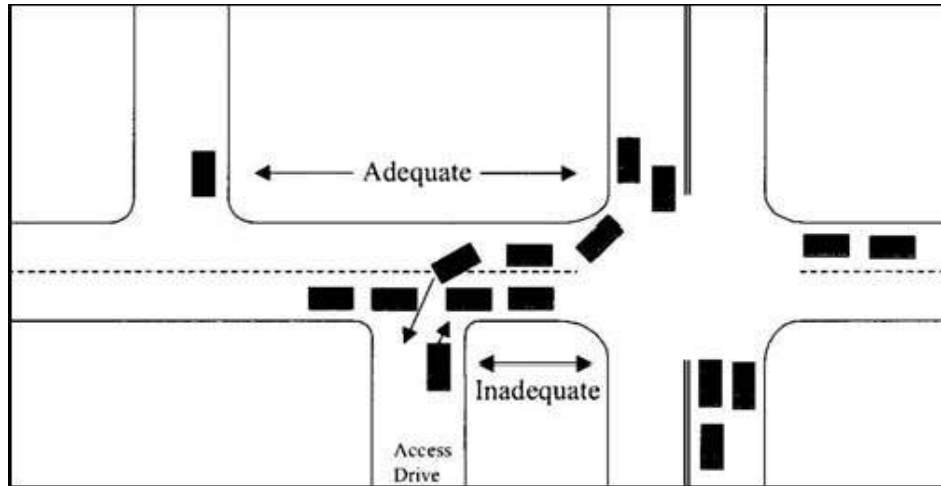


Figure 3 Corner Clearance Types

Table 3 Corner Clearance Criteria

Clearance Type	Sample Clearance Criteria
A- Approach side on the major roadway	Equal or exceed the functional distance of the intersection $d1+d2+d3$ (based on engineering study). $d1$ = Distance traveled during perception $d2$ = Distance traveled while driver decelerates to a stop $d3$ = Storage length
B- Departure side on the major roadway	Residential Roadways 260 feet* Collector Roadways 305 feet* Arterial Roadways 380 feet*
C- Approach side on the minor roadway	Shall be a minimum of 100 feet
D- Departure side on the minor roadway	Shall be a minimum of 120 feet

\* Based on a spillback rate of 15% from TRB Access Management Manual



**Figure 4 Inadequate Corner Clearance**

### **Width of Access Points**

Uncontrolled access is a serious hazard for vehicles entering or exiting a site, vehicles passing by a site, bicyclists and pedestrians. In addition to limiting the number of access points, the width of the access point should be restricted based on the use of the site in question. Residential driveways should be limited to a maximum width of 32 feet at the edge of pavement, including turning radii. The maximum width for a commercial or industrial site entrance with two-way traffic should be limited to 44 feet including 12' for right out 12' for left out with 16' for ingress lane and 2- 2 foot shoulders. The width of the entrance should be determined based on the type of use for the site, the type of traffic (i.e. cars vs. 18 wheel trucks), and the projected volume of traffic.

### **Turning Radius**

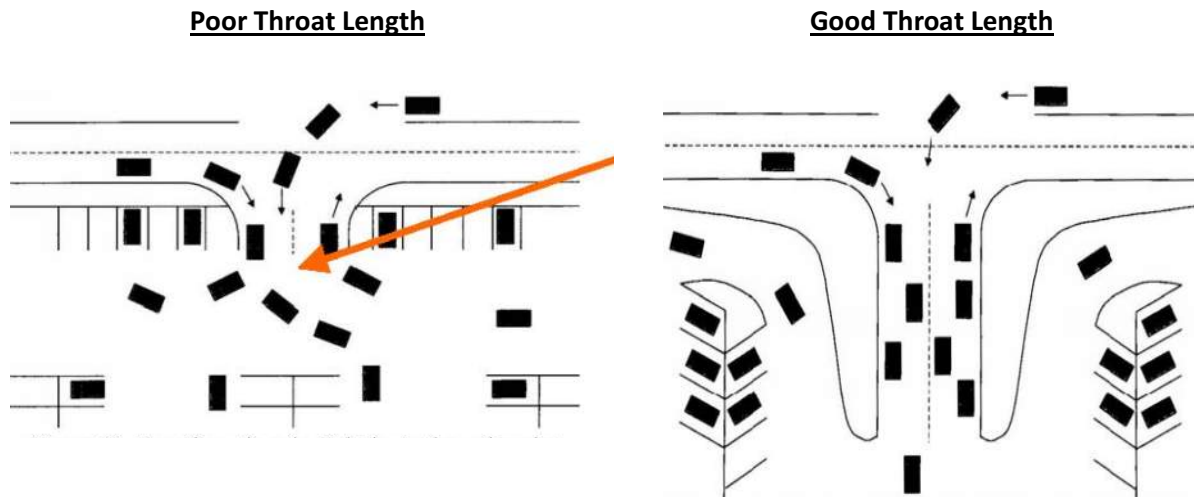
The turning radius of a driveway or access road affects both the flow and safety of through traffic as well as vehicles entering and exiting the roadway. The size of the turning radius affects the speed at which vehicles can exit the flow of traffic and enter a driveway. In general, the larger the turning radius, the greater the speed at which a vehicle can turn into a site. An excessively small turning radius will require a turning vehicle to slow down significantly to make the turn, therefore backing up the traffic flow or encroaching into the other lane. An excessively large turning radius will encourage turning vehicles to travel quickly, thereby creating hazards to pedestrians. Either of these situations increases the potential for accidents.

The speed of the roadway, the anticipated type and volume of the traffic, pedestrian safety and the type of use proposed for the site should be considered when evaluating the turning radius. Proposed uses that would require deliveries by large trucks (such as major retail establishments and gas stations) should provide larger turning radii to accommodate such vehicles. Other uses

such as banks, offices or areas with high pedestrian traffic could adequately be served with smaller turning radii based on the type of traffic they would generate.

### **Throat Length**

Throat Length is the length of the driveway that is controlled internally from turning traffic measured from the intersection with the road. Driveways should be designed with adequate throat length to accommodate queuing of the maximum number of vehicles as defined by the peak period of operation in the traffic study. This will prevent potential conflicts between traffic entering the site and internal traffic flow. Inadequate throat length may cause turning traffic to back up onto the road thereby impeding traffic flow and increasing the potential for accidents. The minimum throat length for an access into a minor commercial property is 50 feet. For major commercial development FHWA recommends a minimum throat length of 150' for a major driveway entrance, with 300' desirable. Figure 5 shows both a poor and good example of driveway throat length.



**Figure 5 Driveway Throat Length Examples**

### **Driveway Profiles**

The slope of a driveway can dramatically influence its operation. Usage by large vehicles can have a tremendous effect on operations if slopes are severe. The profile, or grade, of a driveway should be designed to provide a comfortable and safe transition for those using the facility, and to accommodate the storm water drainage system of the roadway. A maximum grade of 2 percent for a minimum of 50' should be provided for commercial driveways. For street accesses and major traffic generators they shall be designed to meet street standards with no water ways crossing the opening. Table 4 gives the maximum change that can occur between the roadway cross-slope and the driveway slope.



**Table 4 Maximum Change between Roadway Cross-Slope and Driveway Slope**

Roadway Functional Classification	Driveway	
	High Volume	Low Volume
Major Arterial	5%	6%
Minor Arterial	6%	7%
Collector	7%	8%
Commercial Local	N/A	≤10%
Residential Local	N/A	≤12%
Residential Sub-Local	N/A	≤12%

### **Shared Access**

Access points shall be shared between adjacent parcels to minimize the potential for conflict between turning and through traffic. Shared access can be used effectively for both residential and nonresidential developments. Since the issues surrounding shared access for residential and nonresidential development are slightly different, they are discussed separately.

#### Residential

Residential subdivisions located along arterial or collector roadways should be required to construct an internal road system rather than be developed along the existing roadway frontage or a single access cul-de-sac. Subdivision proposals should encourage a coordinated street network by providing rights-of-way or stubs for the extension of streets to adjacent parcels. This will prevent the proliferation of driveways on arterial and collector streets and provide for an interconnected street network.

Shared driveways shall also be used to minimize the number of curb cuts in residential districts, particularly along rural arterial and collector roads. If access is necessary from an arterial or collector then shared driveways is required. Shared driveways serving more than two homes will be built to fire lane standards.

#### Commercial

Joint driveways providing access to adjacent developments, and interconnections between sites, are required for all development proposals on arterial and collector roadways. Interconnections between sites can eliminate the need for additional curb cuts, thereby preserving the capacity of the roadway. This is particularly important for commercial/industrial sites and should be used to encourage the development of internal or collector roadway systems servicing more than one parcel or establishment. Future roadway rights-of-way should also be provided to promote interconnected access to vacant parcels or to facilitate the consolidation of access points for existing developments.

Pedestrian access between developments will allow people to walk between establishments, thereby reducing the number of vehicle trips. Every opportunity should be taken to provide for interconnections between existing and future developments for both vehicles and pedestrians.

**Alignment of Access Points**

Street and driveway intersections represent points of conflict for vehicles, bicycles and pedestrians. All modes of travel should be able to clearly identify intersections and assess the travel patterns of vehicles and pedestrians through the intersection. To minimize the potential conflicts and improve safety, intersections and driveways shall be aligned opposite each other wherever possible and intersect roadways at a 90 degree angle. Good driveway alignment will provide vehicles, bicycles, and pedestrians with a clear line of sight and allow them to traverse the intersection more safely.

**Sight Distance**

Sight distance is the length of the road that is visible to the driver. A minimum safe sight distance should be required for access points based on the roadway classification. The American Association of State Highway and Transportation Officials (AASHTO) publication, *A Policy on Geometric Design of Highways and Streets* contains recommendations for sight distance based on the roadway design speed and grade. Providing sufficient intersection sight distance at the driveway point for vehicles using a driveway to see oncoming traffic and judge the gap to safely make their movement is essential. Vehicles should be able to enter and leave the property safely. Intersection sight distance varies, depending on the design speed of the roadway to be entered, and assumes a passenger car can turn right or left into a two-lane highway and attain 85 percent of the design speed without being overtaken by an approaching vehicle that reduces speed to 85 percent of the design speed. The table below gives intersection sight distance requirements for passenger cars. Sight distances should be adjusted with crossroad grade in accordance with AASHTO policies.

**Table 5 Intersection/Driveway Sight Distance**

Posted Speed Limit (mph)	Sight Distance Required (ft)*
30	335
35	390
40	445
45	500
50	555
55	610
60	665
65	720

\*Based on a 2 lane roadway (for other lane configurations, refer to AASHTO for adjustments). Drivers' eye setback is assumed to be 15 feet measured from the edge of traveled way.

Normally, intersection sight distance will govern the required sight distance for the driveway but it is also important to verify that the main roadway have sufficient stopping sight distance. For example, a driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection including any traffic control devices and sufficient length along the intersecting highway to permit the driver to anticipate and avoid potential collisions. The safe stopping sight distance should be reviewed to make sure that the approaching vehicle has a clear view of the roadway in the area of the access. Sight distance may be more of a consideration in rural areas because of higher speeds and rolling/hilly terrain. The stopping sight distance will be greater for a roadway with a high speed and a downgrade as vehicles will take longer to stop in such a circumstance. Table 6 gives the safe stopping sight distance that should be provided for a driver on the roadway to have a clear view of the access/driveway. In making this determination for stopping sight distance, it should be assumed that the approaching driver’s eye is 3.5 feet above the roadway surface and that the object to be seen is 2 feet above the surface of the road.

**Table 6 Safe Stopping Sight Distances on Grades**

Design Speed (mph)	Safe Stopping Sight Distance (ft)			
	Downhill Grades		Uphill Grades	
	-3%	-6%	3%	6%
25	158	165	147	143
30	205	215	200	184
35	257	271	237	229
40	315	333	289	278
45	378	400	344	331
50	446	474	405	388
55	520	553	469	450

### **Turning Lanes**

Turning lanes remove the turning traffic from the through travel lanes. Left turning lanes are used to separate the left turning traffic from the through traffic. Right turn lanes reduce traffic delays caused by the slowing of right turning vehicles. Designated right or left turn lanes are generally used in high traffic situations on arterial and collector roadways. A traffic impact study will identify the need for and make recommendations on the design of turning lanes or tapers based on the existing traffic volumes, speed, and the projected impacts of the proposed use.

#### *Storage Length*

The length of the turning lane shall be a minimum of 100 feet and at an unsignalized intersection it shall be a minimum length to accommodate 2- 25 foot vehicles based on the number of vehicles likely to arrive in a 2 minute period at peak hour. For signalized

intersections, the storage length shall be 1 ½ times the average number of vehicles that would queue per cycle during the peak hour based on design year volumes.

### Lane Width

Turning lanes shall normally be a minimum of 12 feet in width. Any exception will require approval from the City Engineer. For right turn lanes, provide an additional 12 feet of pavement to accommodate the lane.

### Left-turn Lanes

The provision of left-turn lanes is essential from both capacity and safety standpoints where left turns would otherwise share the use of a through lane. Shared use of a through lane will dramatically reduce capacity, especially when opposing traffic is heavy. Left-turn lanes should always be provided at a signalized intersection.

### Right-turn Lanes

Right-turn lanes remove the speed differences in the main travel lanes, thereby reducing the frequency and severity of rear-end collisions. They also increase capacity of signalized intersections and may allow more efficient traffic signal phasing.

### Length of Auxiliary Lanes

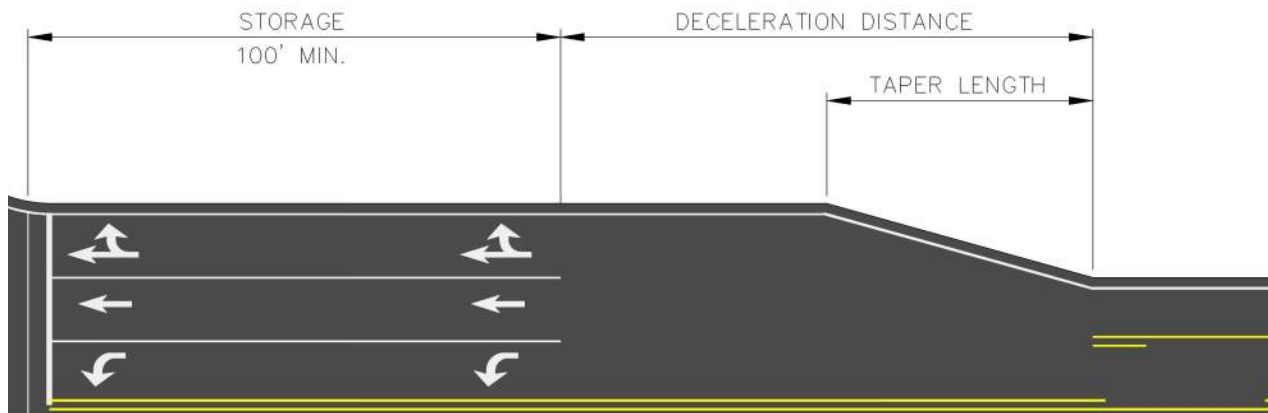
A separate turning lane consists of a taper plus a full width auxiliary lane. The design of turn lanes is based primarily on the speed at which drivers will turn into the lane, the speed to which drivers must reduce in order to turn into the driveway after traversing the deceleration lane, and the amount of vehicular storage that will be required. Other special considerations include the volume of trucks that will use the turning lane and the steepness of an ascending or descending grade.

The total length of an auxiliary lane is made up of the storage length plus the distance necessary to come to a stop from the prevailing speed of the road and the taper distance (which both vary based on speed). A taper length of 50 ft for speeds below 45 mph, 75 ft for speeds of 45 to 50 mph, and 100 ft for speeds over 50 mph is typical. If a two-lane turn lane is to be provided, it is recommended that a 10:1 taper be used to develop the dual lanes. The taper will allow for additional storage during short duration surges in traffic volumes. The length needed for a vehicles to come to a stop from either the design speed or an average running speed of a roadway are shown in Table 7. These deceleration lengths assume the roadway is on a 2 percent or less vertical grade. The storage distance plus the deceleration distance and taper distance will result in the total length of an auxiliary lane (Figure 6).

**Table 7 Deceleration Length**

Speed (mph)	Deceleration Length (ft)*
30	170
35	220
40	275
45	340
50	410
55	485
60	510
65	570

\*Assume the roadway is on a 2 percent or less vertical grade.



**Figure 6 Auxiliary Lane Length**

### **Pedestrian and Bicycle Access**

A key aspect of access management is reducing the number of vehicle trips. This can be accomplished by providing safe and appealing pedestrian access within developments and between adjacent developments.

All new development and redevelopment of existing sites should address pedestrian and bicycle access to and within the site. Sidewalks should be provided in all urban residential subdivisions and in or adjacent to commercial or industrial developments. Sidewalks and other pedestrian facilities should comply with the Americans with Disabilities Act (ADA) Standards for Accessible Design. Crosswalks should be clearly marked and located in appropriate areas. Paint or paving materials can be used to delineate crosswalks. In addition to traditional brick, an alternative involves imprinting the asphalt with a brick design and then painting the crosswalk.

Parking lot designs need to address pedestrian access to the site and circulation within the site. Five foot wide sidewalks or striped pedestrian crossings should be provided from adjacent sites through parking lots to promote safe pedestrian access. Safe and appealing pedestrian circulation systems allow people to park their cars once and walk to different establishments, resulting in an overall reduction in the number of vehicle trips. Joint and cross access between developments can provide opportunities for shared parking.

## Appendix D: Public Involvement

Public involvement is a key element to producing an effective and worthwhile transportation master plan for the City to implement and follow. Collecting and responding to public input allows City staff and decision-makers to consider all the issues and to address them appropriately. An intensive effort was put forth to collect public comment regarding this particular update of the City's transportation master plan, including the following actions:

### **Website**

A draft of the transportation master plan document was posted on the City's website (<http://www.plgrove.org/>) for the public to download and review.

### **Open House**

An open house was held to present the proposed updated Pleasant Grove City Transportation Master Plan to the public. The open house was held on May 13, 2009 at the Community Development Building in Pleasant Grove, Utah. The meeting was attended by approximately 80 to 100 people and 17 comments were received.

- **Advertisement**
  - **Postcard** – Individual postcards were mailed to 1,316 residents located within 200 feet of a proposed roadway widening or new roadway alignment. Of the 1,316 postcards mailed, only 92 postcards were returned to sender. The postcard and mailing list are included in this report.
  - **Utility Bills** – An announcement was placed in the Pleasant Grove City utility bills.
  - **Website** – Details of the open house were posted on the City's website (<http://www.plgrove.org/>).
- **Presentation** – The following displays were shown to the public at the open house and are included in this report:
  - Proposed Pleasant Grove 2040 Roadway Master Plan
  - Existing & Proposed Pleasant Grove Bicycle and Pedestrian Facilities
  - Pleasant Grove Future Transit Plans
  - Typical Sections
- **Comments** – A comment form was provided at the public open house for residents to communicate their concerns and approval of specific elements of the proposed plan. A total of 17 comments were received. A summary of these comments as well as responses are included in this report.



### **City Council and Planning Commission Meetings**

A progress report of the transportation master plan update process was presented at both City Council and Planning Commission Meetings on May 26, 2009 and May 28, 2009 respectively. The presentation is included in this report.

### **Final Public Hearing**

A final public hearing is scheduled for June 23, 2009.

### **Conclusion**

Public involvement has proven to be a critical element of the planning process. As the City updates this plan in the future, public input should be collected and taken into account as this plan evolves.

### **Attachments**

The following items are included in this report:

- **Open House Advertisement:**
  - Postcard
  - Postcard Mailing List
  - Newsletter placed in utility bills
- **Open House Attendance List**
- **Open House Displays**
- **Open House Comments and Responses**
- **City Council and Planning Commission Meetings Presentation**

## **Open House Advertisement**

- Postcard
- Postcard Mailing List
- Newsletter placed in utility bills

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN

## OPEN HOUSE

**MAY 13, 2009**

**6:30-8:00 P.M.**

**THE MEETING WILL BE HELD AT  
THE COMMUNITY DEVELOPMENT  
BUILDING ( 86 EAST 100 SOUTH ),  
IN THE CITY COUNCIL CHAMBERS**

**THE MEETING WILL BE AN OPEN HOUSE FORMAT.  
THERE WILL NOT BE A FORMAL PRESENTATION.  
COME VIEW THE PROPOSED PLAN AND PROVIDE  
FEEDBACK.**

## PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN

To view a draft of the proposed plan  
please visit <http://www.plgrove.org/>.

You may attend any time between 6:30  
and 8:00, there will not be a formal  
presentation.

Members of the community will have  
an opportunity to review the proposed  
Transportation Master Plan for the  
city, including roads, transit, bicycle  
and pedestrian facilities. City staff  
will be available to answer questions  
and receive comments.

  
Pleasant Grove  
Established City of 1876  
86 EAST 100 SOUTH  
PLEASANT GROVE,  
UTAH 84062

**PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN  
OPEN HOUSE MAILING LIST**

Orange text indicates postcards that were returned to sender.

	OWNER	MAIL STREET	MAIL CITY	MAIL STATE	MAIL ZIP CODE
1	AARON, JACKIE WILSON	3894 W 9850 NORTH	PLEASANT GROVE	UT	84062
2	ABBOTT, CHARLES F	4411 SHEFFIELD DR	PROVO	UT	84604
3	ACA PROPERTIES L.C.	PO BOX 339	MIDVALE	UT	84047
4	ADAIR, MORGAN B & MARTA J JT	50 W 725 NORTH	LINDON	UT	84042
5	ADAMS, AARON B & TIFFANY JT	888 W 2800 NORTH	PLEASANT GROVE	UT	84062
6	ADAMS, BRADY E & ROBIN T JT	1491 W 80 SOUTH	PLEASANT GROVE	UT	84062
7	ADAMS, GLEN WELDON	67 E 300 SOUTH	PLEASANT GROVE	UT	84062
8	ADAMS, J RICHINS & MARLEENE H TEE	98 S 1100 EAST	AMERICAN FORK	UT	84003
9	ADAMS, JARED & HOLLY JT	1567 W 80 SOUTH	PLEASANT GROVE	UT	84062
10	ADAMS, MICHAEL E & KATHRYN J JT	4291 N 900 WEST	PLEASANT GROVE	UT	84062
11	ADAMS, MICHELE ARROWSMITH	1338 RENAISSANCE PL	PLEASANT GROVE	UT	84062
12	ADAMS, ORIN A & NAOMI JT	752 W 2600 NORTH	PLEASANT GROVE	UT	84062
13	ADAMS, PATRICIA R	669 ROCKY KNOLL LN	DRAPER	UT	84020
14	ADAMS, PAULINE	524 W 1800 NORTH	PLEASANT GROVE	UT	84062
15	ADAMS, THOMAS A & BEA W TEE	95 S 1050 EAST	PLEASANT GROVE	UT	84062
16	AJF PROPERTIES LLC	1554 N 300 EAST	PLEASANT GROVE	UT	84062
17	ALEMAN, JORGE A	2267 N 600 WEST	PLEASANT GROVE	UT	84062
18	ALL AMERICAN DEVELOPMENT AND CONSTRU	10253 N OAK RD	CEDAR HILLS	UT	84062
19	ALL STAR AUTOMOTIVE INVESTMENTS LC	656 N 2000 WEST	PLEASANT GROVE	UT	84062
20	ALLEN, JUSTIN B & ALEXIS G JT	681 N 1300 WEST	PLEASANT GROVE	UT	84062
21	ALLEN, PAUL E & JUDY JT	60 N 100 EAST	PLEASANT GROVE	UT	84062
22	ALLEN, STEPHEN R & CAROLYN JT	166 W 2600 NORTH	PLEASANT GROVE	UT	84062
23	ALLEN, STEVEN C & MARLA G JT	9590 CANYON RD	PLEASANT GROVE	UT	84062
24	ALLENBACH, BRENT H	1334 RENAISSANCE PL	PLEASANT GROVE	UT	84062
25	ALLMAN, KELLY J & ELIZABETH A ET AL	2409 N 1050 WEST	PLEASANT GROVE	UT	84062
26	ALLRED, JASON M	330 S 100 EAST	PLEASANT GROVE	UT	84062
27	ALLRED, KEITH B & JUDITH L	1240 N 100 EAST	PLEASANT GROVE	UT	84062
28	ALLRIDGE, DALLAN L & SUSAN C JT	1629 N 390 WEST	PLEASANT GROVE	UT	84062
29	ALLRIDGE, LEE R & DALLAN JT	267 N 530 EAST	AMERICAN FORK	UT	84003
30	ALOHA INVESTMENTS LLC	492 W 700 SOUTH	OREM	UT	84058
31	ALPINE ECHO 1 INC	775 COVENTRY LN	ALPINE	UT	84004
32	ALPINE PEDIATRICS PROPERTY MANAGEMEN	1912 W 930 NORTH	PLEASANT GROVE	UT	84062
33	ALVAREZ, ROBERT C	1479 W 80 SOUTH	PLEASANT GROVE	UT	84062
34	AMATO, DOUGLAS & SUSAN G JT	PO BOX 204	VINA	CA	96092
35	AMERICAN SPRINGS DEVELOPMENT COMPANY	146 W 700 NORTH	AMERICAN FORK	UT	84003
36	AMG ENTERPRISES INC	6 S 400 WEST	LINDON	UT	84042
37	AMSOURCE PLEASANT GROVE LC ET AN INT	358 S RIO GRANDE ST #200	SALT LAKE CITY	UT	84101
38	ANDERSON, ARRON W & IDA C TEE	712 E 900 SOUTH	PLEASANT GROVE	UT	84062
39	ANDERSON, CRAIG & AMIE TEE	1265 W 2850 NORTH	PLEASANT GROVE	UT	84062
40	ANDERSON, DEBBIE L	1780 N 1300 WEST	PLEASANT GROVE	UT	84062
41	ANDERSON, JAMES A & AUDREY R TEE	691 E 990 SOUTH	PLEASANT GROVE	UT	84062
42	ANDERSON, JEDEDIAH J & KIMBERLY S	936 N 1420 WEST	PLEASANT GROVE	UT	84062
43	ANDERSON, KEVIN B & LISA A JT	795 N 600 WEST	PLEASANT GROVE	UT	84062
44	ANDERSON, TONY J & GINGER M JT	1207 W 3420 NORTH	PLEASANT GROVE	UT	84062
45	ANDERSON, WILLIAM L ET AL	2460 W 450 SOUTH #5	SPRINGVILLE	UT	84663
46	ANDRUS, CHRIS	1339 ALPINE WAY	PROVO	UT	84606
47	ANDRUS, PATRICIA L & JON A TEE	2445 CANYON RD	PLEASANT GROVE	UT	84062
48	ANGUS, DONALD J & LE ANN	502 W 1800 NORTH	PLEASANT GROVE	UT	84062
49	ANTOINE BUNKER FARMS LIMITED FAMILY	6286 W 10890 NORTH	HIGHLAND	UT	84003
50	AOK FAMILY HOLDING TRUST	PO BOX 536	FERRON	UT	84523
51	ARCHLAND PROPERTY I LLC	PO BOX 182571	COLUMBUS	OH	43218
52	AREVALO, JOSE R & OLINDA J JT	357 W 800 NORTH	LINDON	UT	84042
53	ARIAS, ITALO M ET AL	1520 E MURDOCK DR	PLEASANT GROVE	UT	84062
54	ARNEY, TRACEE L & JAMES D JT	738 W 2240 NORTH	PLEASANT GROVE	UT	84062
55	AROTEC ENG CO	747 W 400 SOUTH	OREM	UT	84058
56	ARSON, GREG	252 W 1290 NORTH	AMERICAN FORK	UT	84003
57	ASBEY, GAYLE	2480 N 600 WEST	PLEASANT GROVE	UT	84062
58	ASH, LLOYD K & LINDA R	294 E 300 SOUTH	PLEASANT GROVE	UT	84062
59	ASHER, DUSTY R & LACY K JT	1261 W 1800 NORTH	PLEASANT GROVE	UT	84062
60	ASHROSS L.C.	530 S 250 WEST	PLEASANT GROVE	UT	84062

61	ASHTON, RANDY D & JULIE R JT	331 W 2600 NORTH	PLEASANT GROVE	UT	84062
62	ASTON, VERNON R & JENNIFER P JT	1597 N 150 EAST	PLEASANT GROVE	UT	84062
63	ATKINSON, ADRIAN D TEE	PO BOX 647	PLEASANT GROVE	UT	84062
64	ATKINSON, ARLEN T & PATRICIA JT	241 S 100 EAST	PLEASANT GROVE	UT	84062
65	ATKINSON, DELBERT W & KARLA M JT	4633 CANYON RD	PLEASANT GROVE	UT	84062
66	ATKINSON, JACOB I & AMANDA G JT	1793 GARDEN DR	PLEASANT GROVE	UT	84062
67	ATTERTON, R BRENT & KIM JT	1777 N 70 EAST	PLEASANT GROVE	UT	84062
68	ATWOOD, GRANT L & FLORENCE TEES	4966 W 11000 NORTH	HIGHLAND	UT	84003
69	ATWOOD, SCOTT & ERIKA TEE	1259 W 2310 NORTH	PLEASANT GROVE	UT	84062
70	AULT, LEO H & VIRGINIA A JT	357 LOADER DR	PLEASANT GROVE	UT	84062
71	AUSTIN, STEPHEN	986 W 270 SOUTH #103	PLEASANT GROVE	UT	84062
72	AVANYU ACRES OWNERS ASSOCIATION	9543 AVANYU DR	CEDAR HILLS	UT	84062
73	AVERETT, CASEY G & TRACY JT	1825 N 100 EAST	PLEASANT GROVE	UT	84062
74	BAGGS, STEPHEN F & ARDEAN C	5217 MCKINNEY WAY	CARMICHAEL	CA	95608
75	BAILEY, REBECCA	1511 W 80 SOUTH	PLEASANT GROVE	UT	84062
76	BAIR, REED I & JOAN L JT	945 N 100 EAST	PLEASANT GROVE	UT	84062
77	BAIRD, MARTIN H	1478 E 1000 SOUTH	PLEASANT GROVE	UT	84062
78	BAKER, DENNIS	250 SOUTH BEACHWOOD, STE 120	BOISE	ID	83709
79	BAKER INVESTMENTS LLC	250 BEECHWOOD DR #120	BOISE	ID	83709
80	BAKER, BLAIR H & CONNIE S JT	1021 N 1600 WEST	PLEASANT GROVE	UT	84062
81	BAKER, JED & SHEILA TEE	13 1/2 BOUSCAY AV	NORWALK	OH	44857
82	BALD MOUNTAIN DEVELOPMENT LLC ET AL	5373 W 10480 NORTH	HIGHLAND	UT	84003
83	BALDWIN AND GAGON CONSTRUCTION COMPA	1625 E 480 SOUTH	PLEASANT GROVE	UT	84062
84	BALDWIN, RHETT B	986 W 270 SOUTH #203	PLEASANT GROVE	UT	84062
85	BALL, DANA D	2059 TUSCANY WAY	PLEASANT GROVE	UT	84062
86	BANK OF AMERICAN FORK	33 E MAIN ST	AMERICAN FORK	UT	84003
87	BANKS, BRET C & LISA M JT	990 N 100 EAST	PLEASANT GROVE	UT	84062
88	BARIA, JO ANN	3959 SIDNEY ST SE	LACEY	WA	98503
89	BARNEY, DAVID & HEATHER JT	1361 W 50 NORTH	PLEASANT GROVE	UT	84062
90	BARNHARDT, ROLLAND J & ROLLAND JT	306 S 100 EAST	PLEASANT GROVE	UT	84062
91	BASSETT, TOM	PO BOX 727	BIGGS	CA	95917
92	BATCHLER, JACK W & RUTH J	PO BOX 580	PLEASANT GROVE	UT	84062
93	BATH, JANA W & NORMAN J TIC	1004 W 1000 NORTH	PLEASANT GROVE	UT	84062
94	BAUGH, CASEY	4937 W 11000 NORTH	HIGHLAND	UT	84003
95	BAUMAN, JOHN A & LYNDA D	1150 N 1300 WEST	PLEASANT GROVE	UT	84062
96	BAXTER, KAY F	25 SMITH LN	PLEASANT GROVE	UT	84062
97	BEAGLEY, HEATHER J & HEATHER J	9540 N CANYON RD	PLEASANT GROVE	UT	84062
98	BEAN, CINDY TEE	9231 S REDWOOD RD	WEST JORDAN	UT	84088
99	BEAN, CINDY R	15 S 1300 WEST	PLEASANT GROVE	UT	84062
100	BEAR DEVELOPMENT LLC	838 W 4230 NORTH	PLEASANT GROVE	UT	84062
101	BECK, DARREL J & CINDIE K JT	798 W 1000 NORTH	PLEASANT GROVE	UT	84062
102	BEESELY, WAYNE	702 UTAH AV	PROVO	UT	84606
103	BEFUS, SCOTT JASON	84 S 850 EAST	PLEASANT GROVE	UT	84062
104	BELLISTON, FAYE S & MARCUS J TEE	147 W HIDDEN HOLLOW CIR	OREM	UT	84058
105	BELMONT ESTATES LLC	1549 E 400 SOUTH	PLEASANT GROVE	UT	84062
106	BENNETT LAND HOLDINGS LLC ET AL	5 IRONWOOD DR	NORTH SALT LAKE	UT	84054
107	BENNETT, GLENNETA R	4591 CANYON RD	PLEASANT GROVE	UT	84062
108	BENNETT, LAMAE H	125 E 500 NORTH	PLEASANT GROVE	UT	84062
109	BENSON, C DAVID & SANDRA K JT	980 W 1800 NORTH	PLEASANT GROVE	UT	84062
110	BENSON, JO ANN & DONALD W JT	420 E 300 SOUTH	PLEASANT GROVE	UT	84062
111	BERGESON, DEAN R & DIXIE A JT	701 E 990 SOUTH	PLEASANT GROVE	UT	84062
112	BEST, JOHN E & JULIE TEE	2356 N 600 WEST	PLEASANT GROVE	UT	84062
113	BETHERS, DALE F & EDITH H	2831 CANYON RD	PLEASANT GROVE	UT	84062
114	BEVERIDGE, GREGORY C & NORMA JT	1178 W 3300 NORTH	PLEASANT GROVE	UT	84062
115	BEVERIDGE, KENDALL LAMAR TEE	10996 N 4800 WEST	HIGHLAND	UT	84003
116	BEZZANT, DOUGLAS G & TAMRA B TIC	376 S LOCUST AV	PLEASANT GROVE	UT	84062
117	BEZZANT, MAE S TEE	360 S LOCUST AV	PLEASANT GROVE	UT	84062
118	BEZZANT, RICHARD L & LORNA E JT	325 N 100 EAST	PLEASANT GROVE	UT	84062
119	BIG SPRINGS DEVELOPMENT INC	1610 N 525 EAST	PLEASANT GROVE	UT	84062
120	BIGELOW, BARBARA & BRENT R TEE	866 N 600 WEST	PLEASANT GROVE	UT	84062
121	BIGELOW, ROBERT B & STEPHANIE JT	1370 N 100 EAST	PLEASANT GROVE	UT	84062
122	BIGELOW, ROBERT D & JILL B	1330 N 100 EAST	PLEASANT GROVE	UT	84062
123	BINGHAM, ROBERT I & RONNIE J	1585 N MURDOCK DR	PLEASANT GROVE	UT	84062
124	BIRD, RYAN G & JENNY A JT	319 W 1800 NORTH	PLEASANT GROVE	UT	84062
125	BISHOP, ANDREW	1476 N FREEDOM BLVD	PROVO	UT	84604

126	BISHOP, GREGORY L & JESSICA N JT	2845 N 900 WEST	PLEASANT GROVE	UT	84062
127	BISHOP, JARED L	688 W 2760 NORTH	PLEASANT GROVE	UT	84062
128	BISHOP, REBECCA S & STEVEN A TEE	399 E STATE RD	PLEASANT GROVE	UT	84062
129	BLACK SCOT DEVELOPMENT LC	1093 E 20 SOUTH	LINDON	UT	84042
130	BLACK SCOT DEVELOPMENT LLC	3214 N UNIVERSITY AV #104	PROVO	UT	84604
131	BLACK, DUBBY J & AMY L JT	119 E 1640 NORTH	PLEASANT GROVE	UT	84062
132	BLACKHAM, MAX A & MARY L JT	2024 N 600 WEST	PLEASANT GROVE	UT	84062
133	BLACKHAM, NATHAN H & JESSICA JT	1635 W 50 NORTH	PLEASANT GROVE	UT	84062
134	BLACKHURST, M DEAN & CHRISTIN TEE	PO BOX 79	NEPHI	UT	84648
135	BLACKHURST, MICHAEL D & CAROL JT	2575 N 600 WEST	PLEASANT GROVE	UT	84062
136	BLACKHURST, REESE BERRY ET AL	414 W 2600 NORTH	PLEASANT GROVE	UT	84062
137	BLAKE, DAVID C ET AL AN INT	265 N COUNTRY MANOR LN	ALPINE	UT	84004
138	BLAKE, PHILIP T & HELEN	29 S 2000 WEST	PLEASANT GROVE	UT	84062
139	BLANCO, GERARDO R & JANA L JT	986 N 1600 WEST	PLEASANT GROVE	UT	84062
140	BLUE CHROME INVESTMENTS LLC	1458 E 300 SOUTH	PLEASANT GROVE	UT	84062
141	BLUE RIBBON STORAGE LLC	754 E 1200 NORTH	PLEASANT GROVE	UT	84062
142	BOBO, DOUGLAS J & MARCELLE JT	2728 CANYON RD	PLEASANT GROVE	UT	84062
143	BOONE, JACOB H & CHERYL E JT	9454 CANYON RD	CEDAR HILLS	UT	84062
144	BORWEGEN, THOMAS G & GEORGIAN JT	359 E 500 SOUTH	PLEASANT GROVE	UT	84062
145	BOUDREAUX, BRANDON	9332 CANYON RD	CEDAR HILLS	UT	84062
146	BOWCUT, DON L & NORA G JT	1130 W STATE RD	PLEASANT GROVE	UT	84062
147	BOWEN, BRIAN D & JILL A JT	651 N 600 WEST	PLEASANT GROVE	UT	84062
148	BOWEN, RICHARD L & JANET M JT	715 W 2000 NORTH	PLEASANT GROVE	UT	84062
149	BOWER, GENE & MAY TEE	450 W CENTER ST	PLEASANT GROVE	UT	84062
150	BOWERS, CHARLES REX	1285 N 100 EAST	PLEASANT GROVE	UT	84062
151	BOWN, JAY ET AL	795 N 600 WEST	PLEASANT GROVE	UT	84062
152	BOX ELDER PROPERTIES LIMITED PARTNER	11038 HIGHLAND BLVD #100	HIGHLAND	UT	84003
153	BOX, PATRICK M & MARLENE JT	1835 N 820 WEST	PLEASANT GROVE	UT	84062
154	BOYD, GERALD	668 W 4000 NORTH	PLEASANT GROVE	UT	84062
155	BOYER, D ROY & LORRAINE S TEE	2622 CANYON RD	PLEASANT GROVE	UT	84062
156	BPW LLC	1801 GLORY CREEK DR	LAS VEGAS	NV	89128
157	BRADSHAW, KIETH ( & DOROTHY A JT	4341 CANYON RD	PLEASANT GROVE	UT	84062
158	BRADSHAW, WARREN B & LE ORA E TEE	210 N PRESTON DR	ALPINE	UT	84004
159	BRAGONJE LLC	2480 S 3850 WEST #C	WEST VALLEY CITY	UT	84120
160	BRANCOLINO, MATIAS & ANGELICA	180 N 100 EAST	PLEASANT GROVE	UT	84062
161	BRANDT, DON ET AL	250 BEECHWOOD DR #120	BOISE	ID	83709
162	BRANDT, DON ET AL 30%INT	203 11TH AV SOUTH	NAMPA	ID	83651
163	BRANDT, WILLIAM J & MITZI JT	1594 W 1010 NORTH	PLEASANT GROVE	UT	84062
164	BRANIN, JAMES M & KATHY M JT	3473 N MAHOGANY DR	PLEASANT GROVE	UT	84062
165	BRATT, DEBRA	185 S STATE ST #1300	SALT LAKE CITY	UT	84111
166	BRATT, JON R & DEBRA R TEE	635 S 1300 WEST	PLEASANT GROVE	UT	84062
167	BRATT, LYNN M & ELIZABETH A JT	637 S 1300 WEST	PLEASANT GROVE	UT	84062
168	BRB ENTERPRISES LIMITED PARTNERSHIP	750 W PIONEER BLVD	MESQUITE	NV	89027
169	BRENNAN, DAVID S & CARMEN K JT	1951 TUSCANY WAY	PLEASANT GROVE	UT	84062
170	BRERETON, STERLING J & DIANE JT	205 N 100 EAST	PLEASANT GROVE	UT	84062
171	BRERETON, WESTON	10363 N 6680 WEST	HIGHLAND	UT	84003
172	BRIA, CAMERON S & JAIME L JT	364 E 300 SOUTH	PLEASANT GROVE	UT	84062
173	BRIMHALL, VINCE A & LORRIE A JT	1244 W 3040 NORTH	PLEASANT GROVE	UT	84062
174	BROCKBANK, ROGER R	4646 HIGHLAND DR	SALT LAKE CITY	UT	84117
175	BROMLEY, WILLIAM K & DIANA JT	1714 N 70 EAST	PLEASANT GROVE	UT	84062
176	BRONK, BRIAN	623 N 1300 WEST	PLEASANT GROVE	UT	84062
177	BROOKWOOD CONSTRUCTION & DESIGN INC	133 W 640 NORTH	AMERICAN FORK	UT	84003
178	BROWN, COLLEEN C TEE	9610 OLD ORCHARD LN	CEDAR HILLS	UT	84062
179	BROWN, ELISE M ET AL	81 N 1620 WEST	PLEASANT GROVE	UT	84062
180	BROWN, LARRY V & YVONNE K ET AL	930 W 1800 NORTH	PLEASANT GROVE	UT	84062
181	BROWNING, JENNIFER P & CORY R JT	2869 CANYON RD	PLEASANT GROVE	UT	84062
182	BRUNDAGE-BONE CONCRETE PUMPING INC	350 W 700 SOUTH	PLEASANT GROVE	UT	84062
183	BRYANT, PATRICIA	18583 JEFFERSON AV	CEDAR VALLEY	UT	84013
184	BRYANT, R JACOB & REBECCA JT	3686 N 900 WEST	PLEASANT GROVE	UT	84062
185	BUCKNER, CHAD W & MICKIE JT	3870 MOUNTAIN TOP CIR	CEDAR HILLS	UT	84062
186	BULLOCK, HAZEL H	1025 N 600 WEST	PLEASANT GROVE	UT	84062
187	BULLOCK, MARY T	159 S PLEASANT GROVE BLVD #15	PLEASANT GROVE	UT	84062
188	BULLOCK, W BRENT & CONNIE L JT	1419 N 100 EAST	PLEASANT GROVE	UT	84062
189	BURGENER, GERRY & DANA JT	1357 E 1000 SOUTH	PLEASANT GROVE	UT	84062
190	BURKETT, BRYANT & ELLEN JT	523 N 1300 WEST	PLEASANT GROVE	UT	84062

191	BURR, BRYAN ET AL TEE	210 N PRESTON DR	ALPINE	UT	84004
192	BURR, DANIEL S & KRISTEN D JT	9691 CHESTERFIELD DR	CEDAR HILLS	UT	84062
193	BURR, LOYE ANN	254 S 1100 EAST	AMERICAN FORK	UT	84003
194	BURT, FLORENCE M TEE	78 W 725 NORTH	LINDON	UT	84042
195	BURTT, KEVIN M	1251 E 1000 SOUTH	PLEASANT GROVE	UT	84062
196	BUSHMAN, GERALD L & PEGGY A TEE	990 E 900 SOUTH	PLEASANT GROVE	UT	84062
197	BYBEE, CHAD	145 S PROCTOR LA	PLEASANT GROVE	UT	84062
198	BYLUND PROPERTIES LLC	411 S 640 WEST	PLEASANT GROVE	UT	84062
199	CABIN LAND LLC	501 S MAIN ST	PLEASANT GROVE	UT	84062
200	CABINLAND LLC	1 E CENTER ST #321	PROVO	UT	84606
201	CAIN PROPERTIES LC	14829 GRANITE RIDGE LN	DRAPER	UT	84020
202	CALDWELL, ROGER B & JILL JT	680 W 2300 NORTH	PLEASANT GROVE	UT	84062
203	CALL, JAMES E & SANDRA L JT	706 W 2240 NORTH	PLEASANT GROVE	UT	84062
204	CALTON, GORDON H & KARI L JT	1309 W 2180 NORTH	PLEASANT GROVE	UT	84062
205	CAMPBELL, CLINT E & JENNIFER JT	236 E 1640 NORTH	PLEASANT GROVE	UT	84062
206	CAMPBELL, GARY J & LINDA B JT	73 S 850 EAST	PLEASANT GROVE	UT	84062
207	CAPITAL COMMUNITY BANCORPORATION INC	3280 N UNIVERSITY AV	PROVO	UT	84604
208	CARD, KAREN N & KENNETH JT	2899 CANYON RD	PLEASANT GROVE	UT	84062
209	CARLSON, JOSEPH W & CAROL E JT	1243 W 3040 NORTH	PLEASANT GROVE	UT	84062
210	CARR, CHAD C & ALISON M JT	1778 N 70 EAST	PLEASANT GROVE	UT	84062
211	CARSON, CLYDE W & THELMA B ET JT	1807 W 1100 NORTH	PLEASANT GROVE	UT	84062
212	CARSON, EVA D & DIANE ET AL	1625 N FREEDOM BLVD	PROVO	UT	84604
213	CARTER, CARL & MARSHA JT	1347 N 100 EAST	PLEASANT GROVE	UT	84062
214	CARTER, DENNIS L & DIANA M JT	9 E 700 SOUTH	PLEASANT GROVE	UT	84062
215	CARTER, ROBERT E & VANIECE M	205 S 1300 WEST	PLEASANT GROVE	UT	84062
216	CARTER, ROBERT E & VANIECE M JT	PO BOX 156	PLEASANT GROVE	UT	84062
217	CARTER, ROSEMARY & FRANCINE JT	681 W STATE RD	PLEASANT GROVE	UT	84062
218	CARTER, WESLEY E & MARLENE J JT	14 W 725 NORTH	LINDON	UT	84042
219	CASABAR, DAMON K & HOLLY JT	2932 N 1130 WEST	PLEASANT GROVE	UT	84062
220	CASSIS LAND COMPANY INC	372 WATERSIDE RD	HEBER CITY	UT	84032
221	CC INVESTMENTS LC	PO BOX 265	HEBER CITY	UT	84032
222	CENTENNIAL SQUARE LIMITED COMPANY	1148 NATHANIEL DR	PLEASANT GROVE	UT	84062
223	CENTRAL BANK	75 N UNIVERSITY AV	PROVO	UT	84601
224	CENTRAL BANK CUST	228 W 725 NORTH	LINDON	UT	84042
225	CHADWICK, GLEN D & VERNA P JT	814 E 3540 SOUTH CIR	SAINT GEORGE	UT	84790
226	CHAPMAN, STEVEN & LESLIE JT	695 W 2240 NORTH	PLEASANT GROVE	UT	84062
227	CHARLESWORTH, D MARK & LACEY S	2514 N 600 WEST	PLEASANT GROVE	UT	84062
228	CHASE, BRENT & PATRICIA JT	835 E 100 SOUTH	PLEASANT GROVE	UT	84062
229	CHAVAN, AMIT B ET AL	179 N 1630 WEST #72	PLEASANT GROVE	UT	84062
230	CHEIRASCO PROPERTIES LLC	125 E MAIN ST #611	AMERICAN FORK	UT	84003
231	CHITWOOD, RICHARD L ET AL	1442 E 1000 SOUTH	PLEASANT GROVE	UT	84062
232	CHOI, DONG S & KYUNG A JT	764 N 400 EAST	LINDON	UT	84042
233	CHORNIK, JERRY T & JOAN A JT	500 S GENEVA RD	PLEASANT GROVE	UT	84062
234	CHRISTENSEN, AARON V & BROOKE JT	781 W 1500 NORTH	PLEASANT GROVE	UT	84062
235	CHRISTENSEN, BRYANT & DENNIS JT	1201 E 1220 NORTH	OREM	UT	84097
236	CHRISTENSEN, DANIEL D	1929 RIDGEHILL DR	BOUNTIFUL	UT	84010
237	CHRISTENSEN, EARL L	1199 W STATE RD	PLEASANT GROVE	UT	84062
238	CHRISTENSEN, EARL L	4512 W 8800 NORTH	AMERICAN FORK	UT	84003
239	CHRISTENSEN, NATHAN	1473 W 80 SOUTH	PLEASANT GROVE	UT	84062
240	CHRISTENSEN, NIEL C & ALICE W JT	470 N 745 EAST	PLEASANT GROVE	UT	84062
241	CHRISTENSEN, NORRIS A & CHERY 1/3INT	1602 W 1000 NORTH	PROVO	UT	84604
242	CHRISTENSEN, PETER D & DIANE JT	375 S MAIN ST #2	ALPINE	UT	84004
243	CHRISTENSEN, RONALD G & CHERY TEE	2373 N 600 WEST	PLEASANT GROVE	UT	84062
244	CHRISTENSEN, RONALD G & JAY D TIC	1199 W STATE RD	PLEASANT GROVE	UT	84062
245	CHRISTENSEN, ZOE J	699 E 990 SOUTH	PLEASANT GROVE	UT	84062
246	CHRISTIANSEN, BRIAN M & CHRIS JT	1785 N 270 WEST	PLEASANT GROVE	UT	84062
247	CHRISTIANSEN, TAMMY	2180 N 600 WEST	PLEASANT GROVE	UT	84062
248	CHRISTOPHERSON, JOSHUA K & RA JT	1258 W 2850 NORTH	PLEASANT GROVE	UT	84062
249	CHRISTOPHERSON, LYNN A & MELA JT	1320 W 1340 NORTH	PLEASANT GROVE	UT	84062
250	CHUN, WILLY ET AL	989 W 600 NORTH	PLEASANT GROVE	UT	84062
251	CHURCH, GEORGE D & DARLENE L TEE	678 E 900 SOUTH	PLEASANT GROVE	UT	84062
252	CHURCH, RAYMOND A & SHARON H JT	165 MAPLE LN	PLEASANT GROVE	UT	84062
253	CINDY & DANA LLC	875 E 400 NORTH	LINDON	UT	84042
254	CITYSIDE PROPERTIES LC	65 N 100 EAST	PLEASANT GROVE	UT	84062
255	CLARK, ELVIN ET AL DBA	448 W CENTER ST	PLEASANT GROVE	UT	84062

256	CLARK, JOHN W & ELIZABETH M TEE	55 E CENTER ST	PLEASANT GROVE	UT	84062
257	CLAUNCH, JON & CLAIRE JT	981 S 1150 EAST	PLEASANT GROVE	UT	84062
258	CLEGG, TRUDI ANN	240 N 100 EAST	PLEASANT GROVE	UT	84062
259	CLEMENT, KYLE & KATHLEEN B JT	1615 E MURDOCK DR	PLEASANT GROVE	UT	84062
260	CLINGER FAMILY PARTNERSHIP	1511 S GENEVA RD	OREM	UT	84058
261	CLINGO, LYNN E & DOROTHY TEE	9160 CANYON RD	CEDAR HILLS	UT	84062
262	CLOWARD, ROBERT G & KRISTA JT	1076 N 1700 WEST	PLEASANT GROVE	UT	84062
263	CLOWARD, RYAN B & EMILY R JT	1465 W 1800 NORTH	PLEASANT GROVE	UT	84062
264	CLUFF, TYLER F & FLORIS A JT	1985 TIMBERLINE RD	PACIFIC	MO	63069
265	COBABE, JOSHUA ET AL	986 W 270 SOUTH #301	PLEASANT GROVE	UT	84062
266	COBB, ROBERT L & SYLVIA F JT	1957 W 1100 NORTH	PLEASANT GROVE	UT	84062
267	COLEMAN, BECKY	261 S 930 WEST	PLEASANT GROVE	UT	84062
268	COLLEDGE, IVAN EUGENE ET AL	159 N 900 EAST	SPANISH FORK	UT	84660
269	COLLINGS, BRUCE E & SHIRLEY A ET AL	298 N 1000 EAST	OREM	UT	84097
270	COMMONWEALTH LAND TITLE INSURANCE CO	1200 6TH AV #1900	SEATTLE	WA	98101
271	COMPTON, AESALINA ET AL	128 HAVEN LN	IDAHO FALLS	ID	83404
272	CONTINENTAL PIPE MANUFACTURING CO	430 N 600 WEST	PLEASANT GROVE	UT	84062
273	COOK, CAMDEN M	95 S 930 EAST	AMERICAN FORK	UT	84003
274	COOK, JEFFREY D & STACEY JT	1169 N 1300 WEST	PLEASANT GROVE	UT	84062
275	COOK, JESSICA A ET AL	298 N 100 EAST	PLEASANT GROVE	UT	84062
276	COOK, KEVIN M & SUZANNE JT	383 S LOCUST AV	PLEASANT GROVE	UT	84062
277	COOK, WYATT D & LORI JT	PO BOX 728	DUCHESNE	UT	84021
278	COOLEY, SAM C	388 N 600 WEST	PLEASANT GROVE	UT	84062
279	CORDNER, DAWAYNE & LINDA J JT	2761 CANYON RD	PLEASANT GROVE	UT	84062
280	CORP OF PRES BISHOP CHURCH OF JESUS	50 E NORTH TEMPLE 12TH FLOOR	SALT LAKE CITY	UT	84150
281	COUCH, ROBERT BRINTON ET AL	394 E 300 SOUTH	PLEASANT GROVE	UT	84062
282	COUNTY LIVING DEVELOPMENT ET AL	1045 E 200 NORTH	PLEASANT GROVE	UT	84062
283	COWAN, LISA & SAMUEL R JT	1633 N 150 EAST	PLEASANT GROVE	UT	84062
284	COWGILL, JUNE D	1070 N 100 EAST	PLEASANT GROVE	UT	84062
285	COX, LEWIS K & SARA S JT	184 E STATE RD	PLEASANT GROVE	UT	84062
286	CRANDALL, AARON	989 SENIOR BAND RD	DRAPER	UT	84020
287	CREEKSIDE HOMEOWNERS ASSOCIATION	PO BOX 476	OREM	UT	84059
288	CREST HOLDINGS L.C.	49 W 7720 SOUTH	MIDVALE	UT	84047
289	CROOKSTON, BETTY JEAN ET AL	830 N 600 WEST	PLEASANT GROVE	UT	84062
290	CROW, JEFFERY O & CASSIE R	2763 N 1450 WEST	PLEASANT GROVE	UT	84062
291	CULLIMORE, SANDRA V TEE	291 S 100 EAST	PLEASANT GROVE	UT	84062
292	CULLIMORE, SANDRA VERNEE	253 S 100 EAST	PLEASANT GROVE	UT	84062
293	CUMMINGS & CUMMINGS LLC	935 N 400 EAST	PLEASANT GROVE	UT	84062
294	CUMMINGS, ROBERT S & LORRI K JT	148 S 1140 EAST	LINDON	UT	84042
295	D & S DEVELOPMENT 1 LLC	10568 N 5900 WEST	HIGHLAND	UT	84003
296	DALE WARBURTON AND MARILYN WA AN INT	795 E 350 NORTH	PLEASANT GROVE	UT	84062
297	DALEY, REX H & SHARON L TEE	463 E CENTER ST	LINDON	UT	84042
298	DALLIN, PAUL ET AL	245 E 100 NORTH	OREM	UT	84057
299	DALTON, ORAL T TEE	1040 N 60 EAST	AMERICAN FORK	UT	84003
300	DANA POINT LLC	7611 JORDAN LANDING BLVD	WEST JORDAN	UT	84084
301	DANIEL, GERRY G & SHERRY S JT	1523 W 80 SOUTH	PLEASANT GROVE	UT	84062
302	DANIELS, MICHAEL & BRENDA ET AN INT	743 N HILL AV	PASADENA	CA	91104
303	DANIELS, STEVE	8813 S REDWOOD RD #C-2	WEST JORDAN	UT	84088
304	DANKLEF, JAMES A & JUDY A JT	705 N 100 EAST	PLEASANT GROVE	UT	84062
305	DAVENPORT, KRISTEN	576 W 1420 NORTH	PLEASANT GROVE	UT	84062
306	DAVIDGE, RUDOLPH	2424 CANYON RD	PLEASANT GROVE	UT	84062
307	DAVIS, AARON S & MESHAM JT	28 W 1800 NORTH	PLEASANT GROVE	UT	84062
308	DAVIS, CONNIE S TEE	1036 W 2600 NORTH	PLEASANT GROVE	UT	84062
309	DAVIS, GAYLE N & LORRAINE S	1289 N 1300 WEST	PLEASANT GROVE	UT	84062
310	DAVIS, JIM ET AL 1/2INT	2296 N 180 WEST	PLEASANT GROVE	UT	84062
311	DAVIS, MARK	758 S 400 EAST	OREM	UT	84097
312	DAVIS, RONALD L & SUZETTE B JT	2873 N 900 WEST	PLEASANT GROVE	UT	84062
313	DAVIS, SHIRL B TEE	1342 E 1000 SOUTH	PLEASANT GROVE	UT	84062
314	DAVIS, TONI KAY	483 N 1300 WEST	PLEASANT GROVE	UT	84062
315	DAY, DONALD E & ELLA R JT	1472 RENAISSANCE PL	PLEASANT GROVE	UT	84062
316	DAY, LEONA WOOTEN	1422 N 230 WEST	OREM	UT	84057
317	DBT PROPERTIES L C	PO BOX 746	PLEASANT GROVE	UT	84062
318	DBT PROPERTIES LC	501 S MAIN ST	PLEASANT GROVE	UT	84062
319	DCW PROPERTIES LLC	322 S 700 WEST	PLEASANT GROVE	UT	84062
320	DE GROFF, ROSS D & MARY K JT	799 N 400 WEST	LINDON	UT	84042



321	DE ROEST, LAWRENCE M & EDNA P JT	2356 N 1300 WEST	PLEASANT GROVE	UT	84062
322	DE VINCENT DEVELOPMENT LLC	1121 E 580 NORTH CIR	AMERICAN FORK	UT	84003
323	DEEGAN, DAVID A & SUSAN K JT	255 S 930 WEST	PLEASANT GROVE	UT	84062
324	DEEGAN, JACOB C	792 N 350 WEST	LINDON	UT	84042
325	DEEP CREEK PROPERTIES INCORPORATED	1084 E PACIFIC DR	AMERICAN FORK	UT	84003
326	DEMILLE, STEVEN D & LYNDA D JT	918 N 1420 WEST	PLEASANT GROVE	UT	84062
327	DENBOER, TYLER D & ALLISON JT	511 N 1300 WEST	PLEASANT GROVE	UT	84062
328	DENTON, MARYLYN S	778 N 40 EAST	LINDON	UT	84042
329	DEWITT, BRENT & MICHELLE JT	7005 WOLF RUN SHOALS RD	FAIRFAX STATION	VA	22039
330	DIMOND, DAVID H & JUDY W JT	9486 N 4000 WEST	CEDAR HILLS	UT	84062
331	DINEHART, JORDAN & LAURENE JT	293 E 1640 NORTH	PLEASANT GROVE	UT	84062
332	DIXON, TIMMOTHY H & MELISSA JT	948 E MURDOCK DR	PLEASANT GROVE	UT	84062
333	DMA 459 LLC	3658 N RANCHO DR	LAS VEGAS	NV	89130
334	DMB INVESTMENT LLC	250 BEECHWOOD DR #120	BOISE	ID	83709
335	DOERSCHLER, CAM R & DONNIE L JT	10 MOHAWK AV	CORTE MADERA	CA	94925
336	DOYLE, NYLE & COLEEN TEE	1225 W 2600 NORTH	PLEASANT GROVE	UT	84062
337	DOYLE, PAUL D & MARY A ET AL	879 E 200 SOUTH	PLEASANT GROVE	UT	84062
338	DRAKE, DENNIS H & PHYLLIS M JT	1250 N 1300 WEST	PLEASANT GROVE	UT	84062
339	DRANEY, CYRIL L & JEAN M	3132 CANYON RD	PLEASANT GROVE	UT	84062
340	DRYER, RYAN S & MINDY H JT	412 E 420 SOUTH	PLEASANT GROVE	UT	84062
341	DU PREEZ, ANTHONY J	321 W 2660 NORTH	LEHI	UT	84043
342	DUCKETT, DUSTIN & ARIANNE JT	758 S 400 EAST	OREM	UT	84097
343	DUJARDIN, DANA	9456 CANYON HEIGHTS DR	CEDAR HILLS	UT	84062
344	DUNCAN, ROSETTA M TEE	1173 E 1000 SOUTH	PLEASANT GROVE	UT	84062
345	DUNN, ERIC P & KIMBERLY JT	1116 W 3540 NORTH	PLEASANT GROVE	UT	84062
346	DURRANT, MICHAEL J	45 SMITH LN	PLEASANT GROVE	UT	84062
347	EAST TEMPLE VIEW LLC	607 CAMDEN PARK LN	DRAPER	UT	84020
348	EBS PROPERTIES L.C.	65 N 100 EAST	PLEASANT GROVE	UT	84062
349	EDMONDS, RONALD D & DEBRA A JT	562 GLENDON WAY	PLEASANT GROVE	UT	84062
350	EDVALSON, BETH SMITH TEE	975 N 600 WEST	PLEASANT GROVE	UT	84062
351	EDWARDS, JOSH & KRISTY JT	769 E 200 SOUTH	PLEASANT GROVE	UT	84062
352	EDWARDS, WILLIAM F & CHERYL W JT	522 W 2900 NORTH	PLEASANT GROVE	UT	84062
353	EGBERT, DENNIS W & MARGARET B JT	3365 N MAHOGANY DR	PLEASANT GROVE	UT	84062
354	EKINS, STANFORD R & EVETTA F TIC	9430 CANYON RD	PLEASANT GROVE	UT	84062
355	ELDRIDGE, MARILYN L	389 W 800 NORTH	LINDON	UT	84042
356	ELGUETA, JEORGE A ET AL	587 E 1000 SOUTH	PLEASANT GROVE	UT	84062
357	ELK RIDGE DEVELOPMENT INC	7847 PHEASANT WOOD DR	SANDY	UT	84093
358	ELLIOTT, MURIEL M	3881 W 9600 NORTH	PLEASANT GROVE	UT	84062
359	ELLIS, PRESTON C & LYNETTE JT	1411 W 2010 NORTH	PLEASANT GROVE	UT	84062
360	ELLISON, NATHAN & BRIANNE JT	1703 W 1060 NORTH	PLEASANT GROVE	UT	84062
361	ENOCH, JOSH C & NICHOLE JT	1497 W 80 SOUTH	PLEASANT GROVE	UT	84062
362	ERICKSEN, ALLEN CLEMENTS	675 S 50 WEST	PLEASANT GROVE	UT	84062
363	ESCALANTE, ADRIAN	1475 E MURDOCK DR	PLEASANT GROVE	UT	84062
364	EVANS, CLARK B & SUSANN S JT	128 N 200 EAST	OREM	UT	84057
365	EVANS, CLARK B & SUSANN S ET TEE	752 N LOCUST AV	PLEASANT GROVE	UT	84062
366	EVANS, KEITH C & CLARK B ET A TEE	702 E 990 SOUTH	PLEASANT GROVE	UT	84062
367	EVANS, MATTHEW	175 N 1630 WEST	PLEASANT GROVE	UT	84062
368	EVERINGHAM, BRUCE & LAURA JT	1403 E 1000 SOUTH	PLEASANT GROVE	UT	84062
369	EWELL, AARON K & ANISA A JT	1685 W 1100 NORTH	PLEASANT GROVE	UT	84062
370	EWELL, MERRILL R & ALTA H TEE	1475 W 1100 NORTH	PLEASANT GROVE	UT	84062
371	FAMILY FIRST FEDERAL CREDIT UNION	175 E 200 SOUTH	OREM	UT	84058
372	FARNSWORTH, W DAVID & SHAWNA JT	1905 N 600 WEST	PLEASANT GROVE	UT	84062
373	FAUX, CRAIG & SUSAN K JT	680 W 1800 NORTH	PLEASANT GROVE	UT	84062
374	FAUX, DAVID M & DORA C TEE	676 E 900 SOUTH	PLEASANT GROVE	UT	84062
375	FENTON, BOYD D & SHELLEY W JT	1914 N 1300 WEST	PLEASANT GROVE	UT	84062
376	FERRIS, KENNETH R & SUSAN JT	1205 N 1300 WEST	PLEASANT GROVE	UT	84062
377	FIDELITY FUNDING COMPANY	53 W ANGELO AV	SALT LAKE CITY	UT	84115
378	FINCH, TERI L	682 E 900 SOUTH	PLEASANT GROVE	UT	84062
379	FINLAYSON, MERRILL P & GENEAL JT	1044 N 1300 WEST	PLEASANT GROVE	UT	84062
380	FIRMAGE GROVE LC	4700 S STATE ST	SALT LAKE CITY	UT	84107
381	FLADELAND, MARLYS M	PO BOX 806	PLEASANT GROVE	UT	84062
382	FLAKE, NANCY J	1783 W 1100 NORTH	PLEASANT GROVE	UT	84062
383	FLANARY, SHAWN R & SHERYL A JT	2774 N 100 EAST	PLEASANT GROVE	UT	84062
384	FLATT, CATHLEEN M & MARVIN A TEE	1100 E 40 NORTH	OREM	UT	84097
385	FLINDERS, DAVID W & LISA L JT	482 W 3300 NORTH	PLEASANT GROVE	UT	84062

386	FLINDERS, NEIL J & JOAN D TEE	4326 N 900 WEST	PLEASANT GROVE	UT	84062
387	FOOTE, ELWOOD E & NELDA I ET TEE	1067 W 1800 NORTH	PLEASANT GROVE	UT	84062
388	FORDHAM, TODD C & LORI JT	815 N 600 WEST	PLEASANT GROVE	UT	84062
389	FOUNDATIONS INSURANCE INC	63 E STATE RD	PLEASANT GROVE	UT	84062
390	FOWLER, RICKIE J & CLAUDETTE JT	1068 W 1800 NORTH	PLEASANT GROVE	UT	84062
391	FOWLES, BARBARA N TEE	442 N 600 EAST	PLEASANT GROVE	UT	84062
392	FOX, KYLE C	576 W 2600 NORTH	PLEASANT GROVE	UT	84062
393	FOX, WADE & KAYLEE JT	3905 N 900 WEST	PLEASANT GROVE	UT	84062
394	FRAME, SUSAN & CRAIG JT	2551 N 860 WEST	PLEASANT GROVE	UT	84062
395	FRANSEN, STEVEN R	370 W 900 NORTH	PLEASANT GROVE	UT	84062
396	FRANK, LOUIS J & DONNA J JT	PO BOX 991	PLEASANT GROVE	UT	84062
397	FRATERNAL ORDER OF EAGLES PL GR ARIE	220 N 600 WEST	PLEASANT GROVE	UT	84062
398	FREE FAMILY LIMITED PARTNERSHIP	28 N 100 EAST	PLEASANT GROVE	UT	84062
399	FREE, W DUANE	2316 N 600 WEST	PLEASANT GROVE	UT	84062
400	FREEBIRD GROUP INVESTMENTS L C	1121 GROVE CREEK DR	PLEASANT GROVE	UT	84062
401	FREEMAN, JOHN J & ANITA JT	855 W 1800 NORTH	PLEASANT GROVE	UT	84062
402	FREEMAN, LESTER R & NEVA TEE	801 W 1800 NORTH	PLEASANT GROVE	UT	84062
403	FREEMAN, MATTHEW C	1287 W 50 NORTH	PLEASANT GROVE	UT	84062
404	FREEMAN, SAMUEL R & JOLENE JT	829 W 1800 NORTH	PLEASANT GROVE	UT	84062
405	FRISBEE, JEANE L & GERALD	246 S 100 EAST	PLEASANT GROVE	UT	84062
406	FRYER, BRAD	2702 N 900 WEST	PLEASANT GROVE	UT	84062
407	FRYER, KENNETH L & JOAN H ET TEE	624 E 500 NORTH	OREM	UT	84097
408	FUGAL, GUY L & PAULA G	590 W 1100 NORTH	PLEASANT GROVE	UT	84062
409	FUGAL, JOHN P & JENS P TEE	390 N MAIN ST	LINDON	UT	84042
410	FUGAL, JOSEPH M & JOAN V JT	1373 N 100 EAST	PLEASANT GROVE	UT	84062
411	FULLMER, JAMES ET AL	1590 N 300 WEST	PROVO	UT	84602
412	G & G INVESTMENTS L.C.	5451 W 10180 NORTH	HIGHLAND	UT	84003
413	GAGON, JOSEPH A ET AL	1580 E MURDOCK DR	PLEASANT GROVE	UT	84062
414	GARCIA, ROGELIO & ANA M JT	9788 CANYON RD	PLEASANT GROVE	UT	84062
415	GARDBROS LLC	2836 EDMONT DR	HENDERSON	NV	89074
416	GARFIELD, JEFFREY	4251 CANYON RD	PLEASANT GROVE	UT	84062
417	GARN, CLARK W & JANET H JT	407 N STATE ST	MORGAN	UT	84050
418	GARNER, GARY M & SHERYL L JT	1594 W 3300 NORTH	PLEASANT GROVE	UT	84062
419	GARNER, LAVAL F & ROSE P JT	984 S 1320 EAST	PLEASANT GROVE	UT	84062
420	GATEWAY FARMS PLEASANT GROVE LLC	1067 W JERLING	HIGHLAND	UT	84003
421	GDJ PROPERTIES LLC	754 W 700 SOUTH	PLEASANT GROVE	UT	84062
422	GENERAL CONSTRUCTION AND DEVELOPMENT	1642 W 10 SOUTH	PLEASANT GROVE	UT	84062
423	GENERAL CONSTRUCTION AND DEVELOPMENT	3214 N UNIVERSITY AV #605	PROVO	UT	84604
424	GENERAL CONSTRUCTION AND DEVELOPMENT	1646 W 10 SOUTH	PLEASANT GROVE	UT	84062
425	GENERAL CONSTRUCTION AND DEVELOPMENT	1634 W 10 SOUTH	PLEASANT GROVE	UT	84062
426	GIBB, DAVID R & DIAN JT	338 W 2600 NORTH	PLEASANT GROVE	UT	84062
427	GIBBY, ERIC A & NATALIE M JT	916 W 260 SOUTH	PLEASANT GROVE	UT	84062
428	GIBSON, TIMOTHY A & ANNETTE L JT	970 N 100 EAST	PLEASANT GROVE	UT	84062
429	GIFFORD, BRENN K & ZULY C JT	649 E 1000 SOUTH	PLEASANT GROVE	UT	84062
430	GIFFORD, CAROL LYN	747 W 1920 NORTH	PLEASANT GROVE	UT	84062
431	GIFFORD, DAVID O	600 PONDEROSA DR	ALPINE	UT	84004
432	GIFFORD, N PAUL	366 S BENCH RD	ALPINE	UT	84004
433	GILES, VERNON	903 E ROUTE 66 #D	GLENDORA	CA	91740
434	GILLMAN, JULIE A	468 W 2600 NORTH	PLEASANT GROVE	UT	84062
435	GIRARD, NANCY S	725 W 4430 NORTH	PLEASANT GROVE	UT	84062
436	GIRARD, NORMA F ET AL	790 N 400 WEST	LINDON	UT	84042
437	GLOBAL COATINGS INC	PO BOX 338	PLEASANT GROVE	UT	84062
438	GODFREY, GARY J & MARY F JT	1180 N 1300 WEST	PLEASANT GROVE	UT	84062
439	GONZALES, RONALD F & EILEEN W JT	410 N 800 EAST	PLEASANT GROVE	UT	84062
440	GOODMAN, JOHN M & VICKI C JT	500 E 200 SOUTH	PLEASANT GROVE	UT	84062
441	GOODMAN, JOLYNNE & MARK	1750 N 100 EAST	PLEASANT GROVE	UT	84062
442	GOODRICH, ERIC & HEIDI JT	9314 CANYON RD	CEDAR HILLS	UT	84062
443	GOODWILL, JOHN & SUSAN	79 N 1620 WEST	PLEASANT GROVE	UT	84062
444	GOODWIN, BRUCE L & VERA C JT	107 S 1300 WEST	PLEASANT GROVE	UT	84062
445	GORDON, KEN D & LINDA E JT	4026 CENTENNIAL	CEDAR HILLS	UT	84062
446	GOTCHER, DAVID M & AMY M JT	2007 TUSCANY WAY	PLEASANT GROVE	UT	84062
447	GRAHAM, W F & EULA B	1375 W 1100 NORTH	PLEASANT GROVE	UT	84062
448	GRAN CAMPBELL ENTERPRISES LLC ET AL	87 W 560 SOUTH	OREM	UT	84058
449	GRANTHAM, JERRY K & STACI L JT	1347 N MANILA CT	PLEASANT GROVE	UT	84062
450	GREBE, VICKI D & BRANDON ET AL	2146 N 1300 WEST	PLEASANT GROVE	UT	84062

451	GREEN GROVE APARTMENTS LIMITED PARTN	1127 GROVE CREEK DR	PLEASANT GROVE	UT	84062
452	GREEN, KENDALL T & MARJORIE JT	1560 E MURDOCK DR	PLEASANT GROVE	UT	84062
453	GREENFIELD INVESTMENTS LC	PO BOX 1239	OREM	UT	84059
454	GRIFFITH, LANE F ET AL	424 N 2000 WEST	PLEASANT GROVE	UT	84062
455	GROVE BUSINESS CENTER I LLC	845 OAK GROVE AV #210	FARMINGTON	UT	84025
456	GROVER, DANIEL R & JENNI L JT	1484 E 1000 SOUTH	PLEASANT GROVE	UT	84062
457	GUERNSEY, MILDRED B TEE	840 GROVE CREEK DR	PLEASANT GROVE	UT	84062
458	HACIENDA PROPERTIES LIMITED PARTNERS	PO BOX 6629	ORANGE	CA	92863
459	HACK, RONALD L & GINGER TEE	465 E 1000 SOUTH	PLEASANT GROVE	UT	84062
460	HADERLIE, BRETT F & BELINDA	8319 E PORTOBELLO AV	MESA	AZ	85212
461	HAILSTONE, MATTHEW D & HEIDI JT	1023 W 500 NORTH	PLEASANT GROVE	UT	84062
462	HAIR, DALE & MARY TEE	205 E STATE RD	PLEASANT GROVE	UT	84062
463	HAIR, DALE W & MARY W TEE	524 N 950 EAST	OREM	UT	84097
464	HALDIMAN, JEFFREY M & DIANE L JT	490 N 100 EAST	PLEASANT GROVE	UT	84062
465	HALECK, JARED C & EMILY JT	1529 W 80 SOUTH	PLEASANT GROVE	UT	84062
466	HALES, EDWARD	79 E 700 SOUTH	PLEASANT GROVE	UT	84062
467	HALL, JOEL S & JOYCE A JT	1176 W 2100 NORTH	PLEASANT GROVE	UT	84062
468	HALL, MACK R & LESLIE B JT	1990 N 1300 WEST	PLEASANT GROVE	UT	84062
469	HALL, PHILLIP M & MARY-JO JT	4407 CANYON RD	PLEASANT GROVE	UT	84062
470	HALL, ROBERT & JOYCE JT	7575 N 4650 WEST	PLEASANT GROVE	UT	84062
471	HALL, ROBYN VEE	1843 N 1300 WEST	PLEASANT GROVE	UT	84062
472	HALLAM, GEORGE W & SHARON F JT	PO BOX 746	PLEASANT GROVE	UT	84062
473	HALLIDAY, MELVIN & LINDA	122 N 500 WEST #48-1	BLANDING	UT	84511
474	HAMMOND, CLARK & SHAWNA JT	1587 W 1010 NORTH	PLEASANT GROVE	UT	84062
475	HAMMOND, GAIL C & IDA J TEE	1879 W 1100 NORTH	PLEASANT GROVE	UT	84062
476	HAMMOND, VICTOR W & LAURA A TEE	140 S 950 EAST	PLEASANT GROVE	UT	84062
477	HANKS, DONALD S & DEBRA L TEE	3618 N 900 WEST	PLEASANT GROVE	UT	84062
478	HANSEN, HOLDEN SHANE ET AL	1035 QUEENS DR	AMERICAN FORK	UT	84003
479	HANSEN, JOHN L & SANDRA S TEE	540 S MAIN ST	PLEASANT GROVE	UT	84062
480	HANSEN, JOHN L & SANDRA S TEE	1035 QUEENS DR	AMERICAN FORK	UT	84003
481	HANSEN, KENT J & ROBIN JT	1920 N 750 WEST	PLEASANT GROVE	UT	84062
482	HANSEN, KEVIN S & JULIE D JT	1765 GARDEN DR	PLEASANT GROVE	UT	84062
483	HANSEN, RICHARD G & SYLVIA S JT	1045 N 1300 WEST	PLEASANT GROVE	UT	84062
484	HANSON, STANLEY C TEE	PO BOX 564	PLEASANT GROVE	UT	84062
485	HARDMAN, DOUGLAS L & MARIE S JT	1791 N 1200 WEST	PLEASANT GROVE	UT	84062
486	HARDMAN, GARY R & BONNIE K JT	4278 CANYON RD	PLEASANT GROVE	UT	84062
487	HARMAN, LEON W TEE	199 1ST ST #212	LOS ALTOS	CA	94022
488	HARMER, APRIL L H	1380 W 1800 NORTH	PLEASANT GROVE	UT	84062
489	HARR JOHN P SENIOR PROPERTIES L.C.	590 W STATE RD	PLEASANT GROVE	UT	84062
490	HARRIS, M ADAM & ANGELA JT	1832 N 900 WEST	PLEASANT GROVE	UT	84062
491	HARRIS, NATALIE B	32 W 725 NORTH	LINDON	UT	84042
492	HARRIS, R CARL & MELANIE F JT	2046 N 1300 WEST	PLEASANT GROVE	UT	84062
493	HARSHBERGER, TAMARA	159 S PLEASANT GROVE BLVD #14	PLEASANT GROVE	UT	84062
494	HART, DAVID K & LARAYNE W JT	2520 CANYON RD	PLEASANT GROVE	UT	84062
495	HARTLEY, MELISSA S	220 N 100 EAST	PLEASANT GROVE	UT	84062
496	HARVEY LAND COMPANY	9610 WINCHESTER DR	CEDAR HILLS	UT	84062
497	HARVEY, DAVID C & DIXIE R TEE	2806 N 1450 WEST	PLEASANT GROVE	UT	84062
498	HARVEY, DONALD L & HERMINE R TEE	688 E 600 NORTH	PROVO	UT	84606
499	HARVEY, JEFFREY CHRISTOPHER	3331 N 1456 WEST	PLEASANT GROVE	UT	84062
500	HARVEY, SHIANN & JAYSON	1767 GARDEN DR	PLEASANT GROVE	UT	84062
501	HARVEY, STANLEY D & JODI ET A TEE	1244 N 200 WEST	PLEASANT GROVE	UT	84062
502	HARVIE, CHAD	952 W 270 SOUTH #302	PLEASANT GROVE	UT	84062
503	HASLER, HOLLY P & BLAIR JT	1092 N 1300 WEST	PLEASANT GROVE	UT	84062
504	HATCH, JERALD T & SHAUNA N JT	85 S 300 WEST	LINDON	UT	84042
505	HAYES, JANETH & RICHARD JT	1663 W 1060 NORTH	PLEASANT GROVE	UT	84062
506	HAYMOND, BRYCE M & RAVEN V TEE	929 W 670 SOUTH #9	PLEASANT GROVE	UT	84062
507	HAYNIE, CORRINE L	555 N 600 WEST	PLEASANT GROVE	UT	84062
508	HEADMAN, CHARLES L & DIANNE C JT	4628 CANYON RD	PLEASANT GROVE	UT	84062
509	HEALY, JON W & NAN T TEE	1275 MURDOCK DR	AMERICAN FORK	UT	84003
510	HEATON, MICHAEL & ERIN JT	210 N 100 EAST	PLEASANT GROVE	UT	84062
511	HEBBERT, FRANK M & NAOMI P TEE	1224 W 1800 NORTH	PLEASANT GROVE	UT	84062
512	HEINER, KEVIN & GENAE JT	PO BOX 400	PLEASANT GROVE	UT	84062
513	HEINER, KEVIN M & GENAE D JT	2325 N 1300 WEST	PLEASANT GROVE	UT	84062
514	HEINZ E AND IRMGARD S GERSTLE LLC	PO BOX 165	MILLBRAE	CA	94030
515	HEINZ, TIMOTHY D & CARLYN N JT	952 W 270 SOUTH #301	PLEASANT GROVE	UT	84062

516	HEMMERT, JAMES C	PO BOX 1311	PROVO	UT	84603
517	HENDERSON, GARY D & KATHRYN A JT	129 S 950 EAST	PLEASANT GROVE	UT	84062
518	HENDRICKS, ERIN	935 S OREM BLVD	OREM	UT	84058
519	HENDRICKSON, WILLIAM R & DEBR JT	231 E 200 NORTH	PROVO	UT	84606
520	HENRICHSEN, CAROL A TEE	812 E 200 SOUTH	PLEASANT GROVE	UT	84062
521	HENRY, DARRIN T & JOY L JT	86 S 800 EAST	PLEASANT GROVE	UT	84062
522	HEP DEVELOPMENT LLC	4366 W SAM WHITE LA	PLEASANT GROVE	UT	84062
523	HEP DEVELOPMENT LLC ET AL	6795 S 300 WEST	MIDVALE	UT	84047
524	HEPWORTH, LISA	652 W 2705 #330	PLEASANT GROVE	UT	84062
525	HERZOG, JOHN M & KRystal J JT	1317 W 600 NORTH	PLEASANT GROVE	UT	84062
526	HESS, MYRNA & DOYLE G TEE	PO BOX 2710	WENDOVER	NV	89883
527	HEWETT, JONATHAN	9895 CANYON RD	PLEASANT GROVE	UT	84062
528	HEWETT, JONATHAN & EVE JT	9875 CANYON RD	CEDAR HILLS	UT	84062
529	HIATT, JOHN S & CYNTHIA N JT	1435 E 1000 SOUTH	PLEASANT GROVE	UT	84062
530	HICKS, CORAL V	1030 N 600 WEST	PLEASANT GROVE	UT	84062
531	HILTON, AARON D & DESERY S JT	1405 W 1800 NORTH	PLEASANT GROVE	UT	84062
532	HILTON, BRANDON & DEBORAH JT	1105 W 3540 NORTH	PLEASANT GROVE	UT	84062
533	HILTON, KELLEN A	1396 N 500 EAST	PLEASANT GROVE	UT	84062
534	HINOJOS, SYLVIA G	810 N 600 WEST	PLEASANT GROVE	UT	84062
535	HMC INVESTMENT CORPORATION	551 E STATE RD #101	AMERICAN FORK	UT	84003
536	HOKI, MURRAY M & MARTHA F JT	1609 N 900 WEST	PLEASANT GROVE	UT	84062
537	HOLMAN, A WAYNE & STELLA G ET AL	6043 W 9740 NORTH	HIGHLAND	UT	84003
538	HOLMAN, MICHAEL W & GAY C JT	1111 W 1800 NORTH	PLEASANT GROVE	UT	84062
539	HOLMES, NATHAN	905 N 100 EAST	PLEASANT GROVE	UT	84062
540	HOLMSTEAD, HAL E & KATHRYN S TEE	1070 E 700 NORTH	AMERICAN FORK	UT	84003
541	HOLMSTEAD, JAY R & SONDR A JT	405 N 600 WEST	PLEASANT GROVE	UT	84062
542	HOLMSTEAD, ROBB L & KATHRYN M JT	2155 N 600 WEST	PLEASANT GROVE	UT	84062
543	HOMER, RAYMOND W & OLGA J TEE	408 N 700 EAST	PLEASANT GROVE	UT	84062
544	HOMETOWN PROFESSIONALS LC	330 S MAIN ST	PLEASANT GROVE	UT	84062
545	HONE, CAMILLE	856 W 260 SOUTH	PLEASANT GROVE	UT	84062
546	HONE, DENISE	1467 E 1000 SOUTH	PLEASANT GROVE	UT	84062
547	HONE, LLOYD W TEE	319 E STATE RD	PLEASANT GROVE	UT	84062
548	HORELICA, SHAWN L & JENNIFER JT	1921 N 600 WEST	PLEASANT GROVE	UT	84062
549	HORMAN, CHARLES H ET AL TEE	3125 S WHITEWATER DR	SALT LAKE CITY	UT	84117
550	HORTON, TODD W & MARDICA JT	376 N 300 WEST	AMERICAN FORK	UT	84003
551	HORTT, MARTIN A & DEBRA M JT	933 N 1420 WEST	PLEASANT GROVE	UT	84062
552	HOUSTON, DANNY L & GAYLE L TEE	84 S 1100 EAST	AMERICAN FORK	UT	84003
553	HOUSTON, VAN L & JANEAN JT	106 S 1100 EAST	AMERICAN FORK	UT	84003
554	HOWARD, DON & RAMONA JT	980 N 600 WEST	PLEASANT GROVE	UT	84062
555	HOWARD, KENNETH S & KIMBERLI JT	1319 W 870 NORTH	PLEASANT GROVE	UT	84062
556	HUFF, DENNIS E	890 N 100 EAST	PLEASANT GROVE	UT	84062
557	HUFF, MARYLYN G ET AL	4252 STRATUS ST	SALT LAKE CITY	UT	84118
558	HULLINGER, DENNIS J & MARIETT JT	637 W 4000 NORTH	PLEASANT GROVE	UT	84062
559	HUMPHERYS, KRISTEN	1369 E 1000 SOUTH	PLEASANT GROVE	UT	84062
560	HUNDEGGER PROPERTIES LC	9271 N 2683 EAST ALPINE LOOP	PROVO	UT	84604
561	HUNSAKER, JESSE L & LISA JT	1364 E 1000 SOUTH	PLEASANT GROVE	UT	84062
562	HUNT, DEBRA H TEE	2252 N 1300 WEST	PLEASANT GROVE	UT	84062
563	HUNT, JEFFREY D & JENNIFER D JT	1548 N 150 EAST	PLEASANT GROVE	UT	84062
564	HUNTSMAN, BLAINE H & JOYCE N JT	2390 N 100 EAST	PLEASANT GROVE	UT	84062
565	HUNTSMAN, NORAH TEE	2498 N 1300 WEST	PLEASANT GROVE	UT	84062
566	IRWIN, BRIAN F & ANNE K JT	1428 E 1000 SOUTH	PLEASANT GROVE	UT	84062
567	IVIE, DEANNA R TEE	4596 CANYON RD	PLEASANT GROVE	UT	84062
568	IVIE, JOSEPH M & JILL L JT	870 N 100 EAST	PLEASANT GROVE	UT	84062
569	IVORY DEVELOPMENT LLC	978 WOODOAK LN	SALT LAKE CITY	UT	84117
570	IVORY HOMES LTD	970 WOODOAK LN	SALT LAKE CITY	UT	84117
571	JA OGDEN INC	285 S PINEVIEW DR	ALPINE	UT	84004
572	JACKSON, CLINTON R & RUTH C	632 W 2600 NORTH	PLEASANT GROVE	UT	84062
573	JACKSON, JEFFERY J & PATTI S JT	664 W 2600 NORTH	PLEASANT GROVE	UT	84062
574	JACOBS, JERALD	10010 N 4800 WEST	AMERICAN FORK	UT	84003
575	JAKEMAN, JOHN K & DUELLA O ET TEE	901 N 1300 WEST	PLEASANT GROVE	UT	84062
576	JALS #2 LLC	8070 S 3528 WEST	WEST JORDAN	UT	84088
577	JAMES, LANCE & KIMBERLY JT	622 N 100 EAST	PLEASANT GROVE	UT	84062
578	JAMISON, BARRETT T & MOLLY A JT	511 MOUNTAIN CREST RD	DUARTE	CA	91010
579	JARRETT, MARK D & TERESA D JT	970 S 500 EAST	PLEASANT GROVE	UT	84062
580	JARVIS, MARK G	166 S 60 WEST	OREM	UT	84058

581	JD STEEL CO INC	PO BOX 18009	PHOENIX	AZ	85005
582	JDC DESIGN LLC	1024 N 600 WEST	PLEASANT GROVE	UT	84062
583	JEFFERY, DUANE E & KAYE W JT	715 E 875 NORTH	AMERICAN FORK	UT	84003
584	JENKINS, ERYN C & BRADLEY G JT	95 S 850 EAST	PLEASANT GROVE	UT	84062
585	JENSEN, LUCILLE TEE	1588 W 1010 NORTH	PLEASANT GROVE	UT	84062
586	JENSEN, SARA H ET AL	9707 ROYAL RED RD	CEDAR HILLS	UT	84062
587	JENSEN, TOMIE	7301 BAYMEADOWS MAILSTOP JACB31 WAY	JACKSONVILLE	FL	32256
588	JEPPERSON, DENNIS G & KATHRYN TEE	1855 W 1100 NORTH	PLEASANT GROVE	UT	84062
589	JEPPSON, ARNOLD M & MAY M JT	1485 E 300 NORTH	AMERICAN FORK	UT	84003
590	JEPPSON, BRIAN C	1791 N 350 WEST	PLEASANT GROVE	UT	84062
591	JOGODA L.L.C. ET AL	335 E 1300 SOUTH	OREM	UT	84097
592	JOHN ANDERSON FAMILY LIMITED PARTNER	1050 S 175 EAST	BURLEY	ID	83318
593	JOHN HANCOCK CHARTER SCHOOL	125 N 100 EAST	PLEASANT GROVE	UT	84062
594	JOHNSEN, NORMA E & WILLIAM J TEE	2783 N 900 WEST	PLEASANT GROVE	UT	84062
595	JOHNSON, BRETT M & CALLIE K JT	1492 W 1800 NORTH	PLEASANT GROVE	UT	84062
596	JOHNSON, DAMON L & KELLEY K JT	1009 N 1300 WEST	PLEASANT GROVE	UT	84062
597	JOHNSON, DAVID N & MARY L JT	822 E 540 SOUTH	SALEM	UT	84653
598	JOHNSON, DEVIN	33 E SIENA DR	PLEASANT GROVE	UT	84062
599	JOHNSON, DONALD C SUCTEE	2390 W 2200 NORTH	LEHI	UT	84043
600	JOHNSON, FRED M TEE	1148 NATHANIEL DR	PLEASANT GROVE	UT	84062
601	JOHNSON, FRED M TEE	289 N 300 EAST	OREM	UT	84057
602	JOHNSON, JAY DREW ET AL	582 W 850 NORTH	PLEASANT GROVE	UT	84062
603	JOHNSON, JOEL R & CATHY P JT	1286 MURDOCK DR	AMERICAN FORK	UT	84003
604	JOHNSON, JOHN V	321 E STATE RD #10	AMERICAN FORK	UT	84003
605	JOHNSON, LARRY A & SALLY JT	1891 GLENDON CIR	PLEASANT GROVE	UT	84062
606	JOHNSON, MARLIN D & DIANE B JT	2251 N 600 WEST	PLEASANT GROVE	UT	84062
607	JOHNSON, MERN D & LORA JT	381 E 300 SOUTH	PLEASANT GROVE	UT	84062
608	JOHNSON, MILTON G & MILDRED F TEE	345 W 1600 SOUTH	OREM	UT	84058
609	JOHNSON, MILTON K & GINNY O JT	929 W 670 SOUTH #4	PLEASANT GROVE	UT	84062
610	JOHNSON, NED L & LINDA W JT	570 N 100 EAST	PLEASANT GROVE	UT	84062
611	JOHNSON, ROBERT M	1275 E 1000 SOUTH	PLEASANT GROVE	UT	84062
612	JOHNSON, SHAD L & AMY L JT	433 S 300 EAST	PLEASANT GROVE	UT	84062
613	JOHNSON, TERRANCE B & MADGE E JT	1600 OLD HIGHWAY 99	GRANTS PASS	OR	97526
614	JOHNSTON, CLAY R & DEBY C JT	1979 TUSCANY WAY	PLEASANT GROVE	UT	84062
615	JOHNSTON, ERIC S & GREG	610 W 800 NORTH	PLEASANT GROVE	UT	84062
616	JOHNSTON, ERIC S & GREG	805 N 600 WEST	PLEASANT GROVE	UT	84062
617	JOLLEY, ROBERT S & AMY O JT	343 W 1700 SOUTH	OREM	UT	84058
618	JONES, AARON H & AMY E JT	3611 N 1590 WEST	PLEASANT GROVE	UT	84062
619	JONES, GERALD D & MONICA L JT	1338 GARDEN DR	PLEASANT GROVE	UT	84062
620	JONES, LENNIS A & PATRICIA A JT	1685 E 1000 SOUTH	PLEASANT GROVE	UT	84062
621	JONES, LOGAN R & ADELE M JT	3573 CANYON RD	PLEASANT GROVE	UT	84062
622	JONES, RANDALL & AMY K	35 S 100 EAST	PLEASANT GROVE	UT	84062
623	JONES, RONALD C & SUSAN P JT	878 N 1300 WEST	PLEASANT GROVE	UT	84062
624	JORGENSEN, HAROLD M & MAURINE TEES	1080 N 600 WEST	PLEASANT GROVE	UT	84062
625	JP PROPERTIES	PO BOX 236	PLEASANT GROVE	UT	84062
626	JUDKINS, AARON & MARCI JT	2033 N TUSCANY WAY	PLEASANT GROVE	UT	84062
627	K & L GURR HOLDINGS LLC	360 E 100 SOUTH	PLEASANT GROVE	UT	84062
628	KAESMEYER, DANIEL E & SUSAN M JT	110 W 1800 NORTH	PLEASANT GROVE	UT	84062
629	KALLAS, JEREMY J	929 W 670 SOUTH #12	PLEASANT GROVE	UT	84062
630	KEELER, SHIREE	159 S PLEASANT GROVE BLVD #18	PLEASANT GROVE	UT	84062
631	KEETCH, BRENT A & SUZANNE S JT	1730 N 100 EAST	PLEASANT GROVE	UT	84062
632	KEETCH, GARY V & DEANNE C JT	1047 W 2600 NORTH	PLEASANT GROVE	UT	84062
633	KELLY, GREG & NATALIE JT	2578 N 860 WEST	PLEASANT GROVE	UT	84062
634	KENDALL, ALAN R & LORA L TEE	2525 N 860 WEST	PLEASANT GROVE	UT	84062
635	KERR, ANN T	1378 E NORTH POND CIR	MAPLETON	UT	84664
636	KERR, BRIAN J & AMY D JT	1455 N 530 WEST	PLEASANT GROVE	UT	84062
637	KERR, JOHN R & KARI JT	1431 W 3300 NORTH	PLEASANT GROVE	UT	84062
638	KHATCHADOURIAN, MOVSES & GIGI JT	1695 E 1000 SOUTH	PLEASANT GROVE	UT	84062
639	KISSLING, GERD	81 BENSON WAY	SANDY	UT	84070
640	KILLPACK, SHIRLEY	PO BOX 1132	PLEASANT GROVE	UT	84062
641	KIMBAL, GLORIA J & MITCH ET A JT	806 W 2800 NORTH	PLEASANT GROVE	UT	84062
642	KING, KEVIN & SHAUNA L JT	3295 N CANYON RD	PROVO	UT	84604
643	KING, KORMAN & KRISTY	1678 N 70 EAST	PLEASANT GROVE	UT	84062
644	KIRK, STEPHEN L & NANCY L JT	983 S 1320 EAST	PLEASANT GROVE	UT	84062
645	KJJ LCC	2004 COUNTRY DR	LEHI	UT	84005

646	KLOEY'S COVE LLC	36 RED PINE DR	ALPINE	UT	84004
647	KNAPTON, LISA CHRISTINE ET AL	1807 GARDEN DR	PLEASANT GROVE	UT	84062
648	KOEHLER, BRYAN F & MARILYNN	2532 N 600 WEST	PLEASANT GROVE	UT	84062
649	KOFFORD, JERALD D & UNA L JT	1476 RENAISSANCE PL	PLEASANT GROVE	UT	84062
650	KOHLER, BUD W & GLENNA E TEE	2150 N 600 WEST	PLEASANT GROVE	UT	84062
651	KRAVET, DANIEL ET AL	9860 N CANYON DR	PLEASANT GROVE	UT	84062
652	KRISER HOMES & COMMUNITIES INC	497 S 2220 WEST #102	PLEASANT GROVE	UT	84062
653	KRISER HOMES & COMMUNITIES INC	497 S 2220 WEST #201	PLEASANT GROVE	UT	84062
654	KRISER HOMES & COMMUNITIES INC	496 S 2150 WEST #201	PLEASANT GROVE	UT	84062
655	KRISER HOMES & COMMUNITIES INC	125 E MAIN ST #215	AMERICAN FORK	UT	84003
656	KRISER HOMES & COMMUNITIES INC	PO BOX 395	AMERICAN FORK	UT	84003
657	KRISER HOMES & COMMUNITIES INC	926 W 1420 SOUTH	PAYSON	UT	84651
658	KRISER HOMES & COMMUNITIES INC	410 N 2000 WEST	PLEASANT GROVE	UT	84062
659	KRISER HOMES & COMMUNITIES INC	497 S 2220 WEST #303	PLEASANT GROVE	UT	84062
660	KRISER HOMES & COMMUNITIES INC	496 S 2150 WEST #202	PLEASANT GROVE	UT	84062
661	KRISER HOMES & COMMUNITIES INC	496 S 2150 WEST #204	PLEASANT GROVE	UT	84062
662	KRISER HOMES & COMMUNITIES INC	9055 S 1300 EAST #110	SANDY	UT	84094
663	KRISER HOMES & COMMUNITIES INC	496 S 2150 WEST	PLEASANT GROVE	UT	84062
664	KRISER HOMES & COMMUNITIES INC	40270 JACINTO WAY	PALMDALE	CA	93551
665	KRISER HOMES & COMMUNITIES INC	1000 S 1000 EAST	MAPLETON	UT	84664
666	KRISER HOMES & COMMUNITIES INC	496 S 2150 WEST #102	PLEASANT GROVE	UT	84062
667	KRISER HOMES & COMMUNITIES INC	497 S 2220 WEST #304	PLEASANT GROVE	UT	84062
668	KRISER HOMES & COMMUNITIES INC	3383 BEAR CANYON LN	CEDAR HILLS	UT	84062
669	KROHN, KRISTOFFER A & KALENN JT	3214 N UNIVERSITY AV #116	PROVO	UT	84604
670	KUMMER, KARL J TEE	85 E 1500 SOUTH	OREM	UT	84058
671	LAD ENTERPRISES L.C.	787 N 400 EAST	LINDON	UT	84042
672	LAD ENTERPRISES L.C. ET AL	127 S 500 EAST #310	SALT LAKE CITY	UT	84102
673	LAKE CITY HOLDINGS LLC	6148 W 9680 NORTH	HIGHLAND	UT	84003
674	LAMBERT, CHARLES P & BETTY A JT	1841 W 1100 NORTH	PLEASANT GROVE	UT	84062
675	LAND WALKER LTD	PO BOX 171720	SAN ANTONIO	TX	78217
676	LANDCO DEVELOPMENT INC	1210 E 930 NORTH	PROVO	UT	84604
677	LANE, ELDWIN K & ANNA B JT	2687 CANYON RD	PLEASANT GROVE	UT	84062
678	LARSEN ACRES L.C.	1146 N 100 EAST	PLEASANT GROVE	UT	84062
679	LARSEN, ARTALEE T	864 N 360 EAST	AMERICAN FORK	UT	84003
680	LARSEN, ELIZABETH	993 W 1800 NORTH	PLEASANT GROVE	UT	84062
681	LARSEN, STEVEN T & ELIZABETH JT	993 W 1800 NORTH	PLEASANT GROVE	UT	84062
682	LARSON, BRYON & SUSANN JT	4051 W 9820 NORTH	CEDAR HILLS	UT	84062
683	LARSON, CRAIG S & JENNIFER S JT	665 N 1300 WEST	PLEASANT GROVE	UT	84062
684	LARSON, DE LOY & RAYE ET AL TEE	225 E STATE RD	PLEASANT GROVE	UT	84062
685	LARSON, JON W & HEATHER M JT	759 GROVE CREEK DR	PLEASANT GROVE	UT	84062
686	LASER, HEATHER A	518 S 2150 WEST #303	PLEASANT GROVE	UT	84062
687	LAW, KENNETH A & FERN JT	150 N 1300 WEST	PLEASANT GROVE	UT	84062
688	LAYCOCK, CORY E	648 N 1010 WEST	PLEASANT GROVE	UT	84062
689	LEADING TECHNOLOGY DEVELOPMENT LLC	444 N 7200 WEST	MENDON	UT	84325
690	LEAVITT, JEFFREY W	786 W 4230 NORTH	PLEASANT GROVE	UT	84062
691	LEAVITT, KENNETH P & LUCILLE JT	374 S 420 EAST	PLEASANT GROVE	UT	84062
692	LEAVITT, MELVIN W & PEGGY J	2693 N 1200 EAST	LEHI	UT	84043
693	LEETHAM, STEPHEN C & DEANNA TEE	1317 N 1300 WEST	PLEASANT GROVE	UT	84062
694	LEGACY PROPERTIES AND INVESTMENTS L.	1342 W STATE RD	PLEASANT GROVE	UT	84062
695	LEGACY PROPERTIES AND INVESTMENTS LC	1402 W STATE RD	PLEASANT GROVE	UT	84062
696	LEICO PROPERTIES LLC	50 N 1300 EAST	PLEASANT GROVE	UT	84062
697	LEONARD, HAL A	1420 E 300 NORTH	AMERICAN FORK	UT	84003
698	LEONARD, ROBERT H & ROBERT H	2221 N 1300 WEST	PLEASANT GROVE	UT	84062
699	LETHBRIDGE, BURTON ALLEN	950 S 1500 EAST	PLEASANT GROVE	UT	84062
700	LEVIN, ALFRED & EDELTRAUD B TEE	3939 W 9600 NORTH	CEDAR HILLS	UT	84062
701	LEWIS, KIMBALL U & MYRNA JT	PO BOX 539	MIDVALE	UT	84047
702	LEWIS, MARY ELLEN	270 N 900 WEST	PROVO	UT	84601
703	LI, ELSA	475 S 1230 WEST	OREM	UT	84058
704	LIAHONA FOUNDATION	801 N 300 EAST	PLEASANT GROVE	UT	84062
705	LINCOLN ACADEMY INCORPORATED	1582 W 3300 NORTH	PLEASANT GROVE	UT	84062
706	LINDBERG, DENISE	868 W 260 SOUTH	PLEASANT GROVE	UT	84062
707	LINDSTROM, JEFFREY P ET AL DBA	PO BOX 236	PLEASANT GROVE	UT	84062
708	LINDSTROM, JOHN P & SARA H TEE	1880 N 600 WEST	PLEASANT GROVE	UT	84062
709	LINEBAUGH, JOHN W & CAROL B TEE	2682 CANYON RD	PLEASANT GROVE	UT	84062
710	LISTON, BETTU M & CLAY M TEE	921 W 1100 NORTH	PLEASANT GROVE	UT	84062

711	LITTLE, VERNON	2897 N 900 WEST	PLEASANT GROVE	UT	84062
712	LLOYD, KALYN L & JEANNE M JT	407 W 2600 NORTH	PLEASANT GROVE	UT	84062
713	LOCKE, CHARESE	868 W 4230 NORTH	PLEASANT GROVE	UT	84062
714	LOCKHART NANCE, ELIZABETH ET AL	1830 N 820 WEST	PLEASANT GROVE	UT	84062
715	LONE PEAK DEVELOPMENT PARTNERS LLC	38 RED PINE DR	ALPINE	UT	84004
716	LONE PEAK DEVELOPMENT PARTNERS LLC	688 W 2760 NORTH	PLEASANT GROVE	UT	84062
717	LONE PEAK DEVELOPMENT PARTNERS LLC	583 S 900 WEST #11-303	PLEASANT GROVE	UT	84062
718	LONE PEAK DEVELOPMENT PARTNERS LLC	1140 W 1800 NORTH	PLEASANT GROVE	UT	84062
719	LONE PEAK DEVELOPMENT PARTNERS LLC	1015 W 425 SOUTH	LEHI	UT	84043
720	LONE PEAK DEVELOPMENT PARTNERS LLC	6072 W 11400 NORTH	HIGHLAND	UT	84003
721	LONG, DARRIN	399 E STATE RD	PLEASANT GROVE	UT	84062
722	LONG, MYRON	3687 AVANYU CT	CEDAR HILLS	UT	84062
723	LONGMAN, JOHN L & GEORGANN JT	4516 CANYON RD	PLEASANT GROVE	UT	84062
724	LOSEE, BARBARA J & FLOYD J JT	704 W 2600 NORTH	PLEASANT GROVE	UT	84062
725	LOVE, JAMES L	1791 GARDEN DR	PLEASANT GROVE	UT	84062
726	LOWDER, TRAVIS H & DANIEL B ET AL	2230 N UNIVERSITY PKY #7A	PROVO	UT	84604
727	LOWE, LYNETTE & KENNETH J JT	1295 N 1300 WEST	PLEASANT GROVE	UT	84062
728	LUKE, JOHNEY D	1050 N 600 WEST	PLEASANT GROVE	UT	84062
729	LUKE, MARJORIE & MARGENE JT	1197 E 1000 SOUTH	PLEASANT GROVE	UT	84062
730	LUKER, DAN R & DAWN JT	37 E 700 SOUTH	PLEASANT GROVE	UT	84062
731	LUND, TROY R & JACQUE L JT	468 W 1800 NORTH	PLEASANT GROVE	UT	84062
732	LUNDIN, JOHN L ET AL	1052 E 50 SOUTH	AMERICAN FORK	UT	84003
733	LUU L.L.C.	426 E STATE RD	PLEASANT GROVE	UT	84062
734	LUU, VINH & HUNG T	789 N 350 WEST	LINDON	UT	84042
735	LYTLE, JOSHUA	347 MILLCREEK RD	PLEASANT GROVE	UT	84062
736	M & M MORRIS PROPERTIES LC	3599 LITTLE ROCK DR	PROVO	UT	84604
737	MAC NEIL, STEPHEN M	11135 N 5730 WEST	HIGHLAND	UT	84003
738	MAGALEI, BENJAMIN S & MARTHA TEE	8913 PINE HOLLOW DR	CEDAR HILLS	UT	84062
739	MAGNUSSON, LONNIE R & LORI JT	2146 N 1300 WEST	PLEASANT GROVE	UT	84062
740	MAJOR, JOSEPH D & JAONA H JT	4549 CANYON RD	PLEASANT GROVE	UT	84062
741	MAKIN DREAMS LLC	1519 N 600 WEST	PLEASANT GROVE	UT	84062
742	MAKIN, KEITH L & RUTH A TEE	153 S 200 EAST	AMERICAN FORK	UT	84003
743	MALAN, DAVID S & NATALIE C JT	952 W 270 SOUTH #104	PLEASANT GROVE	UT	84062
744	MALONE, JAMES C & LEEANN ET AL	1599 N 100 EAST	PLEASANT GROVE	UT	84062
745	MALONE, JAMES M & JAMES M	3709 N 900 WEST	PLEASANT GROVE	UT	84062
746	MANGUM, WILLIAM B & ASHLEY	952 W 270 SOUTH #202	PLEASANT GROVE	UT	84062
747	MANILA CULINARY WATER COMPANY	8800 N 3910 WEST	PLEASANT GROVE	UT	84062
748	MANILA INVESTORS LC	5840 HIGHLAND DR	SALT LAKE CITY	UT	84121
749	MANN, SHIRLEY A	1384 RENAISSANCE PL	PLEASANT GROVE	UT	84062
750	MARGIN ENTERPRISES LLC	1285 E CENTER ST	PLEASANT GROVE	UT	84062
751	MARI-LEE MEADOWS INC	1650 FARNAM ST	OMAHA	NE	68102
752	MARSHALL, LANA K	1287 E 1000 SOUTH	PLEASANT GROVE	UT	84062
753	MARTINEZ, BECKY L ET AL	650 N 100 EAST	PLEASANT GROVE	UT	84062
754	MARTINEZ, KIMBERLY H & ANTHONY R	114 W 700 SOUTH	PLEASANT GROVE	UT	84062
755	MARTINEZ, LISA A	2208 N 600 WEST	PLEASANT GROVE	UT	84062
756	MARTINEZ, MARTHA R & HUGO JT	PO BOX 1904	PROVO	UT	84603
757	MARTINEZ, RENATO & HOLLY	111 E 100 NORTH	PLEASANT GROVE	UT	84062
758	MATTHEWS, HANNAH BETH M ET AL	1110 W 1800 NORTH	PLEASANT GROVE	UT	84062
759	MATTHEWS, LYNN I & GEANIE R JT	1040 W 1800 NORTH	PLEASANT GROVE	UT	84062
760	MATTHEWS, MATT P & MICHELLE JT	812 W 2800 NORTH	PLEASANT GROVE	UT	84062
761	MAVERIK COUNTRY STORES INC	880 W CENTER ST	NORTH SALT LAKE	UT	84054
762	MAYFIELD DEVELOPMENT LC	758 S 400 EAST	OREM	UT	84097
763	MAYNE, JACK & GWEN S TEE	789 W 2600 NORTH	PLEASANT GROVE	UT	84062
764	MAYNE, SHAD G	96 E 700 SOUTH	PLEASANT GROVE	UT	84062
765	MC CANN, GREG T	986 W 270 SOUTH	PLEASANT GROVE	UT	84062
766	MC CLAIN, RICHARD A	1825 TUSCANY WAY	PLEASANT GROVE	UT	84062
767	MC GEE, JAMES & ESCHE JT	399 S LOCUST AV	PLEASANT GROVE	UT	84062
768	MCALLISTER, BURTON JAMES	4019 N 900 WEST	PLEASANT GROVE	UT	84062
769	MCDONALD, TACY L TEE	1182 W 3420 NORTH	PLEASANT GROVE	UT	84062
770	MCHUGH, JOHN R & MATTHEW JT	221 POPLAR ST	ANACONDA	MT	59711
771	MCKINNON, WILLIAM M & LIN M JT	889 N 600 WEST	PLEASANT GROVE	UT	84062
772	MCPHERSON, BRYAN D	613 N 600 WEST	PLEASANT GROVE	UT	84062
773	MEDFORD, TROY J	1226 NORTHFIELD DR	PLEASANT GROVE	UT	84062
774	MELDRUM, FLOYD A TEE	601 S RANCHO DR #A10	LAS VEGAS	NV	89106
775	MELLOTT, CARSON A & KELLIE A	397 E 300 SOUTH	PLEASANT GROVE	UT	84062

776	MELVIN V AND MARY C FRANSDEN FAMILY	506 S 100 WEST	AMERICAN FORK	UT	84003
777	MEMMOTT, KELLY L & JANALYN W JT	935 N 100 EAST	PLEASANT GROVE	UT	84062
778	MERRELL, SCOTT & SHARI JT	681 W 2000 NORTH	PLEASANT GROVE	UT	84062
779	MERRYWEATHER, FRANK B & JOANN TEE	1130 E 900 SOUTH	PLEASANT GROVE	UT	84062
780	MESSERSMITH, VERNAL D & CORA R	1050 W 190 SOUTH	LEHI	UT	84043
781	MESSINGER, JEFF	523 W 2900 NORTH	PLEASANT GROVE	UT	84062
782	METLER BROTHERS CONSTRUCTION INC	973 S OREM BLVD	OREM	UT	84058
783	MICHAEL L ROBINSON PROPERTIES LC	116 W 2430 NORTH	PLEASANT GROVE	UT	84062
784	MILLER INVESTMENT COMPANY	886 E 900 SOUTH	PLEASANT GROVE	UT	84062
785	MILLER, ANNALISE	986 W 270 SOUTH #201	PLEASANT GROVE	UT	84062
786	MILLER, BRANDON & HEATHER M JT	1337 W 1800 NORTH	PLEASANT GROVE	UT	84062
787	MILLER, CLAYTON L & MICHELE	1243 W 1800 NORTH	PLEASANT GROVE	UT	84062
788	MILLER, JAMES R	3826 S 2300 EAST	SALT LAKE CITY	UT	84109
789	MILLER, KENDALL C	63 PELICAN DR	RUPERT	ID	83350
790	MILLER, LUTHER & DARLA J JT	2224 N 600 WEST	PLEASANT GROVE	UT	84062
791	MILLER, LYNN G & CHERRI H JT	1786 N 1200 WEST	PLEASANT GROVE	UT	84062
792	MILLET, MICHAEL B & DIXIE F JT	1454 E 1000 SOUTH	PLEASANT GROVE	UT	84062
793	MILLETT, KENNETH E & MARGARET JT	490 S 1100 EAST	PLEASANT GROVE	UT	84062
794	MINER, VINSON	952 W 270 SOUTH #102	PLEASANT GROVE	UT	84062
795	MIRA CONDOMINIUMS DEVELOPMENT LLC	1038 SILVERANCH DR	GARDNERVILLE	NV	89460
796	MIRAGLIA, STEPHEN J	986 W 270 SOUTH #102	PLEASANT GROVE	UT	84062
797	MISDOM, LEE & JERI L JT	1704 W 1060 NORTH	PLEASANT GROVE	UT	84062
798	MITCHELL, VONE J & GLENDA G	384 E 300 SOUTH	PLEASANT GROVE	UT	84062
799	MIYA, JAY	4211 MICHAEL AV	LOS ANGELES	CA	90066
800	MKPM PROPERTIES LLC	870 W 410 NORTH	LINDON	UT	84042
801	MONSON, ELSIE W	3971 CANYON RD	PLEASANT GROVE	UT	84062
802	MONSON, MARK S	986 W 270 SOUTH #204	PLEASANT GROVE	UT	84062
803	MONSON, MICHAEL VAL	9573 CANYON RD	PLEASANT GROVE	UT	84062
804	MONSON, ROSS E & GLORIA D JT	9561 CANYON RD	PLEASANT GROVE	UT	84062
805	MONTOYA, DAVID E & ERENDIRA M JT	770 GROVE CREEK DR	PLEASANT GROVE	UT	84062
806	MOON, JONATHAN D & RICHELLE E JT	3636 LITTLE ROCK DR	PROVO	UT	84604
807	MOORE, BONNIE	PO BOX 22268	SALT LAKE CITY	UT	84122
808	MOORE, EDWARD A & HILLARY J ET AL	698 W 2600 NORTH	PLEASANT GROVE	UT	84062
809	MOORE, KEVIN L & COURTNEY JT	1146 MUSTANG LN	LEHI	UT	84045
810	MOORE, RICHARD E & FAYE L	555 W 2600 NORTH	PLEASANT GROVE	UT	84062
811	MORGAN, JUSTIN & STEPHANIE JT	87 N 1620 WEST	PLEASANT GROVE	UT	84062
812	MORGAN, STEPHANIE	75 N 1620 WEST	PLEASANT GROVE	UT	84062
813	MORRISON, WILLIAM M & SHEILA JT	3284 N 1450 WEST	PLEASANT GROVE	UT	84062
814	MORSE, ANTHONY T & DEIDREY JT	4262 N 900 WEST	PLEASANT GROVE	UT	84062
815	MORTENSEN, SIDNEY G & JANICE JT	1466 E 1000 SOUTH	PROVO	UT	84606
816	MOULTON, RALPH R & ALIDA E TEE	PO BOX 319	PLEASANT GROVE	UT	84062
817	MOUNTAIN EXPANSION LLC	583 N 1100 EAST	AMERICAN FORK	UT	84003
818	MOWER, DOUGLAS R ET AL	820 N 1300 WEST	PLEASANT GROVE	UT	84062
819	MOWER, NATHAN N & CAROLYN G JT	2247 N 1300 WEST	PLEASANT GROVE	UT	84062
820	MUHLESTEIN, DANIEL H & LA NAE JT	787 N 400 EAST	LINDON	UT	84042
821	MUNDAY, CHRISTOPHER B & LOUIS JT	812 W 4230 NORTH	PLEASANT GROVE	UT	84062
822	MUNICIPAL BUILDING AUTHORITY OF PLEA	70 S 100 EAST	PLEASANT GROVE	UT	84062
823	MURDOCK, GARY L & DEBRA A JT	660 W STATE RD	PLEASANT GROVE	UT	84062
824	MURIE, BENNY & LINDA JT	1135 N 100 EAST	PLEASANT GROVE	UT	84062
825	MURPHY, WAYNE C & KONNIE JT	517 E 300 SOUTH	PLEASANT GROVE	UT	84062
826	MYLER, LISA R	1278 S 800 EAST	OREM	UT	84097
827	MYLROIE, MICHAEL W & DANIELLE JT	497 N 1300 WEST	PLEASANT GROVE	UT	84062
828	NAUMANN, GUILLERMO & JOAN JT	106 W 725 NORTH	LINDON	UT	84042
829	NAUMANN, STERLING W & KELLIE JT	1779 N 390 WEST	PLEASANT GROVE	UT	84062
830	NAVARRO, RICARDO	494 E 200 SOUTH	PLEASANT GROVE	UT	84062
831	NEHRING, CARSON D & KARIN P	1015 N 600 WEST	PLEASANT GROVE	UT	84062
832	NELSON, DALLIN B & AMY M JT	1308 W 2600 NORTH	PLEASANT GROVE	UT	84062
833	NELSON, DENNIS K & SHERRI JT	114 E 2150 NORTH	PLEASANT GROVE	UT	84062
834	NELSON, DUANE	3214 N UNIVERSITY AV #116	PROVO	UT	84604
835	NEMROW, SCOTT	1951 N 100 EAST	PLEASANT GROVE	UT	84062
836	NFSCO PROPERTIES LLC	PO BOX 1138	PLEASANT GROVE	UT	84062
837	NICHOLS, DANIEL L	1451 E 1000 SOUTH	PLEASANT GROVE	UT	84062
838	NICHOLSON, TERRENCE D & NANCY JT	1206 W 3300 NORTH	PLEASANT GROVE	UT	84062
839	NICKELL, DARYLENE B & KENNETH TEE	965 W 2600 NORTH	PLEASANT GROVE	UT	84062
840	NICOL, SCOTT & SUE JT	9850 CANYON RD	PLEASANT GROVE	UT	84062



841	NIELSEN, DOUGLAS R & HOLLY M JT	4392 CANYON RD	PLEASANT GROVE	UT	84062
842	NIELSEN, L JAY	241 N VINE ST #1206	SALT LAKE CITY	UT	84103
843	NIELSEN, RICHARD P ET AL	1455 S STATE ST #B	OREM	UT	84097
844	NIELSON, ANDREW J	175 S 1300 WEST	PLEASANT GROVE	UT	84062
845	NIELSON, DARRIN ET AL	3654 PAIGE LN	CEDAR HILLS	UT	84062
846	NIELSON, JAMES R & MARY E TEE	2124 N 600 WEST	PLEASANT GROVE	UT	84062
847	NIELSON, KEITH R & LAURA E JT	1135 W 1800 NORTH	PLEASANT GROVE	UT	84062
848	NOAH CORPORATION	1716 W 1825 NORTH	PROVO	UT	84604
849	NOAH CORPORATION	1441 UTE BLVD #100	PARK CITY	UT	84098
850	NORMAN, JAMES M & VERNA H JT	1386 E 1000 SOUTH	PLEASANT GROVE	UT	84062
851	NORTON INVESTMENT COMPANY	627 GROVE CIR	ALPINE	UT	84004
852	NUTTALL, RONALD D & BIRGITTA JT	9645 N 8000 WEST	LEHI	UT	84043
853	O DONNELL, ADELAIDE	PO BOX 227	PLEASANT GROVE	UT	84062
854	OBERHANSLEY, GARTH H & CHERYL JT	929 W 670 SOUTH #8	PLEASANT GROVE	UT	84062
855	OCKEY, PAUL TEE	812 VINE CREEK CIR	SALT LAKE CITY	UT	84107
856	OFFER, JENNIE L	119 E BATTLE CREEK DR	PLEASANT GROVE	UT	84062
857	OGDEN, KRISTOL M & SAMUEL P JT	1561 W 80 SOUTH	PLEASANT GROVE	UT	84062
858	OLIPHANT, JAMES R & MARYLIN	1011 W 2600 NORTH	PLEASANT GROVE	UT	84062
859	OLSEN, ARTHUR G & DELMA K	1977 N 1300 WEST	PLEASANT GROVE	UT	84062
860	OLSEN, GARY	735 N 1300 WEST	PLEASANT GROVE	UT	84062
861	OLSEN, GARY G & REBECCA L ET JT	35 W 725 NORTH	LINDON	UT	84042
862	OLSEN, GORDON L & MELODY A JT	9757 CANYON RD	PLEASANT GROVE	UT	84062
863	OLSEN, GORDON L & MELODY B JT	4209 CANYON RD	PLEASANT GROVE	UT	84062
864	OLSEN, SHAUN D & RACHEL K JT	354 S 420 EAST	PLEASANT GROVE	UT	84062
865	OLSEN, VERLYN L & BETH L TEE	350 E 300 SOUTH	PLEASANT GROVE	UT	84062
866	OLSON, LINDA M TEE	45 S 1100 EAST	AMERICAN FORK	UT	84003
867	OLSON, R KIM & BARI L TEE	691 W 4000 NORTH	PLEASANT GROVE	UT	84062
868	ORSO, LINDA	PO BOX 252	PLEASANT GROVE	UT	84062
869	ORTON, HOWARD & O HOWARD AKA	970 E 900 SOUTH	PLEASANT GROVE	UT	84062
870	ORTON, MARK W & ROBIN L JT	1114 N 1270 EAST	AMERICAN FORK	UT	84003
871	ORTON, SEAN & TINA JT	1927 GLENDON CIR	PLEASANT GROVE	UT	84062
872	ORTON, STERLING W & CONNIE R JT	1204 W 3420 NORTH	PLEASANT GROVE	UT	84062
873	ORVIS, VICTOR R & LINDA L ET JT	305 SUMMERWOOD DR	BOUNTIFUL	UT	84010
874	OSBORNE, BOBBY W & HEATHER P JT	680 W 2000 NORTH	PLEASANT GROVE	UT	84062
875	OSBORNE, BOBBY W & HEATHER P JT	146 E 100 SOUTH	AMERICAN FORK	UT	84003
876	OSCARSON, ROBERT A & BETTY JT	89 S 800 EAST	PLEASANT GROVE	UT	84062
877	OSMOND DEVELOPMENT LLC	9611 OLD ORCHARD LN	CEDAR HILLS	UT	84062
878	OVALLE, HECTOR	309 S 100 EAST	PLEASANT GROVE	UT	84062
879	OVERLY, BRAD W & MARY P TEE	1442 W 3300 NORTH	PLEASANT GROVE	UT	84062
880	PACE, DARLENE LA REE ET AL TEE	1010 W 1800 NORTH	PLEASANT GROVE	UT	84062
881	PACE, SANDRA D ET AL TEE	93 E CENTER ST	PLEASANT GROVE	UT	84062
882	PACIFICORP	1407 W NORTH TEMPLE #110	SALT LAKE CITY	UT	84116
883	PACK, ERVIN E & BARBARA M JT	1260 W 1800 NORTH	PLEASANT GROVE	UT	84062
884	PACK, GLEN A & RENEE J	2335 N 1150 WEST	PLEASANT GROVE	UT	84062
885	PACK, GLEN A & RENEE J	1830 N 1300 WEST	PLEASANT GROVE	UT	84062
886	PACK, HEATHER & BRADFORD JT	1020 N 100 EAST	PLEASANT GROVE	UT	84062
887	PACK, KENNETH E & MARILYN K TEE	2273 N 1300 WEST	PLEASANT GROVE	UT	84062
888	PAJELA, MINA R	1088 E 390 SOUTH	AMERICAN FORK	UT	84003
889	PALACIOS, FLAVIA CAROLINA	1573 W 80 SOUTH	PLEASANT GROVE	UT	84062
890	PALMER, BRUCE W & KAYE T TEE	381 W 800 NORTH	LINDON	UT	84042
891	PALMER, EVAN M & DIANE J	450 S LOCUST AV	PLEASANT GROVE	UT	84062
892	PANKHURST, RICHARD & KRISTIN JT	430 MARMORE RD	CHICO	CA	95928
893	PARK, LILAS LEE	910 N 100 EAST	PLEASANT GROVE	UT	84062
894	PARKINSON, DAVID O ET AL AN INT	265 N COUNTRY MANOR LN	ALPINE	UT	84004
895	PARRISH, LAFE A & JOYCE B ET TEE	1445 E 300 NORTH	AMERICAN FORK	UT	84003
896	PARRY, DOUGLAS C & LINDA H JT	760 N 1300 WEST	PLEASANT GROVE	UT	84062
897	PATTERSON CONSTRUCTION INC ET AL	11009 N 6400 WEST	HIGHLAND	UT	84003
898	PATTERSON, JESSE W & HEATHER JT	159 S PLEASANT GROVE BLVD #19	PLEASANT GROVE	UT	84062
899	PECK, STEVEN L & LORI L JT	1211 E 1000 SOUTH	PLEASANT GROVE	UT	84062
900	PELAYO, MAGDALENA G TEE	111 E 700 SOUTH	PLEASANT GROVE	UT	84062
901	PEN & INK LTD	1199 W 700 SOUTH	PLEASANT GROVE	UT	84062
902	PEREZ, RUBEN & NORMA L JT	90 W 700 SOUTH	PLEASANT GROVE	UT	84062
903	PERKINS, HAL C	2501 N 860 WEST	PLEASANT GROVE	UT	84062
904	PERSONAL PROPERTIES	PO BOX 357	AMERICAN FORK	UT	84003
905	PETERSEN, JOY D	185 N 1630 WEST	PLEASANT GROVE	UT	84062

906	PETERSEN, MARK L & BECKY JT	PO BOX 462	PLEASANT GROVE	UT	84062
907	PETERSEN, VINCE L	1091 N 600 WEST	PLEASANT GROVE	UT	84062
908	PETERSON, FERN C TEE	31130 S GENERAL KEARNY RD #63	TEMECULA	CA	92591
909	PETERSON, JARED W & BARBARADE JT	25 E 700 SOUTH	PLEASANT GROVE	UT	84062
910	PETERSON, JOHN L & JO ANN TEE	1846 MAIN ST	HUNTINGTON BEACH	CA	92648
911	PETERSON, JOSEPH D & PATRICIA JT	1060 N 600 WEST	PLEASANT GROVE	UT	84062
912	PETERSON, MATTHEW T & KIMBERL JT	120 W 725 NORTH	LINDON	UT	84042
913	PETERSON, OREN V & SYLVIA S TEE	1250 W 2600 NORTH	PLEASANT GROVE	UT	84062
914	PETERSON, RON B & BONNIE P JT	1210 N 1300 WEST	PLEASANT GROVE	UT	84062
915	PETERSON, SCOTT & REBECCA JT	986 W 270 SOUTH #303	PLEASANT GROVE	UT	84062
916	PETRONI, CLORINDA CARMEN	375 W 800 NORTH	LINDON	UT	84042
917	PETRONI, SILVIA L	393 W 800 NORTH	LINDON	UT	84042
918	PETRONI, WALTER SANTIAGO	369 W 800 NORTH	LINDON	UT	84042
919	PETTY, CRAIG & TIFFANY JT	355 N 100 EAST	PLEASANT GROVE	UT	84062
920	PG VILLAS LLC	65 E 1250 NORTH	AMERICAN FORK	UT	84003
921	PGALF LLC	563 W 500 SOUTH #250	BOUNTIFUL	UT	84010
922	PHELON, KATHRYN R TEE	1040 E 900 SOUTH	PLEASANT GROVE	UT	84062
923	PHELON, KEVIN M & BECKIE D JT	759 E 200 SOUTH	PLEASANT GROVE	UT	84062
924	PHILLIPS, DAVID O ET AL	2009 N 1300 WEST	PLEASANT GROVE	UT	84062
925	PILCH, JOSHUA & JENNIFER ET A JT	91 N 1620 WEST	PLEASANT GROVE	UT	84062
926	PINCOCK, DAVID W & MICKEY J JT	1692 N 70 EAST	PLEASANT GROVE	UT	84062
927	PINNACLE HOMES AND DEVELOPMENT LLC	479 W 30 NORTH	AMERICAN FORK	UT	84003
928	PINNACLE POINT L.C.	1846 MAIN ST	HUNTINGTON BEACH	CA	92648
929	PITCHER, ADAM & CHERI JT	1726 W 1060 NORTH	PLEASANT GROVE	UT	84062
930	PITTS, STEVEN L	4200 N 650 EAST	PROVO	UT	84604
931	PLATT, JOSEPHINE	339 E 300 SOUTH	PLEASANT GROVE	UT	84062
932	PLEASANT DEVELOPMENT LLC	574 S STATE ST	OREM	UT	84058
933	PLEASANT GROVE DEVELOPMENT PARTNERS	304 S MAIN ST	CENTERVILLE	UT	84014
934	PLEASANT GROVE PLAZA LC	200 WILMOT RD	DEERFIELD	IL	60015
935	PLEASANT SPRINGS LLC	8058 BARNWOOD WAY	SANDY	UT	84094
936	POLLMANN, RAY D & ANNE JT	466 W 1800 NORTH	PLEASANT GROVE	UT	84062
937	PONT, LANE M & SAMANTHA JT	190 N 100 EAST	PLEASANT GROVE	UT	84062
938	PONTIOUS, TIMOTHY & NANCY	472 W 2600 NORTH	PLEASANT GROVE	UT	84062
939	POPE, CHAD L & ANGIE B	132 W 1800 NORTH	PLEASANT GROVE	UT	84062
940	PORTER, PAUL E & DENICE T JT	495 E 300 SOUTH	PLEASANT GROVE	UT	84062
941	PORTER, TROY & AMY JT	820 N 1300 WEST	PLEASANT GROVE	UT	84062
942	POWELL, MICHAEL & REAGAN JT	1535 W 80 SOUTH	PLEASANT GROVE	UT	84062
943	PRENTICE, TOM & BONNIE L JT	620 W 1800 NORTH	PLEASANT GROVE	UT	84062
944	PRICE, DARRYN M	2711 KINGS FOREST DR	KINGWOOD	TX	77339
945	PRICE, JOEL & ABAGAIL JT	2588 N 600 WEST	PLEASANT GROVE	UT	84062
946	PROCTOR, R RAY & JOY R TEE	90 S PROCTOR LA	PLEASANT GROVE	UT	84062
947	PROCTOR, ROBERT R & JOY JT	90 S 1300 WEST	PLEASANT GROVE	UT	84062
948	PROCTOR, THOMAS R & AFTON P JT	230 S 1300 WEST	PLEASANT GROVE	UT	84062
949	PROFESSIONAL PLAZA AT THE GROVE LLC	220 S PLEASANT GROVE BLVD	PLEASANT GROVE	UT	84062
950	PROVO LAND EXCHANGE II LC	255 E 100 SOUTH	PROVO	UT	84606
951	QUIK FIX INC	7356 N 6500 WEST	AMERICAN FORK	UT	84003
952	QUINTERO, ROBERT A & HILLARY JT	902 W 260 SOUTH	PLEASANT GROVE	UT	84062
953	R J ESTATES LLC	775 REDFORD DR	PROVO	UT	84604
954	R W INVESTMENT LLC	115 N GENEVA RD	OREM	UT	84057
955	R.A.D. INVESTMENTS LTD UTAH LIMITED	55 E CENTER ST	PLEASANT GROVE	UT	84062
956	RADMALL, MELVIN R & DENISE D	360 N 500 EAST	AMERICAN FORK	UT	84003
957	RAFF, DAYNE	1974 W 1500 NORTH	LEHI	UT	84043
958	RAFINER, LARRRY L & JOLENE W JT	371 E 500 SOUTH	PLEASANT GROVE	UT	84062
959	RAGAN, SHERRY E ET AL	637 N 1010 WEST	PLEASANT GROVE	UT	84062
960	RAI CORPORATION ET AL AN INT	210 N PRESTON DR	ALPINE	UT	84004
961	RAMESON, TAMERA B & RICHARD M JT	1736 N 70 EAST	PLEASANT GROVE	UT	84062
962	RAMOS, LOURDES	3454 MIRROR CIR	SARATOGA SPRINGS	UT	84045
963	RAPIER, RYAN & ADRA R JT	1809 GARDEN DR	PLEASANT GROVE	UT	84062
964	RASBAND, RYAN D & REVA J JT	4625 FERGUSON WAY	CEDAR HILLS	UT	84062
965	RASMUSSEN, DENNIS A & SANDRA TEE	864 S 1150 EAST	PLEASANT GROVE	UT	84062
966	RASMUSSEN, MILTON K & CHERYL JT	1524 W 1800 NORTH	PLEASANT GROVE	UT	84062
967	RAWLINGS, JAN LORIS	147 E 400 NORTH	PLEASANT GROVE	UT	84062
968	RDF PROPERTIES LLC ET AL	10568 N 5900 WEST	HIGHLAND	UT	84003
969	REASON, MICHAEL A	121 E 1500 NORTH	PLEASANT GROVE	UT	84062
970	REBER, ROBERT J	325 S 100 EAST	PLEASANT GROVE	UT	84062

971	REDWING PROPERTIES LLC	11019 N 5500 WEST	HIGHLAND	UT	84003
972	RENAISSANCE AT INDIAN SPRINGS HOMEOW	1391 RENAISSANCE PL	PLEASANT GROVE	UT	84062
973	RENSHAW, LANCE G	349 E 280 SOUTH	ALPINE	UT	84004
974	RENSHAW, STEPHEN R & JOSLYN JT	2725 CANYON RD	PLEASANT GROVE	UT	84062
975	REYNOLDS, DAVID J & JULIE A JT	1042 W 500 NORTH	PLEASANT GROVE	UT	84062
976	RHA COMMUNITY SERVICES OF UTAH INC	3060 W PEACHTREE RD #1150	ATLANTA	GA	30305
977	RICHARDS, MONICA H & DAVID M JT	402 S 420 EAST	PLEASANT GROVE	UT	84062
978	RICHARDSON, GREGORY L & HOLLY JT	882 W 2800 NORTH	PLEASANT GROVE	UT	84062
979	RICHINS, IDONNA E	542 W 2600 NORTH	PLEASANT GROVE	UT	84062
980	RICHMITCH PROPERTIES LLC	695 W STATE RD	PLEASANT GROVE	UT	84062
981	RICKERS, ED	372 N 1130 EAST	LINDON	UT	84042
982	RIGGS, JOSEPH W	2337 N 1050 WEST	PLEASANT GROVE	UT	84062
983	RIGHTSELL, JIMMY L & COLLEEN JT	65 N 100 EAST	PLEASANT GROVE	UT	84062
984	RIRIE, CRAIG M & BECKY A JT	141 W 2600 NORTH	PLEASANT GROVE	UT	84062
985	RJJ INVESTMENTS LC	492 S 250 WEST	PLEASANT GROVE	UT	84062
986	RLK PROPERTIES L.C.	570 W 100 SOUTH	LINDON	UT	84042
987	RMAK HOLDINGS LLC	10245 DOWNING DR	CEDAR HILLS	UT	84062
988	ROBBINS, TYRAN J & KRISTEN B JT	717 W 2240 NORTH	PLEASANT GROVE	UT	84062
989	ROBERTS, KONNIE	2931 N 1130 WEST	PLEASANT GROVE	UT	84062
990	ROBERTSON, JOHN M & C KAIRA JT	317 E 1640 NORTH	PLEASANT GROVE	UT	84062
991	ROBINSON, GARY N & TRACIE R JT	54 W 1800 NORTH	PLEASANT GROVE	UT	84062
992	ROBINSON, GENE B & KAREN T JT	PO BOX 1832	OREM	UT	84059
993	ROBINSON, JAY K & JEAN B JT	375 PAHVANT DR	RICHFIELD	UT	84701
994	ROBINSON, JEFFERY L & EILEEN JT	998 W 2600 NORTH	PLEASANT GROVE	UT	84062
995	ROBISON, JASON & AUBREY JT	963 W 670 SOUTH #16	PLEASANT GROVE	UT	84062
996	ROCKY MOUNTAIN WELDING HOLDING LC	PO BOX 397	PLEASANT GROVE	UT	84062
997	RODDA, LORELL L	4004 SAWGRASS	CEDAR HILLS	UT	84062
998	ROGERS, DONALD R & WENDY S JT	7300 BEIJING PL	DULLES	VA	20189
999	ROHMER, BRETT F & KAY W	1830 N 1300 WEST	PLEASANT GROVE	UT	84062
1000	ROMERO, CYNTHIA D	613 N 600 WEST	AMERICAN FORK	UT	84003
1001	RONALD P FAKLER FAMILY LIMITED PARTN	2572 STONEBURY LOOP RD	SPRINGVILLE	UT	84663
1002	ROSS, JACOB & MELANIE JT	838 E 500 NORTH	AMERICAN FORK	UT	84003
1003	ROTHER, EDGAR F & LU ANN	1362 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1004	ROTHER, RUTH H ET AL TEE	1432 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1005	ROUNDY, MICHAEL & BECKY JT	4554 CANYON RD	PLEASANT GROVE	UT	84062
1006	ROUTSONG, NATHAN & TARA JT	3647 PAIGE LN	CEDAR HILLS	UT	84062
1007	ROWLEY, DENNIS E & DENICE C ET AL	128 S 100 WEST	AMERICAN FORK	UT	84003
1008	ROWLEY, GRANT A	695 W 1285 NORTH	OREM	UT	84057
1009	RSP LTD	PO BOX 345	PLEASANT GROVE	UT	84062
1010	RUIZ, CHRIS D & ANITA ET AL JT	1161 W 1800 NORTH	PLEASANT GROVE	UT	84062
1011	RUIZ, MIGUEL	1365 W 50 NORTH	PLEASANT GROVE	UT	84062
1012	S & T PROPERTIES LC	897 W 2225 SOUTH	WOODS CROSS	UT	84087
1013	SADERUP, BRUCE	1156 ALTON WAY	SALT LAKE CITY	UT	84108
1014	SADLER, SHELDON M	355 W 3340 NORTH	PLEASANT GROVE	UT	84062
1015	SAGE, TERRY M & ELEANOR L TEE	660 W STATE RD	PLEASANT GROVE	UT	84062
1016	SAGER, D LORRAINE ET AL	357 N 950 EAST	AMERICAN FORK	UT	84003
1017	SALMON, DAVID C	1555 N 150 EAST	PLEASANT GROVE	UT	84062
1018	SAMPSON, DALE W & CYNTHIA D JT	410 S LOCUST AV	PLEASANT GROVE	UT	84062
1019	SAMPSON, HELEN	95 N 1620 WEST	PLEASANT GROVE	UT	84062
1020	SANFORD, CHRISTEL B TEE	13478 OAKRIDGE DR	ALPINE	UT	84004
1021	SANTAI MEHRIZY, REZA ET AL	1087 N 1050 EAST	OREM	UT	84097
1022	SAPP, GREGORY L & JAYNE A JT	365 E 300 SOUTH	PLEASANT GROVE	UT	84062
1023	SARGENT, HAROLD	112 E 700 SOUTH	PLEASANT GROVE	UT	84062
1024	SAVAGE, LARAE T	9093 CANYON HEIGHTS DR	CEDAR HILLS	UT	84062
1025	SAVAGE, NEAL & LA RAE ET AL	6340 S 3000 EAST #600	SALT LAKE CITY	UT	84121
1026	SAVAGE, NEAL & T LUKE ET AL	6340 S 3000 EAST #600	SALT LAKE CITY	UT	84121
1027	SCHAEFER, DARIN S & GRACE S JT	1865 N 100 EAST	PLEASANT GROVE	UT	84062
1028	SCHMUHL, SANDRA L	91 E 700 SOUTH	PLEASANT GROVE	UT	84062
1029	SCHOUTEN, DAVID J	641 N 1300 WEST	PLEASANT GROVE	UT	84062
1030	SCHOW'S RANCHETTE FAMILY LIMITED PAR	2445 CANYON RD	PLEASANT GROVE	UT	84062
1031	SCHOW, ROBERT	3548 NORTH 900 WEST	PLEASANT GROVE	UT	84062
1032	SCHOW, CRAIG W & SUSAN M JT	2547 N 100 EAST	PLEASANT GROVE	UT	84062
1033	SCHRAM, MATTHEW & ANAHI JT	295 N 100 EAST	PLEASANT GROVE	UT	84062
1034	SCOTT, KAY LAMAR	931 W 1800 NORTH	PLEASANT GROVE	UT	84062
1035	SCOTT, RONALD E & ANNA M JT	2148 N 1300 WEST	PLEASANT GROVE	UT	84062

1036	SCS INVESTMENTS LLC	PO BOX 1043	PLEASANT GROVE	UT	84062
1037	SEARLE, L KENT & LUANA G TEE	40 E 1120 NORTH	AMERICAN FORK	UT	84003
1038	SEDIVY, PATRICK & ALLYSE JT	2105 TUSCANY WAY	PLEASANT GROVE	UT	84062
1039	SHADYWOOD LLC	6084 S 900 EAST #202	SALT LAKE CITY	UT	84121
1040	SHARDLOW, PAULA JANIECE	2566 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1041	SHAW, JONATHAN & STEPHANIE V JT	283 N 960 EAST	PLEASANT GROVE	UT	84062
1042	SHELLEY, BRIAN G & GINA L JT	270 W 1800 NORTH	PLEASANT GROVE	UT	84062
1043	SHELLEY, KRISTINA L & AARON K JT	9804 CANYON RD	PLEASANT GROVE	UT	84062
1044	SHEPHERD, PAUL & SANDY	538 S LOCUST AV	PLEASANT GROVE	UT	84062
1045	SHEPHERD, RODNEY & CAROLYN	540 E 500 NORTH	LINDON	UT	84042
1046	SHILL, MATTHEW P & JUBALEN JT	3688 N 1270 WEST	PLEASANT GROVE	UT	84062
1047	SHOELL, JOHN F & MARIANNE T	73 E 1200 NORTH	PLEASANT GROVE	UT	84062
1048	SHUMSON PROPERTIES LLC	915 S 500 EAST #100	AMERICAN FORK	UT	84003
1049	SHUMWAY, KAY G & LINDA JT	120 E 700 SOUTH	PLEASANT GROVE	UT	84062
1050	SHURTLIFF, DONALD C & JOAN TEE	9027 FERNDALE AV	FONTANA	CA	92335
1051	SIBLEY, TROY R & CANDACE C JT	1385 N MURDOCK DR	PLEASANT GROVE	UT	84062
1052	SIDDOWAY, WILLIAM R & NILA TEE	672 E 900 SOUTH	PLEASANT GROVE	UT	84062
1053	SIDING GUYS INC THE	PO BOX 50624	PROVO	UT	84605
1054	SILVER CREEK DEVELOPMENT GROUP L.L.C	3651 N 100 EAST #350	PROVO	UT	84604
1055	SIPE, DAVID A ET AL	180 MAPLE LN	PLEASANT GROVE	UT	84062
1056	SJA PROPERTIES LC UTAH LLC	330 S MAIN ST	PLEASANT GROVE	UT	84062
1057	SKPC INC	3548 N 900 WEST	PLEASANT GROVE	UT	84062
1058	SLADE, RYAN L	134 W 725 NORTH	LINDON	UT	84042
1059	SMART, JOYCE M & JOYCE M ET A TEE	201 S MAIN ST #1100	SALT LAKE CITY	UT	84111
1060	SMART, SIDNEY L & KAREN B JT	9775 N 4000 WEST	PLEASANT GROVE	UT	84062
1061	SMITH, BETTY J & DON L TEE	371 E 700 NORTH	PLEASANT GROVE	UT	84062
1062	SMITH, CLAYN R & KAREN O JT	1822 TUSCANY WAY	PLEASANT GROVE	UT	84062
1063	SMITH, CLAYTON R & MISTY K JT	155 MAPLE LN	PLEASANT GROVE	UT	84062
1064	SMITH, COLLEEN MARY TEE	591 N 600 WEST	PLEASANT GROVE	UT	84062
1065	SMITH, CRAIG H & LINDA D JT	1690 N 100 EAST	PLEASANT GROVE	UT	84062
1066	SMITH, DAVID K & JANET S	635 E 1000 SOUTH	PLEASANT GROVE	UT	84062
1067	SMITH, GARRETT B & HOLLY M JT	2162 VERONA CIR	PLEASANT GROVE	UT	84062
1068	SMITH, GLENN B & KATHY R TEE	471 W 2600 NORTH	PLEASANT GROVE	UT	84062
1069	SMITH, JAMES G & DOROTHY H TEE	1121 GROVE CREEK DR	PLEASANT GROVE	UT	84062
1070	SMITH, JERRY	135 W CENTER	PLEASANT GROVE	UT	84062
1071	SMITH, JERRY P & BARBARA J TEE	448 W 2900 NORTH	PLEASANT GROVE	UT	84062
1072	SMITH, JERRY P & BARBARA J ET TEE	224 S MAIN ST #456	SPRINGVILLE	UT	84663
1073	SMITH, MINDY	952 W 270 SOUTH #201	PLEASANT GROVE	UT	84062
1074	SMITH, PAUL C	501 E 300 SOUTH	PLEASANT GROVE	UT	84062
1075	SMITH, SCOTT LEROY ET AL	2920 ROBINWOOD DR	TAYLORSVILLE	UT	84118
1076	SMITH, STANLEY B & MARY K JT	362 N 2000 WEST	PLEASANT GROVE	UT	84062
1077	SMITH, TARA J & JASON P TEE	2071 N 1300 WEST	PLEASANT GROVE	UT	84062
1078	SMITH, WADE R & PATRICIA JT	1786 N 270 WEST	PLEASANT GROVE	UT	84062
1079	SMITHS FOOD & DRUG CENTERS INC	3336 E 32ND ST #217	TULSA	OK	74135
1080	SMOOT, ROBERT S & GAYLIA A TEE	1436 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1081	SNELL, JOY B TEE	765 W 2600 NORTH	PLEASANT GROVE	UT	84062
1082	SNYDER, GARY & LYNETTE TEE	2966 W 880 NORTH	PROVO	UT	84601
1083	SOFOIFA, MARLON E & SANDRA K JT	1122 N 1300 WEST	PLEASANT GROVE	UT	84062
1084	SOLARI, PATRICIA OSWOOD	PO BOX 5628	OROVILLE	CA	95966
1085	SORENSEN, RODNEY S & REBECCA JT	1884 GLENDON CIR	PLEASANT GROVE	UT	84062
1086	SORENSEN, SHANE D & CHRISTINE A	375 S LOCUST AV	PLEASANT GROVE	UT	84062
1087	SORENSEN, WESLEY R & PAMELA E JT	803 W 1500 NORTH	PLEASANT GROVE	UT	84062
1088	SORENSEN, B DONALD & MARILYN JT	884 N 600 WEST	PLEASANT GROVE	UT	84062
1089	SOUTHAM, LESLIE R & NANCY A ET AL	450 W STATE RD	PLEASANT GROVE	UT	84062
1090	SOUTHWORTH, LARRY & MARTY JT	3805 VALLEY VIEW DR	CEDAR HILLS	UT	84062
1091	SPINAL REHAB PROPERTIES LLC	9472 AZTEC DR	CEDAR HILLS	UT	84062
1092	SRM REAL ESTATE LLC	1151 CEDAR RIDGE RD	LEHI	UT	84043
1093	STAKER, SCOTT	690 S 50 WEST	PLEASANT GROVE	UT	84062
1094	STANGER, MARK T & JENNY L JT	968 APPLE GROVE LN	PLEASANT GROVE	UT	84062
1095	STAPLETON, HEATHER & ROBERT B JT	929 W 670 SOUTH #5	PLEASANT GROVE	UT	84062
1096	STAR 6 CONSTRUCTION LLC	986 E 1480 NORTH	AMERICAN FORK	UT	84003
1097	STEINAKER, JOHN & MARY JT	149 S 950 EAST	PLEASANT GROVE	UT	84062
1098	STEPHENS, TIM A	5725 W 9600 NORTH	HIGHLAND	UT	84003
1099	STEPHENSON, JOHN	365 W 800 NORTH	LINDON	UT	84042
1100	STEVENS, BRIAN W & SARI K JT	1560 W 1800 NORTH	PLEASANT GROVE	UT	84062

1101	STEVENS, BRYCE & KRISTA JT	640 W 2100 NORTH	PLEASANT GROVE	UT	84062
1102	STEVENS, EARL W & LORI A JT	1322 W 2100 NORTH	PLEASANT GROVE	UT	84062
1103	STEVENS, MARK DEVERL JR ET AL	1316 W 540 NORTH	PLEASANT GROVE	UT	84062
1104	STEVENS, ROBERT K & THEA L TEE	1901 N 100 EAST	PLEASANT GROVE	UT	84062
1105	STEWART, CHARLES W & KELLY L TEE	854 E 1100 SOUTH	AMERICAN FORK	UT	84003
1106	STEWART, WILLIAM D & JANET K JT	9473 CANYON RD	PLEASANT GROVE	UT	84062
1107	STILL, JUDITH A	320 N 100 EAST	PLEASANT GROVE	UT	84062
1108	STIRLING, DAVID N	2449 N 600 WEST	PLEASANT GROVE	UT	84062
1109	STODDARD, CURTIS K & NANCY L JT	5425 SE BYRON DR	PORTLAND	OR	97267
1110	STORY, KEITH D & JOYCE L TEE	1080 E 900 SOUTH	PLEASANT GROVE	UT	84062
1111	STOTT, PETER A & MARIE A JT	516 E 200 SOUTH	PLEASANT GROVE	UT	84062
1112	STRATTON, KEN	9736 N 4800 WEST	AMERICAN FORK	UT	84003
1113	STRAY INVESTMENTS LLC	12712 WHISPER BEND DR	DRAPER	UT	84020
1114	STREET, DON EDWIN	195 N 850 EAST	PLEASANT GROVE	UT	84062
1115	STUBBS, CHAD M	1913 GLENDON CIR	PLEASANT GROVE	UT	84062
1116	STUHLMACHER, LA FAITH TEE	PO BOX 1196	AMERICAN FORK	UT	84003
1117	SUN, ANGEL	1530 GOUGH ST #303	SAN FRANCISCO	CA	94109
1118	SUNDANCER HOLDINGS LLC	3376 MAGIC VIEW DR	SALT LAKE CITY	UT	84121
1119	SUNDERLAND, DAVID W & NIKKI	986 W 270 SOUTH #304	PLEASANT GROVE	UT	84062
1120	SUOJANEN, KARI T & KRISTY L JT	9547 CANYON RD	CEDAR HILLS	UT	84062
1121	SUOJANEN, KARI T & KRISTY L TEE	9541 CANYON RD	PLEASANT GROVE	UT	84062
1122	SUTCH, ROBERT L & CYNTHIA P TEE	752 W 1800 NORTH	PLEASANT GROVE	UT	84062
1123	SUTTON, JAMES & LAURA E JT	180 W 1800 NORTH	PLEASANT GROVE	UT	84062
1124	SWALBERG, JERALDENE	693 E 990 SOUTH	PLEASANT GROVE	UT	84062
1125	SWEET CHARITY INC	211 E 300 SOUTH #212	SALT LAKE CITY	UT	84111
1126	SWENSON, NATHAN B & BRENDA J JT	1315 N 100 EAST	PLEASANT GROVE	UT	84062
1127	SWENSON, SHIRLEY RUTH TEE	301 W 2600 NORTH	PLEASANT GROVE	UT	84062
1128	T B L LLC	1360 W STATE RD	PLEASANT GROVE	UT	84062
1129	T&J COMMERCIAL PROPERTIES LLC	100 E STATE RD	PLEASANT GROVE	UT	84062
1130	TAGGART, TODD B & JULIE K JT	1269 E 100 SOUTH	PLEASANT GROVE	UT	84062
1131	TANNER, BYRON V	518 S 2150 WEST #302	PLEASANT GROVE	UT	84062
1132	TANNER, HOWARD S & PATRICIA A TEE	2858 N 900 WEST	PLEASANT GROVE	UT	84062
1133	TAYLOR, CHRISTINE	940 N 600 WEST	PLEASANT GROVE	UT	84062
1134	TAYLOR, M HARVEY & JANET R JT	175 MAPLE LN	PLEASANT GROVE	UT	84062
1135	TAYLOR, ROBERT D & JANET L JT	1342 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1136	TAYLOR, RODGER L & GERALDINE JT	1075 N 600 WEST	PLEASANT GROVE	UT	84062
1137	TAYLOR, RON & SONDR A JT	2568 RENAISSANCE PL	PLEASANT GROVE	UT	84062
1138	TAYLOR, STEPHEN C & SUE A JT	986 W 270 SOUTH #202	PLEASANT GROVE	UT	84062
1139	TAYLOR, THOMAS J & JEAQUETTA	9367 AVANYU DR	CEDAR HILLS	UT	84062
1140	TEEMSMA, DONALD L & BARBARA A TEE	5534 TRINITY WAY	SAN DIEGO	CA	92120
1141	TEMPLE VIEW MEDICAL COMPLEX L.C.	830 N 2000 WEST	PLEASANT GROVE	UT	84062
1142	TEN BOSCH, SVEN S & LUCINDA C	1505 W 80 SOUTH	PLEASANT GROVE	UT	84062
1143	TERRY, KEITH	2179 N 600 WEST	PLEASANT GROVE	UT	84062
1144	TEUSCHER, BRUCE E & LYNETTE C JT	1778 N 390 WEST	PLEASANT GROVE	UT	84062
1145	THAYER, PHILLIP & STEPHANIE G JT	920 N 100 EAST	PLEASANT GROVE	UT	84062
1146	THAYNE, DENNIS R & KARLA JT	4087 CANYON RD	PLEASANT GROVE	UT	84062
1147	THAYNE, DENNIS R & KARLA ET AL	634 W 4000 NORTH	PLEASANT GROVE	UT	84062
1148	THAYNE, EDITH ANN	385 S MAIN ST	PLEASANT GROVE	UT	84062
1149	THE LYLE J SMART FAMILY LIMITED PART	2511 N 180 WEST	PLEASANT GROVE	UT	84062
1150	THOMAN, DEBRA C	PO BOX 364	PLEASANT GROVE	UT	84062
1151	THOMAS, CHARLES W & MELISSA K JT	1335 W 2180 NORTH	PLEASANT GROVE	UT	84062
1152	THOMAS, DEBRA C SUCTEE	754 W 4000 NORTH	PLEASANT GROVE	UT	84062
1153	THOMAS, LYNDSIE TEE	3968 W 9600 NORTH	PLEASANT GROVE	UT	84062
1154	THOMAS, MICHAEL D & ADRIENNE TEE	2440 N 600 WEST	PLEASANT GROVE	UT	84062
1155	THOMPSON, DARRELL & LORI JT	16 S 600 WEST	LINDON	UT	84042
1156	THOMSON, PHYLLIS POULSON	235 N 100 EAST	PLEASANT GROVE	UT	84062
1157	THORNE, MARGARET A & MARGARET TEE	2344 ARNETTE DR	SALT LAKE CITY	UT	84109
1158	THORNTON, RUSSELL S	2076 N JANICE CIR	PLEASANT GROVE	UT	84062
1159	THORNTON, TY & NATALIA JT	533 N 600 WEST	PLEASANT GROVE	UT	84062
1160	THORNTON, WAYNE L	49 E 700 SOUTH	PLEASANT GROVE	UT	84062
1161	TIMOTHY, WILLIAM A & SUSAN J TEE	745 N 100 EAST	PLEASANT GROVE	UT	84062
1162	TIMP RIDGE DEVELOPMENT INC	65 N 100 EAST	PLEASANT GROVE	UT	84062
1163	TITERA, WILLIAM R TEE	29267 NOTINGHAM CT	WESTLAKE	OH	44145
1164	TKM REAL ESTATE LLC	122 E 2000 NORTH	OREM	UT	84057
1165	TOLN, WILLIAM CHRISTOPHER	1233 E 1000 SOUTH	PLEASANT GROVE	UT	84062

1166	TOLMAN, LARRY E & DARLYNN A JT	118 S 1100 EAST	AMERICAN FORK	UT	84003
1167	TOMLINSON, TERRY L & TERRIE L TEE	246 E 800 NORTH	LINDON	UT	84042
1168	TRADITIONAL LIVING LLC	376 E 400 SOUTH #304	SALT LAKE CITY	UT	84111
1169	TRIAD AUTO SALES INC	848 S STATE RD	PLEASANT GROVE	UT	84062
1170	TRIPLE FOCUS LC	1402 W STATE RD	PLEASANT GROVE	UT	84062
1171	TRUONG, THAI & LAURA B JT	9249 CANYON RD	CEDAR HILLS	UT	84062
1172	TUCKETT, GLADE B ET AL	10939 N ALPINE HWY #121PMB	HIGHLAND	UT	84003
1173	TURNER, JARED & CRYSTAL JT	1363 W 2180 NORTH	PLEASANT GROVE	UT	84062
1174	TWIGGS, SCOTT H & CORAL L JT	2035 N 1300 WEST	PLEASANT GROVE	UT	84062
1175	ULLMAN, CHRISTIAN & JENALE JT	1788 N 350 WEST	PLEASANT GROVE	UT	84062
1176	UNICE, JOHN & BARBARA JT	84 W 1800 NORTH	PLEASANT GROVE	UT	84062
1177	UNTHANK, KENNETH L & GWENDOLY TEES	1890 N 100 EAST	PLEASANT GROVE	UT	84062
1178	UNUTOA, ERIC & DORA A JT	1036 W 500 NORTH	PLEASANT GROVE	UT	84062
1179	UNZAGA, HUMBERTO F & LUCIA R JT	2535 CANYON RD	PLEASANT GROVE	UT	84062
1180	UTAH COMMUNITY FEDERAL CREDIT UNION	1900 N CANYON RD	PROVO	UT	84604
1181	UTAH COMMUNITY FEDERAL CREDIT UNION	188 RIVER PARK DR	PROVO	UT	84604
1182	UTAH VALLEY REAL ESTATE LLC	76 N BALD MOUNTAIN DR	ALPINE	UT	84004
1183	VAL WARNICK FAMILY LLC THE	PO BOX 145	MIDWAY	UT	84049
1184	VALENTINE, BRETT & AIRAMINTA JT	575 E 1000 SOUTH	PLEASANT GROVE	UT	84062
1185	VALLEJO, NOEL	10146 N MAPLE CT	CEDAR HILLS	UT	84062
1186	VAN ZANT, DOUGLAS L	9560 N CANYON RD	PLEASANT GROVE	UT	84062
1187	VANDERWILT, CHRISTOPHER B & S JT	1320 W 600 NORTH	PLEASANT GROVE	UT	84062
1188	VELLA, J-MARLAN & CHRISTINA I JT	62 W 725 NORTH	LINDON	UT	84042
1189	VEST, FLOYD & LARRY ET AL TEE	7277 N 4850 WEST	AMERICAN FORK	UT	84003
1190	VILLAGE SQUARE AT PLEASANT GROVE L.C	3575 N 100 EAST #175	PROVO	UT	84604
1191	VINCENT, JEFF L	1625 W 140 NORTH #62	PLEASANT GROVE	UT	84062
1192	VINCENT, STEVEN L & STEPHANIE JT	342 MILLCREEK RD	PLEASANT GROVE	UT	84062
1193	VIROONCHATAPAN, EKAPOP & NITN JT	4986 EL MIRLO DR	OCEANSIDE	CA	92057
1194	VISTA DEL GROVE LEGACY LC	2521 CHERRY GROVE WAY	SOUTH JORDAN	UT	84095
1195	WADLEY DEVELOPMENT CO LLC	2405 W CENTER ST	PROVO	UT	84601
1196	WADLEY, ALEXANDER & NELDA B TEE	2508 CANYON RD	PLEASANT GROVE	UT	84062
1197	WADLEY, ARVIL W & HELEN H TEE	90 N 100 EAST	PLEASANT GROVE	UT	84062
1198	WADLEY, CLIFTON J & MARY R TEE	2362 N 100 EAST	PLEASANT GROVE	UT	84062
1199	WADLEY, DON F & BRENDA B JT	1041 W 4000 NORTH	PLEASANT GROVE	UT	84062
1200	WADSWORTH, ENOCH A	159 S PLEASANT GROVE BLVD #23	PLEASANT GROVE	UT	84062
1201	WAITKEVICH, STEPHEN A	3826 S 2300 EAST	SALT LAKE CITY	UT	84109
1202	WAKAMATSU, NANETTE M & WARREN JT	125 E CENTER ST	PLEASANT GROVE	UT	84062
1203	WALDRON, ANN M	65 N 1620 WEST	PLEASANT GROVE	UT	84062
1204	WALDVOGEL, STACEY B & STACEY B	1013 N 1600 WEST	PLEASANT GROVE	UT	84062
1205	WALKER, BILLY R & PATRICIA JT	2554 N 600 WEST	PLEASANT GROVE	UT	84062
1206	WALKER, CHARLES S & MELISSA S JT	578 S STATE ST	OREM	UT	84058
1207	WALKER, CLARENCE	2195 N 1300 WEST	PLEASANT GROVE	UT	84062
1208	WALKER, JAY R & CAROL H JT	1470 W 1800 NORTH	PLEASANT GROVE	UT	84062
1209	WALKER, KENT W & JILL F TEE	3865 N 900 WEST	PLEASANT GROVE	UT	84062
1210	WALKER, LLOYD J & VERLA T TEE	480 N 100 EAST	PLEASANT GROVE	UT	84062
1211	WALKER, MILDRED C TEE	860 N 100 EAST	PLEASANT GROVE	UT	84062
1212	WALKER, RICHARD M & AMY JT	1246 W 3300 NORTH	PLEASANT GROVE	UT	84062
1213	WALKER, RONALD & VERA D TEE	345 E CENTER ST	LINDON	UT	84042
1214	WALKER, RONALD G & VERA D JT	930 N 100 EAST	PLEASANT GROVE	UT	84062
1215	WALL, KENNETH K & ANGELA JT	1727 W 1060 NORTH	PLEASANT GROVE	UT	84062
1216	WALLENTINE, DAVID A & DIANA TEE	632 N MURDOCK DR	PLEASANT GROVE	UT	84062
1217	WALTERS, DWAYNE C & EVELYN JT	680 S 1300 WEST	PLEASANT GROVE	UT	84062
1218	WALTERS, DWAYNE C & EVELYN F JT	655 S 1300 WEST	PLEASANT GROVE	UT	84062
1219	WALTERS, JOSEPH A & PATSY J TEE	23 W 800 NORTH	PLEASANT GROVE	UT	84062
1220	WANGEMANN, PAUL & VONDA JT	793 N LOCUST AV	LINDON	UT	84042
1221	WANLASS, CHRIS P	4454 CANYON RD	PLEASANT GROVE	UT	84062
1222	WARBURTON'S INC	453 W 700 SOUTH	PLEASANT GROVE	UT	84062
1223	WARBURTON, PAUL B & NINA TEE	1770 N 1520 WEST	PLEASANT GROVE	UT	84062
1224	WARD, DOUGLAS B & DEBORAH R JT	94 W 725 NORTH	LINDON	UT	84042
1225	WARDELL, MARTIN W & LINDA M JT	9730 CANYON RD	CEDAR HILLS	UT	84062
1226	WARNER, DIANE S TEE	9675 CANYON RD	CEDAR HILLS	UT	84062
1227	WARNICK, BRYSON J & EMILY K JT	80 S 1485 WEST	PLEASANT GROVE	UT	84062
1228	WARNICK, CARL F & JUNE W JT	1136 W 3300 NORTH	PLEASANT GROVE	UT	84062
1229	WARNICK, DOUGLAS R & SHARON R JT	2552 N 860 WEST	PLEASANT GROVE	UT	84062
1230	WARNICK, JACQUELYN W	3277 N 1450 WEST	PLEASANT GROVE	UT	84062

1231	WARNICK, KENT E & SHELLIE L JT	1309 W 3300 NORTH	PLEASANT GROVE	UT	84062
1232	WARNICK, KYLE F	1756 N 390 EAST	PLEASANT GROVE	UT	84062
1233	WARNICK, MARK DOUGLAS	1434 W 3300 NORTH	PLEASANT GROVE	UT	84062
1234	WARNICK, PAUL R & LISA P	1492 W 2600 NORTH	PLEASANT GROVE	UT	84062
1235	WARNICK, STEPHEN L & NELDA S JT	1454 W 2600 NORTH	PLEASANT GROVE	UT	84062
1236	WARNICK, THOMAS L & JODI L JT	4438 W 8800 NORTH	AMERICAN FORK	UT	84003
1237	WARNICK, WILLIAM W & DIANA TEE	2785 N 1450 WEST	PLEASANT GROVE	UT	84062
1238	WARNOCK, D CARL & CINDY H JT	1977 W 800 NORTH	PLEASANT GROVE	UT	84062
1239	WARREN, MICHAEL & CHARLENE JT	2415 N 1050 WEST	PLEASANT GROVE	UT	84062
1240	WATERS, MARY L	986 W 270 SOUTH #101	PLEASANT GROVE	UT	84062
1241	WE PROPERTY II LLC	2845 N 900 WEST	PLEASANT GROVE	UT	84062
1242	WEBB, PETER J & FRANKIE T JT	648 E 80 NORTH	AMERICAN FORK	UT	84003
1243	WEBER, ROBBY L & SHELLY JT	2448 N 1300 WEST	PLEASANT GROVE	UT	84062
1244	WELCH, DAVID TEE	1641 W 50 NORTH	PLEASANT GROVE	UT	84062
1245	WELCH, GOLDEN & EMILEE JT	189 N 1630 WEST #70	PLEASANT GROVE	UT	84062
1246	WELLESLEY, CRAIG H & CYNTHIA JT	1393 N 100 EAST	PLEASANT GROVE	UT	84062
1247	WELLS, KENT C & JANET M JT	515 W 2600 NORTH	PLEASANT GROVE	UT	84062
1248	WELLS, ROBERT K	2472 N 600 WEST	PLEASANT GROVE	UT	84062
1249	WEST, DON & HEATHER D JT	345 W 200 SOUTH	PLEASANT GROVE	UT	84062
1250	WEST, KENNETH D & DORORTHY F TEE	910 E 400 NORTH	PLEASANT GROVE	UT	84062
1251	WEST, KERRY J	1842 N 1200 WEST	LEHI	UT	84043
1252	WEST, LANCE C & LESLIE G	397 E 500 SOUTH	PLEASANT GROVE	UT	84062
1253	WEST, LELA M TEE	340 S LOCUST AV	PLEASANT GROVE	UT	84062
1254	WEST, MARY	540 GROVE CREEK DR	PLEASANT GROVE	UT	84062
1255	WEST, PHYLLIS GARLAND TEE	385 E 500 SOUTH	PLEASANT GROVE	UT	84062
1256	WEST, ROYAL J	1090 E 900 SOUTH	PLEASANT GROVE	UT	84062
1257	WEST, ROYAL J	1100 E 900 SOUTH	PLEASANT GROVE	UT	84062
1258	WEST, STEVEN D & DIANE N TEE	200 N 950 EAST	PLEASANT GROVE	UT	84062
1259	WESTROC INC	670 W 220 SOUTH	PLEASANT GROVE	UT	84062
1260	WHALEY, ROBERT J & CHRISTINE JT	67 E 700 SOUTH	PLEASANT GROVE	UT	84062
1261	WHITAKER, CAROL A ET AL	2815 N 1020 WEST	PLEASANT GROVE	UT	84062
1262	WHITAKER, MATTHEW A & CAROL A JT	2816 N 1020 WEST	PLEASANT GROVE	UT	84062
1263	WHITELEY, KAYLON T & JAN JT	791 W 600 NORTH	LINDON	UT	84042
1264	WIGERT, JOHN R ET AL	1467 W 80 SOUTH	PLEASANT GROVE	UT	84062
1265	WILDE, L CLAIR	10641 JACOB ASTOR WAY	SOUTH JORDAN	UT	84095
1266	WILLIAMS, CHRISTOPHER GEORGE VAUGHN	845 N 100 EAST	PLEASANT GROVE	UT	84062
1267	WILLIAMS, DAVID M & ANGIE B JT	361 W 800 NORTH	LINDON	UT	84042
1268	WILLIAMS, KENT S & CHARLENE	1075 N 100 EAST	PLEASANT GROVE	UT	84062
1269	WILLIAMS, MELAYNE W	3810 VALLEY VIEW DR	CEDAR HILLS	UT	84062
1270	WILLIAMSON FARMS L.L.C.	250 BEECHWOOD DR #120	BOISE	ID	83709
1271	WILLIAMSON INVESTMENTS L.C.	168 N 1200 EAST	OREM	UT	84097
1272	WILLIAMSON, ROBERT	445 E STATE RD	PLEASANT GROVE	UT	84062
1273	WILLIAMSON, ROBERT LEON TEE	3531 CANYON RD	PLEASANT GROVE	UT	84062
1274	WILSON, BRUCE J & MARNAE B JT	236 W 310 NORTH	OREM	UT	84057
1275	WILSON, CRIS E & DEBRA C	1752 N 70 EAST	PLEASANT GROVE	UT	84062
1276	WILSON, DEVIN E & MELISSA ET AL	1579 W 80 SOUTH	PLEASANT GROVE	UT	84062
1277	WILSON, GRANT M & RETA R JT	172 S 350 EAST	OREM	UT	84058
1278	WILSON, KEITH L & DANA L JT	1793 N 1300 WEST	PLEASANT GROVE	UT	84062
1279	WILSON, KEVEN L & KAREN M JT	345 W 700 SOUTH	PLEASANT GROVE	UT	84062
1280	WILSON, MATTHEW J & CARRIE J JT	1635 E MURDOCK DR	PLEASANT GROVE	UT	84062
1281	WILSON, TYLER W	297 S RIDGECREST DR	OREM	UT	84058
1282	WILTBank, JAMES & BOBI J JT	2928 W 160 NORTH	PROVO	UT	84601
1283	WINDSOR, BRADNER L & KATHLEEN JT	2345 N 600 WEST	PLEASANT GROVE	UT	84062
1284	WINSLOW, ERNEST P SR TEE	517 CENTRAL AV	ALAMEDA	CA	94501
1285	WINTERS, ELMA MERMA PROCTOR TEE	71 S 1025 EAST	LINDON	UT	84042
1286	WINWARD, JULIE A	83 N 1620 WEST	PLEASANT GROVE	UT	84062
1287	WISE, JAMES L & RAQUEL TEE	2211 N 600 WEST	PLEASANT GROVE	UT	84062
1288	WLM MANAGEMENT COMPANY 401K P AN INT	758 S 400 EAST	OREM	UT	84097
1289	WMS PROPERTIES LLC	6213 W 10830 NORTH	HIGHLAND	UT	84003
1290	WOOD, TRAVIS E & RACHELLE L JT	994 W 600 NORTH	PLEASANT GROVE	UT	84062
1291	WOODARD, RUSSELL D & JANA L JT	2634 CANYON RD	PLEASANT GROVE	UT	84062
1292	WOODBURY, W RICHARDS ET AL TEE	2733 PARLEYS WAY #300	SALT LAKE CITY	UT	84109
1293	WOODEN, MEL J & JULENE JT	PO BOX 169A	SPRINGVILLE	UT	84663
1294	WOODIS, CHARLES EMERSON	226 N OREM BLVD	OREM	UT	84057
1295	WOODS, JAMES E & VIRGINIA S JT	3824 CANYON RD	PLEASANT GROVE	UT	84062

1296	WOODS, RANDY & JOY G	385 W 800 NORTH	LINDON	UT	84042
1297	WOODSIDE HOMES CORPORATION	127 S 500 EAST #600	SALT LAKE CITY	UT	84102
1298	WOODWARD, ROCK A & PAMELA K JT	1368 W 2600 NORTH	PLEASANT GROVE	UT	84062
1299	WOOLF, RICHARD & LISA	1625 W 50 NORTH	PLEASANT GROVE	UT	84062
1300	WOOTTON, JANET S TEE	11022 N 5600 WEST	HIGHLAND	UT	84003
1301	WOOTTON, JANET S TEE	11022 N 5600 WEST	HIGHLAND	UT	84003
1302	WOOTTON, JEFFREY L & EMILY JT	860 N 100 EAST	PLEASANT GROVE	UT	84062
1303	WRIGHT, DEREK & KATRESE JT	3323 N 1270 WEST	PLEASANT GROVE	UT	84062
1304	WRIGHT, JANELL	1643 W 140 NORTH #65	PLEASANT GROVE	UT	84062
1305	WRIGHT, MATTHEW H & SOKUNNARY JT	2083 TUSCANY WAY	PLEASANT GROVE	UT	84062
1306	YANG, KYUNG A ET AL TEE	5093 RIVER PARK WAY	PROVO	UT	84604
1307	YOUNG, DAYNE A & KIMBERLEY H JT	1517 W 80 SOUTH	PLEASANT GROVE	UT	84062
1308	YOUNG, J STERLING & TONYA A JT	1850 N 100 EAST	PLEASANT GROVE	UT	84062
1309	YOUNG, MELVIN J & DEANNA C JT	1009 W 1800 NORTH	PLEASANT GROVE	UT	84062
1310	YOUNG, RICHARD J & GWEN K	1820 N 100 EAST	PLEASANT GROVE	UT	84062
1311	YUZON, CRAIG P & ELLAVEE P JT	228 S PROCTOR LA	PLEASANT GROVE	UT	84062
1312	ZABRISKIE, GARY K	1740 W 700 SOUTH	PLEASANT GROVE	UT	84062
1313	ZENKIC, ESAD	9580 CANYON RD	CEDAR HILLS	UT	84062
1314	ZITTING, BENJAMIN B & JEAN S	334 MILLCREEK RD	PLEASANT GROVE	UT	84062
1315	ZONTS, JARED	150 N 100 EAST	PLEASANT GROVE	UT	84062
1316	ZUPAN, DENNIS B & BETTY JT	3985 N 900 WEST	PLEASANT GROVE	UT	84062



## MAYOR'S MESSAGE

The City's fiscal year begins July 1, 2009. We are in the process of reviewing the budget for the 2009-2010 fiscal year. A special Council meeting will be held on Saturday, May 16th at 9am in the Council chambers. During this session, the Council will review the budget submission, ask questions and direct any changes.

With the national recession upon us, sales tax revenues have fallen behind previous years by about 4%. This prompted staff to trim the current budget spending in January to meet forecasted revenues. As a result, the City is on track to stay within revenue and expense projections without compromising essential services to the citizens and businesses.

Why is Pleasant Grove in stable financial condition during this recession? In 2007, the City was informed by Lindon that they would not be contracting for public safety with Pleasant Grove in 2008-2009. This amounted to a \$1.8M reduction in revenue. The staff and Council set out over the remainder of 2007 and the beginning of 2008 to adjust its spending to match the reduced revenue. It achieved the new targets by July 1, 2008 in time for the current fiscal year. In addition, the City has maintained a conservative approach to budgeting and savings for the past 10 years.

When the recession hit during the latter part of 2008, the City was still in an ultra-conservative spending mode. This allowed the City to continue to operate and provide all essential functions and services without affecting staff, residents and businesses. We plan to continue this approach with the 2009-2010 budget to safe-guard the City from this economic downturn.

No single individual is credited with this financial good fortune. The entire staff and the Council worked together over the course of a year to tighten up, repair, reuse and conserve. The citizens understood the financial condition of the economy and were patient with the City by not requesting expanded services during this time. As a result, we are all benefiting from a conservative budget policy.

Please join us during our special budget session to observe how staff and Council work together to manage your resources. Please let the Council know of your approval and concerns about the 2009-2010 budget. Your comments are always encouraged and welcome.

Mayor@PGCity.Org.  
Michael W. Daniels, Mayor

## 2009 CONCERTS IN THE PARK

East Side of the new Community Center  
Every Sunday at 7:30 pm

June 7	.....Pleasant Grove Orchestra
June 14	.....Utah Children's Choir
June 21	.....Skyline Chorus
June 28	.....Walker Brothers

**BUILDING PERMIT REQUIRED FOR ACCESSORY BUILDINGS:** Please remember to obtain building permits for all accessory buildings larger than 120 square feet in size. Also, before building any accessory building, check with Community Development for the proper setbacks, so you don't have to move your buildings after they are constructed or installed

Pleasant Grove Firefighters  
announce the annual

### Fireman's Breakfast

Please come join us for breakfast at the fire station,  
110 South 100 East, Pleasant Grove.

Saturday, May 30, 2009, 6:00 a.m. to 11:00 a.m.

Good Food, Good Friends, Good Fun

Be There or Be Hungry!!!

Tickets are available at the station  
or at the door the morning of the breakfast.

## TRANSPORTATION MASTER PLAN OPEN HOUSE

On Wednesday May 13, 2009 from 6:30 to 8:00 p.m. Representatives from the City and Horrocks Engineers will present updates to the

Transportation Master Plan and take comments from the public. The meeting will be held in the City Council Chambers at 86 East 100 South.

A draft copy of the plan will also be available on the City Website.

## UTAH COUNTY FAIR TIME:

Now is the time to begin planning and perfecting projects for the Utah County Fair. Check out the website for Open Class entry information. The Open Class contestants will include: gardeners, quilters, Dutch Oven enthusiasts, photographers, cooks and canners. For the first time, the Utah County Fair hosts a Dutch Oven cook-off, judged by the Dutch Oven National Champion.

As always, there is plenty of family friendly fare at the Fair: Carnival, animals, kids events and entertainment every day of the Fair.

Keep checking on the County Fair website.

## YOU'RE INVITED!

Kiwanis is a global organization of volunteers dedicated to changing the world, one child and one community at a time. The Pleasant Grove Kiwanis Club is a active group of men and women working together to make a difference in individual lives and community programs. Current opportunities to serve include: Hope of America awards, Strawberry Days events and rebuilding Kiwanis Park at the mouth of Battle Creek Canyon. We welcome your suggestions for the park and involvement in our organization. Learn more at <http://www.pgkiwanis.org/> or call Mike Chamberlain at (801) 830-5585.

## UTAH CO. BEEKEEPERS

The Utah County Beekeepers Association (UCBA) would like to offer the citizens of your area the service of honey bee swarm removal (at no charge). Honeybees swarm from March to July and the event, although relatively harmless, can create quite a stir to the uninitiated. To facilitate the removal of swarms, your contact people can either call me directly or instruct the citizen(s) to do so utilizing the information below. (phone, email or web visit). Once the call is received, they will call the beekeepers on our list to retrieve the swarm. Alternately, a copy of local beekeepers is also available on our website, if you prefer to call the beekeeper for your area directly. If you have any questions, please Call Neil Shelley at 801-822-4114, or visit the website at [utahcounty-beekeepers.org](http://utahcounty-beekeepers.org).

**48 HOUR PARKING ON STREETS: Please be reminded of the City parking ordinance, which does not allow for more than 48 hour parking on the street.**

## DEAR RESIDENT OR HOME OWNER

This letter is help you better understand the process of the Pressurized Irrigation Water System (secondary water).

Spring: The City is starting to pressurize the secondary water system at this time, please check your valve to make sure that it has been turned off from the winter months. About April 15th we start supplementing the lines to the system from the aqueduct; even though there is water in the system we ask that you wait until May 1st to start watering. You should open your valve slowly to check for leaks and broken pipes. If you have a broken pipe it is most likely to have been frozen throughout the winter months. The broken line could be from a low spot in the pipe where the water couldn't drain properly and froze. We suggest that you put a drain in where the pipe was broken when you fix your pipe.

In order for us to operate the system more efficiently, until the final tank is completed in mid august, we are asking you to help balance the system by following a watering schedule. This requires watering during the day as well as at night. We recognize that watering during the day is less efficient, but it is necessary to better balance water use with supply. We ask that if you have an even house number to water during the hours of 6:00 a.m. to 6:00 p.m. and those with odd house numbers water during the hours of 6:00 p.m. to 6:00 a.m. Please remember that we only water 6 days a week, Monday through Saturday and no watering on Sunday.

Fall: The watering period is normally complete in October. Typically the water to the aqueduct is turned off about October 10th. We will begin draining the system at this point. You can drain your lines and shut off the valves to your system anytime after this date. Failure to do this may cause damage to your system come next spring. The cities responsibility ends at the city valve.

If you have any questions please call the Public Works Office at 801-785-2941.

Thank you  
Pleasant Grove City Public Works

**GUTTER CLEAN UP: Now is a good time to make sure your gutters and storm drains are cleaned to prevent flooding.**

## PGBA GOLF TOURNAMENT!

Spring's in full swing! Dust off your golf clubs and gather your teams for the annual \*Pleasant Grove Business Alliance Golf Tournament!\* Thursday, June 4, 2009. Registration at 7:30 am, Scramble Format start at 9:00 am. Cost is \$400 per team or \$100 per person. Price includes green fees, breakfast, lunch, snacks, gift bags. Prizes will be awarded. Registration deadline is May 20, 2009. For more information, or to register your team, call 801-380-3179 or visit the PGBA website \*[www.pbgaut.com](http://www.pbgaut.com).\*

Please join the Pleasant Grove Business Alliance the second Friday of each month for our \*Monthly Member Meeting.\* May's meeting features Representative Craig Frank speaking about recent legislative changes that may affect your business. Come prepared with questions or concerns. Meeting is free to attend and is open to all businesses and citizens. A \$9 lunch is available for purchase. You must RSVP to reserve a lunch. Call 801-380-3179 or visit the PGBA website, \*[www.pbgaut.com](http://www.pbgaut.com).

## FOX HOLLOW GOLF CLUB

We were so excited about the number of families that took advantage of the special last month that we decided to run it again in May. This is the time to work out all the kinks in your swing on the driving range.

Please bring a copy of your newsletter into the Pro Shop for this special offer.

*Buy one small bucket of Balls and get the second one free!  
Offer good until the end May 2009*

Watch for future specials throughout the year.

We are also looking for a few volunteers to help throughout the year at the golf course. If you are interested or have questions please call Judy at 801-319-2291 and leave you name and number.

## CENSUS TO BEGIN ADDRESS CANVASSING OPERATIONS

Beginning in late March 2009 the Census Bureau will be sending out address canvassers as a part of early operations. This workforce will walk or drive through neighborhoods to check that all addresses are in our database when the questionnaire is delivered in March 2010. This early operation is vital to ensuring a complete and accurate count. Each address canvasser will be equipped with a laptop or a hand held computer.

Census workers wear an official identification badge. Many address canvassers carry U.S. Census Bureau bags, making them easier to identify.

Many people don't realize that the Address Canvassing operation occurs as much as a year ahead of the official Census day on April 1, 2010. Address Canvassing is the first large field operation for the 2010 Census and it is designed to identify all housing units and other living quarters. Listers will use hand held computers with maps on them to verify and list structures, including the collection of GPS coordinates for each location. All information collected by Address Canvassers and other Census employees is kept strictly confidential and cannot be shared with any other persons, institutions, or agencies.

If you have questions or concerns please contact your local census office at 801-736-5040. For more information about the 2010 Census visit [www.census.gov](http://www.census.gov).

## GREETINGS FROM YOUR FIRE CHIEF

April's showers have brought us May's flowers. No, we didn't plant a garden. We did begin another renovation project in the fire station. This one began as a small April sprinkle and ended in a deluge. Our small project, that began with moving just one little wall, exploded into a thunder storm demolition and re-building.

If you are familiar with the station, you will notice a big change. If you're not too familiar with this building, things may not seem extraordinary to you, but they are.

The changes we have made will help us serve you better and provide better facilities for the fire fighters.

I owe a bucket full of thanks to the fire fighters. Every crew worked tirelessly to accomplish this change. Plus, each crew has been somewhat displaced for the better part of the month. I appreciate their patience.

However, there are two local companies that stepped up and really made a difference. These companies participated in different facets of this project and generously supplied materials and labor. It is impossible for me to even calculate the value of their work, because it goes far and away beyond any assigned dollar figure. Because of them, this project turned out so well. Muddy Boys Full-Service Drywall generously donated much of the materials and labor for this project and Jespersen Painting provided the finish work. I would like to publically thank Mr. Ray Taylor, aka Muddy Boys Inc., and Mr. Brett Jespersen, for the donation of the quality work, and materials. In these times of economic difficulties, I understand the significance and impact of their generous donation. Their donation truly optimizes community service. Thank you!

We hope to see ya'll at the Fireman's Breakfast on May 30th, 6:00 am to 11:00 am. If you can't make it to the breakfast, drop by any time for a quick tour of the station, we would love to show you around.

## TIMPANOGOS SPECIAL SERVICE DISTRICT GREENWASTE/COMPOST

Please be advised that the greenwaste/compost facility has changed the hours of operation. This change is effective April 20, 2009. Greenwaste may be dropped off Monday - Friday from 7:00 a.m. to 5:00 p.m. and on Saturday from 7:00 a.m. to 4:30 p.m. Compost may be picked up Wednesday - Friday from 7:00 a.m. to 5:00 p.m. and Saturday from 7:00 a.m. to 4:30 p.m. The facility will be open on Memorial Day and Labor Day but will be closed for the other major holidays.

## STRAWBERRY DAYS CONCERT

Strawberry Days Concert is June 16 starting at 7:30 in Veterans Park. The concert will feature Flashback Brothers with free strawberries and cream--

The Flashback Brothers will take you back to the days when bands played for dances and events.

They are a group of seasoned musicians who grew up playing and dancing to live music.

You will hear classic rock hits from the 50's, 60's, 70's and 80's; everyone a guaranteed crowd pleaser.

## SENIOR NEWS

Senior Citizen News for May

Every Tues @ 10.30 AM Free Bingo

Every Thur @ 1.00 PM Free Movie

Friday, May 1, 12 noon. Presentation on upcoming tour to Hawaii

Wed, May 6th Free Blood Pressure / Blood Sugar Clinic

Fri, May 8th Life Screening Pre-registration Call 1-800-679-5192

Wed, May 20th Wendover Out-N-Back \$20.00 Call for reservations 801-785-2818

## PG BEAUTIFICATION/ SHADE TREE COMMISSION

It's a good time to make sure your sprinklers are watering effectively. For a FREE sprinkler check, call Julia Tuck at 801-851-8467 and leave your name, phone number, address and city, or send her an email at [juliatuck@usu.edu](mailto:juliatuck@usu.edu) The fine folks do these checks will come to your home or business, check the roots of your grass, your soil type, your water pressure and will set our cups to see how evenly your water is distributed. Optimize your water usage by setting an appointment today.

To receive a weekly email advisory informing you of potential problems and recommended solutions regarding fruit and ornamental tree problems, send an email to Marion Murray at [marion.murray@usu.edu](mailto:marion.murray@usu.edu) and ask to be put on the "Integrated Pest Management Tree Fruit Advisory" email list.

The Pleasant Grove Beautification Commission members will be giving out "Yard of the Month" awards again this year in June, July and August. Have fun creating in your yard and you just may be the recipient of this coveted award!

More article is available at [www.plgrove.org](http://www.plgrove.org).

## RECREATION NEWS

*For more detailed information please visit the Pleasant Grove Website at [www.pgcity.org](http://www.pgcity.org) and click on recreation.*

**Soccer Registration** (4 yrs old to 8th Grade) – Registration is May 22nd thru June 20th. League season will start on Saturday, July 27.

**Jr. High Age Dance** – School's Out For Summer Stomp – Friday, May 22nd from 7:00 to 9:30 p.m. Cost: With ID \$3, Without ID \$4.

SCHOOL DRESS CODE REQUIRED! Parents are welcome.

**Adult Coed Softball** – (16 yrs & older) Registration will begin Friday, May 1st and go until filled.

We have some openings still available in the following camps and clinics. Call the Recreation Department for details.

Itty Bitty Ball (3 & 4 yr olds) – June 9, 11, 16, and 18

Soccer Camp Session I (6 to 12 yrs) - June 1 - 4

Soccer Camp Session II (6 to 12 yrs) – June 8-11

Golf Club (7 to 18 yrs) - Month of June (Tuesdays)

Volleyball Camp (7 yrs & older) – July 13 - 16

Basketball Camp (1st to 6th Grades) – July 20 – 23

**SUMMER GYMNASTICS** - This 6-week program (AM classes) begins June 22nd and goes through July 31st. To register call Kim Christensen at 492-3961.

**The Jr. Olympic Skills Competition** is a FREE skills competition that provides both, boys and girls ages 8 to 13, the opportunity to showcase their athletic abilities in four sports. Age groups consist of 8/9, 10/11, 12/13. Age is determined as of Aug. 31, 2009. Saturday, May 9th, 9:00am to 11:30am at the Pleasant Grove Community Center and PGHS Track & Field

**Swimming Lessons** - Lessons begin Monday, June 1st. New sessions will begin every other Monday through the summer.

**Swim Team** - Registration April 27-30 3:30 – 6:00 p.m.

Pleasant Grove Resident Passes

Swimming Pool - You MUST bring your city bill for proof of residence. (This is for the benefit of the P.G. taxpayer) Non-resident prices will be charged unless presented. Driver's Licenses and addresses on checks are not acceptable.

Early Sign-ups for lessons, passes, and parties

Registrations for lessons, passes & parties will be at the swimming pool on the following days from 3:30 until 6:00 p.m.

April 27- 30 Pleasant Grove Residents Only

May 4-7 and 11-14 All Others

Regular sign ups will begin Mon, May 18th

*More programs are listed at the city website visit [www.pgcity.org](http://www.pgcity.org) and click on recreation*

## PG ARTS COMMISSION

The Pleasant Grove Arts Commission is seeking volunteers to help with a variety of programs. Discover the rewards of serving your community by offering your hands, skills, knowledge, great ideas, talents and most of all, your willing heart. Lily Tomlin said, "I always wondered why somebody didn't do something about that. Then I realized I was somebody". Get involved! For more information, please visit the library to pick up an application, or download it from our website at <http://www.pgcity.org/pgarts>. You may also contact Wendy Vincent at [utahwendy@gmail.com](mailto:utahwendy@gmail.com) for more information.

## UNITED WAY SUMMER OF SERVICE

United Way of Utah County is excited to announce its Summer of Service Program. The program consists of weekly service projects organized for youth volunteers throughout the county during the months of May-August.

We feel strongly that the Jr.High and High School-aged students of Utah County will benefit greatly as they become involved in meaningful and edifying service events. Not only will their participation provide a wholesome alternative to summer boredom, anxiety, loneliness or mischief, it will also open their hearts and minds--giving them a greater vision of their personal future. If you want more information, please contact Raquel Lopez, United Way of Utah County at 801-691-5330.

## WATERING/IRRIGATION GUIDE--

Division of Water Resources ~ North Central Utah

March - No irrigation recommended; April - No irrigation recommended; May - 21 minutes every 4 days; June - 21 minutes every 3 days; July - 21 minutes every 3 days; August - 21 minutes every 3 days; September - 21 minutes every 6 days.

Minutes shown are to spray heads, double time zones for rotor heads.

If you have a poor-draining soil type like clay, water 3 separate times for 7 to 9 minutes.

## DRIVER SAFETY CLASS

An AARP "Driver Safety class for those 50 and older will be taught at the Jacobs Senior Center (242 W. 200 S., Pleasant Grove) May 4th from 1:00 to 5:00 PM. This is a new 4 hour course. To register, call the Senior Center (785-2818). Fees for taking the class are as follows. AARP members with their membership card \$12.00. Those who don't present their card and others' \$14.00. Checks made out to AARP are preferred. Completion of the class may qualify participant for a discount on their automobile insurance.

**PARKING VEHICLES ON FRONT LANDSCAPING AREA OF RESIDENCE: City Code does not allow for parking of vehicles on the front landscape portion of residences. This includes cars, trucks, boats, trailers, sheds, etc.**

## WATER QUALITY REPORT

The Pleasant Grove Water Department is pleased to present the 2008 Water Quality Report. A copy of the report may be viewed online at [www.pgcity.org](http://www.pgcity.org). You may also pick up a copy of the report at City Hall, 70 South 100 East or Public Works, 323 West 700 South. Our goal is to provide you with safe and dependable drinking water by continually improving the water treatment process and protecting our water resources.

## LIBRARY NEWS

*Children's Book Week* - May 11th to 15th. All activities begin each evening at 7:00 pm downstairs of the library.

- Monday- Mad Science. Spark Children interest in science with this presentation. Designed to amaze and delight children of all ages.
- Tuesday- Twilight Tales Enjoy madness with Miss Kammi!
- Wednesday- "Rockin Utah." Discover what families can do in Utah State Parks from the Rockin' Utah (Reaching Out Connecting Kids in Nature) Program representatives
- Thursday- Read with Great Reads! The book review will be "Sarah Plain and Tall" with games and crafts. Everyone invited!
- Friday-Pajamas and a movie night. Come enjoy "Bedtime Stories" starring Adam Sandler.

*Great Reads for Girls:* A Mother Daughter Book Club: Girls ages 8-16 with Mom or other caring adult. Join us for lively discussions, activities, friendship and fun! Sign up and Pick up a "Great Reads" booklist at the front desk. This month's book is "Sarah Plain and Tall" by Patricia MacLachlan.

*ITeens:* 1st and 3rd Tuesdays at 4:30 pm. The Teen Book group is for 7th grade and up. Games, crafts, book reviews. Also hear about many other great books from other teen readers!

*R.E.A.D. Book Group:* 10:00 am. Second Thursday of the month. Everyone who is interested is invited. This month will be "Home" by Marilynne Robinson. Reviewed by Tammra Salisbury.

*BookEnders:* 7:00 pm on the last Thursday of the month. Adults. BookEnders is a new discussion and reading book group. This month's book is "Pope Joan" by Donna Cross.

Summer Reading "Be Creative @ Your Library"

Registration starts May 12th.

Classes are limited in size.

Online registration, phone calls or in person.

Cost \$5.00 for 8 weeks of Creativity!

Check it out on line!

## DOOR TO DOOR SALES

With warmer weather coming residents of Pleasant Grove will probably notice an increase in solicitation by door-to-door solicitors. We would like to remind you that it is illegal to solicit door-to-door in Pleasant Grove without an approved Solicitor's License. Solicitors are required to apply for a city license and obtain a BCI background investigation. Each solicitor will be issued a solicitors identification badge to be carried on their person. Company information and solicitor's photo identification will be included on this badge. These requirements and procedures are set in place for the welfare and safety of all residents of Pleasant Grove City.

As a reminder, a majority of solicitors knocking on your door have not contacted the city, or followed city requirements, and will not have a solicitor's license. What can you do to protect yourself from having a stranger come to your door trying to sell something? First, you should always ask the individual, "Can I see your Pleasant Grove City Solicitor's Badge?" If the solicitor cannot produce this badge, it is recommended that you decline to do business with them and contact the police department at 801-785-3506.

Another procedure that can be done is to post a "No Soliciting" sign at the door. Per City code, by displaying this sign which 'shall be posted on or near the main entrance door or on or near the property line adjacent to the sidewalk leading to the residence, constitutes to any solicitor that the inhabitant of the residence does not desire to receive and/or does not invite solicitors.' If such a sign is posted, it is a violation of the ordinance for any solicitor to engage or attempt to engage in door-to-door solicitation. (Chap. 3-15-17, 18)

For more questions about the City's solicitation ordinance please contact the Business Licensing Office at 801-785-5045.

## **Open House Attendance List**

**PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN  
OPEN HOUSE ATTENDANCE LIST**

	<b>NAME</b>	<b>ADDRESS</b>	<b>PHONE NO.</b>	<b>EMAIL ADDRESS</b>
1	K. Craig Allred	1268 Hillside Drive P.G.	801-796-8059	<a href="mailto:Craig.Allred@DOT.gov">Craig.Allred@DOT.gov</a>
2	Gaylon and Merma Winters	71 South 1025 East Lindon	801-785-5801	
3	Liz Britt	637 South 1300 West	801-785-5218	<a href="mailto:ittybittie@hotmail.com">ittybittie@hotmail.com</a>
4	Debbie Levin	866 West 4000 North P.G.	801-701-0440	<a href="mailto:debilevin@hotmail.com">debilevin@hotmail.com</a>
5	Greg Warburton	779 East Center P.G.	801-785-0099	<a href="mailto:greg779@gmail.com">greg779@gmail.com</a>
6	Jeff Thompson	617 Canyon View Dr. P.G.	801-785-6881	<a href="mailto:jeff_thompson@byu.edu">jeff_thompson@byu.edu</a>
7	David Flinders	482 West 3300 North P.G.	801-785-6452	
8	Philip Blake	29 South 2000 West P.G.	801-756-9234	
9	Bryant Burkett	523 North 300 West P.G.		
10	Robert Briem	793 North 390 East P.G.	801-756-9142	<a href="mailto:robbriem@gmail.com">robbriem@gmail.com</a>
11	David Told	501 South Main P.G.	801-836-419	<a href="mailto:davet@toldplumbing.com">davet@toldplumbing.com</a>
12	Mario Gonzalez	1119 East 100 North	435-701-7822	<a href="mailto:ajamario@gmail.com">ajamario@gmail.com</a>
13	David Martinez	650 North 100 East	801-372-2371	
14	Coral Hicks	1030 North 60 West	801-785-3496	
15	David Pincock	1692 North 70 East P.G.	801-796-1397	<a href="mailto:docp@q.com">docp@q.com</a>
16	Frank Mills	466 East 100 South P.G.		
17	Mack Hall	1990 North 1300 West P.G.		
18	Stanley B. Smith	362 North 200 West P.G.	801-809-2350	
19	Dennis Hullinger	637 West 4000 North P.G.	801-785-5991	<a href="mailto:hull810@alpine.k12.ut.us">hull810@alpine.k12.ut.us</a>
20	Dale Warburton	795 East 350 North	801-785-4040	
21	Trudi Levin	3939 West 9600 North	801-785-3356	<a href="mailto:trudilevin@hotmail.com">trudilevin@hotmail.com</a>
22	Fred Levin	3939 West 9600 North	801-785-3356	
23	Ralph Levin	866 West 4000 North P.G.	801-701-4040	<a href="mailto:Ralph.6444@hotmail.com">Ralph.6444@hotmail.com</a>
24	Debbie Levin	866 West 4000 North P.G.	801-701-4040	
25	David Phelon	1040 East 900 South P.G.	801-796-9346	
26	Kathy Phelon	1040 East 900 South P.G.	801-785-3705	
27	Wendy Vincent	28 South 850 East P.G.	801-796-8575	<a href="mailto:utahwendy@gmail.com">utahwendy@gmail.com</a>
28	Jerry Brooks	183 East 100 North P.G.	801-770-4715	
29	David Bair	183 East 100 North P.G.	801-770-4715	<a href="mailto:davevb_99@yahoo.com">davevb_99@yahoo.com</a>
30	Lutie Larsen	993 West 1800 North	801-785-5130	
31	Jim and Raquel Wise	2211 North 600 West	801-796-1321	
32	Mark and Linda Hales	770 North 350 East P.G.	801-785-5659	<a href="mailto:lhales@pgcity.org">lhales@pgcity.org</a>
33	Tyler Yorgason	1267 North 750 West P.G.	801-796-8082	
34	Wendy Rupper	445 Valley View Dr	801-796-7520	<a href="mailto:wendy.rupper@gmail.org">wendy.rupper@gmail.org</a>
35	Andrew Wooley	715 Apple Grove Ln	801-796-0671	
36	John & Eileen Johannesmeyer	1069 West 810 North	801-785-9778	<a href="mailto:johnj.email@gmail.com">johnj.email@gmail.com</a>
37	David Howard	1645 East 1000 South	801-785-0647	<a href="mailto:howardd@digis.net">howardd@digis.net</a>
38	Deb Thoman	P.O. Box 364 P.G.	801-362-1337	
39	Matthew Wilson	1635 East Murdock Dr. P.G.	801-691-3495	
40	Clark Evans	752 North Locust Ave. Lindon	801-836-9902	<a href="mailto:cevans1950@gmail.com">cevans1950@gmail.com</a>
41	Cindy Boyd	668 West 4000 North P.G.	801-836-8064	<a href="mailto:cindy_boyd@hotmail.com">cindy_boyd@hotmail.com</a>
42	Heidi Petter	634 West 4000 North P.G.	801-822-6434	<a href="mailto:heidigoose@hotmail.com">heidigoose@hotmail.com</a>
43	Jeff Lindstrom	396 South 100 East P.G.	801-870-1616	<a href="mailto:JP@Professionalheating.com">JP@Professionalheating.com</a>

# OPEN HOUSE ATTENDANCE LIST

PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN UPDATE

MAY 13, 2009

CONCEPT PLAN

Pleasant Grove

Utah's City of Trees

	Name (please print clearly)	Address	Telephone No.	E-mail
1	K. Craig Alford	1268 Hillside Dr, PG	801 776 8057	Craig.Alford@DOT.GOV
2	Hydromax Mammalchunter	7150 1025 E. Leeward	801-785-5801	
3	KZ Bright	6375 S. 1300W	801-785-5217	ihybittied@hotmail.com
4	Debbie Levin	806 W 4000 N PG	801-701-0440	debi.levin@hotmail.com
5	Greg Burton	779 E Center P.G.	801-785-0077	greg779@gmail.com
6	Jeff Thompson	617 Canyon View Dr. PG.	801-785-6881	jeff-thompson@byu.edu
7	David Blonckers	482 W. 3300 N. PG	801 785-6452	
8	P. B. Bab	2952 2000 W P. G.	801-756-9234	
9	Bryant Burkett	523 N. 300 W PG		
10	Robert Brigham	793 N. 390 E. AF	801-756-9142	robbrvrm@gmail.com
11	David Tolte	501 So main P. G.	801-836-4129	dale-tolte@plumbing.com
12	Nicolas Gummer	119 EAST 100 NORTH	935-201-7822	ajamario@gmail.com
13	David Martinez	650 N 100 E	801 372 2371	
14	David Pincade	1030 A 60 W	801 785 5496	
15	David Pincade	1692 N 70 E PG	801-796-1397	docp1@gmail.com
16	Frank Mills	466 E 1005 S P.G.		
17	Mack Hall	1990 N. 1300 W P.G.		
18	Stanley B Smith	367 N. 2000 W. P.G.	801-809-2350	
19				
20				
21				
22				
23				
24				
25				

	Name (please print clearly)	Address	Telephone No.	E-mail
26	Denise Spillinger	637 West 4000N PG	801 785 5991	h011810@calpine.k12.ut.us
27	Dale Warburton	795 E 3700	785-4080	
28	Trodi Levin	389 W 9600 N	785-3356	trodi.levin@hotmail.com
29	Fred Levin	"	"	"
30	Ralph Levin	866 W 4000N	701-0440	Ralph.6444@hotmail
31	Debbie Levin	"	"	"
32	David Phelon	1040 E 900 S PG	801 796-9346	
33	Kathy Phelon	1240 East 900 South PG	801 785-3705	
34	Newman Vincent	28 S 850 E PG	801 790 8575	utahwvndy@gmail.com
35	Terry Brooks	185 E 100 N Pl Grove	801 770-4715	
36	David Bair	185 E 100 N pl grove	801 970-4715	Davevb-99@yahoo.com
37	Natlie Jarozm	943 W 1800 PG	801-785-5730	
38	Jim Regard Wial	8211 N 600 W	796-1321	
39	Mark & Linda Hales	770N 350E Pl. Grove	785-5659	#hales@pgcity.org
40	TRACY FORGASSEN	1267 N 750 W PG	796-8082	
41	Wendy Rupper	645 Valley View Dr	801 756-7520	wendy_rupper@gmail.org
42	Andrew Wooley	715 Apple Grove Ln	501-796-0671	
43	John & Eileen Johannesmyer	1069 W 810 N	801-785-9778	johnj_email@gmail.com
44	David Hacerard	1645 E 1000 So.	801-785-0647	howard@digis.net
45	Deb Thomas	P.O. Box 364 PG.	801-362-1337	
46	Matthew Wilson	1635 E Murrack dr PG	801 691-3495	wilsonmatt@101.com
47	CLARK EVANS	752 NORTH LOCUST AVE. LINDON	801-836-9902	CEVANS1950@GMAIL.COM
48	Cindy Boyd	668 W. 4000 No PG	801-836-8064	cindy_boyd@hotmail.com
49	Heidi Potter	1034 W. 4000 N. PG.	801-821-0434	heidipouse@hotmail.com
50	Jeff Lindon	396 So 100 E PG	870-1416	JP@ProFestAndHealing.com

Send Scott Thompson in



## **Open House Displays**

1 Inch = 0.6 Miles



### Legend

#### UDOT Functional Classification

- Urban Interstate
- Urban Other Principal Arterial (7 Lanes)
- Urban Minor Arterial (5 Lanes)
- Urban Collector (5 Lanes)

#### Pleasant Grove Functional Classification

- Major Arterial (7 Lanes)
- Major Arterial (5 Lanes)
- Minor Arterial (3 Lanes)
- Collector (2 to 3 Lanes)
- Local Road (2 Lanes)

#### Roadway Improvements

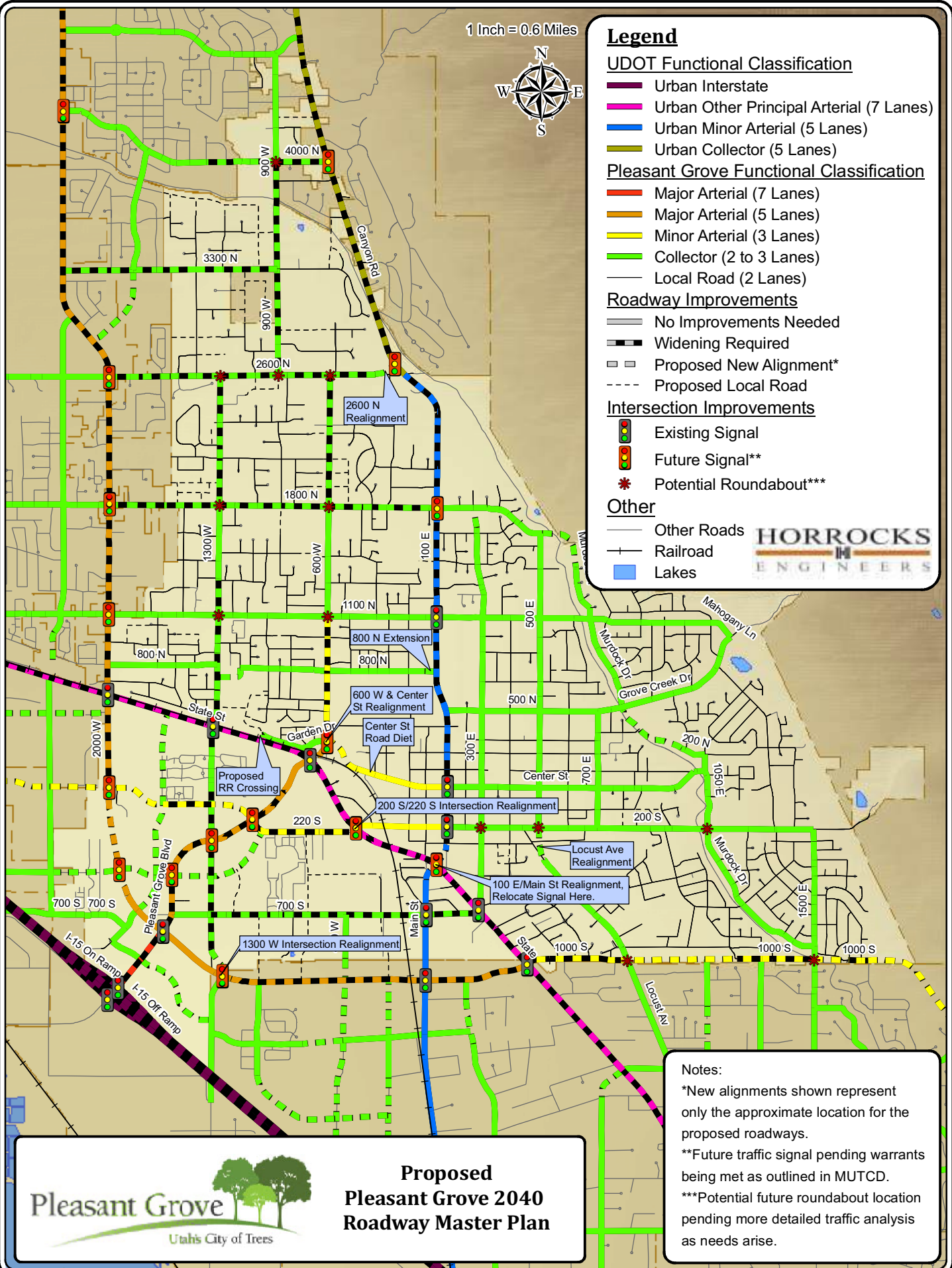
- No Improvements Needed
- Widening Required
- Proposed New Alignment\*
- Proposed Local Road

#### Intersection Improvements

- Existing Signal
- Future Signal\*\*
- Potential Roundabout\*\*\*

#### Other

- Other Roads
- Railroad
- Lakes



Notes:

- \*New alignments shown represent only the approximate location for the proposed roadways.
- \*\*Future traffic signal pending warrants being met as outlined in MUTCD.
- \*\*\*Potential future roundabout location pending more detailed traffic analysis as needs arise.



## Proposed Pleasant Grove 2040 Roadway Master Plan

1 Inch = 0.6 Miles



### Legend

#### Bicycle/Pedestrian Facilities

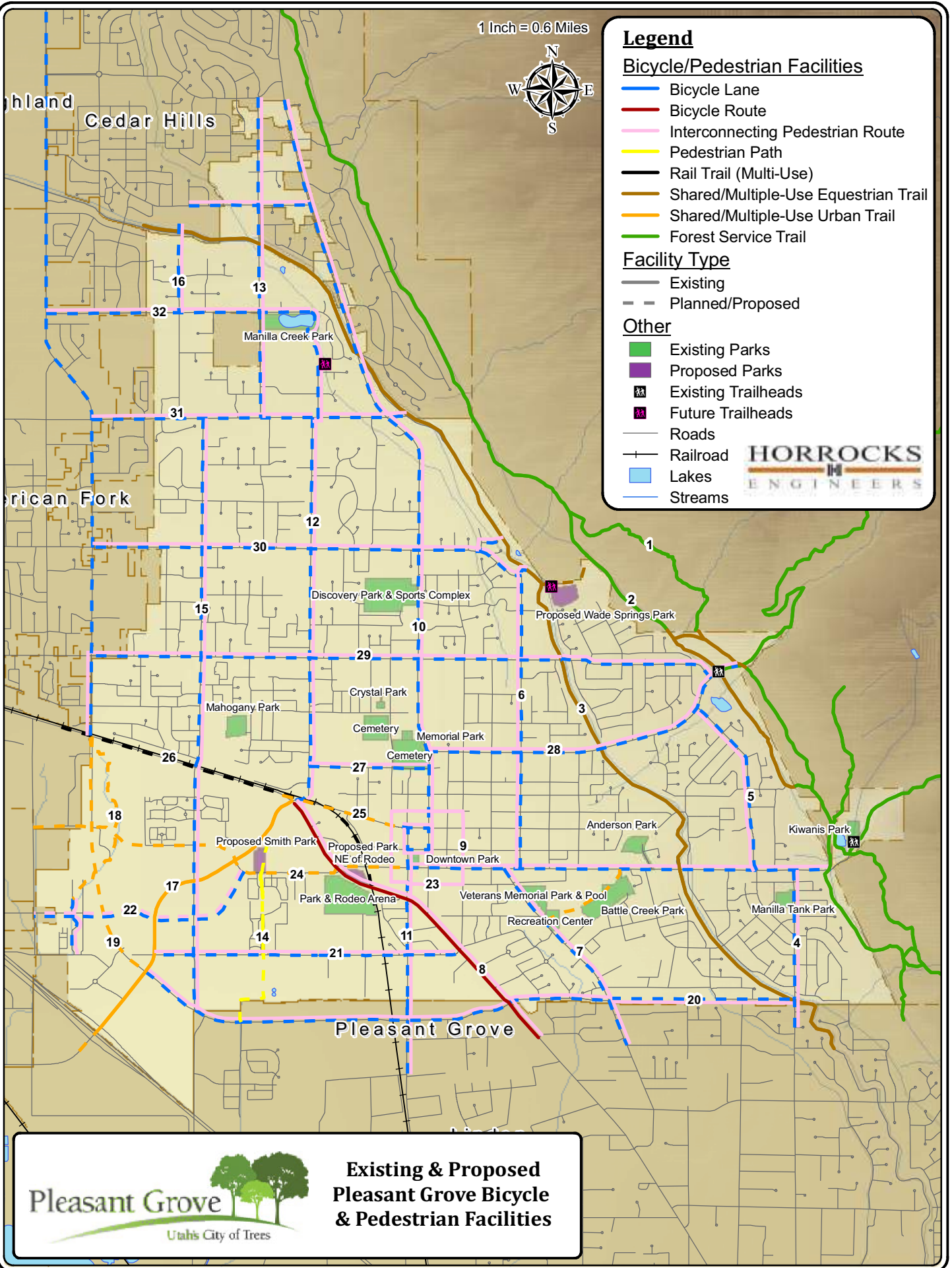
- Bicycle Lane
- Bicycle Route
- Interconnecting Pedestrian Route
- Pedestrian Path
- Rail Trail (Multi-Use)
- Shared/Multi-Use Equestrian Trail
- Shared/Multi-Use Urban Trail
- Forest Service Trail

#### Facility Type

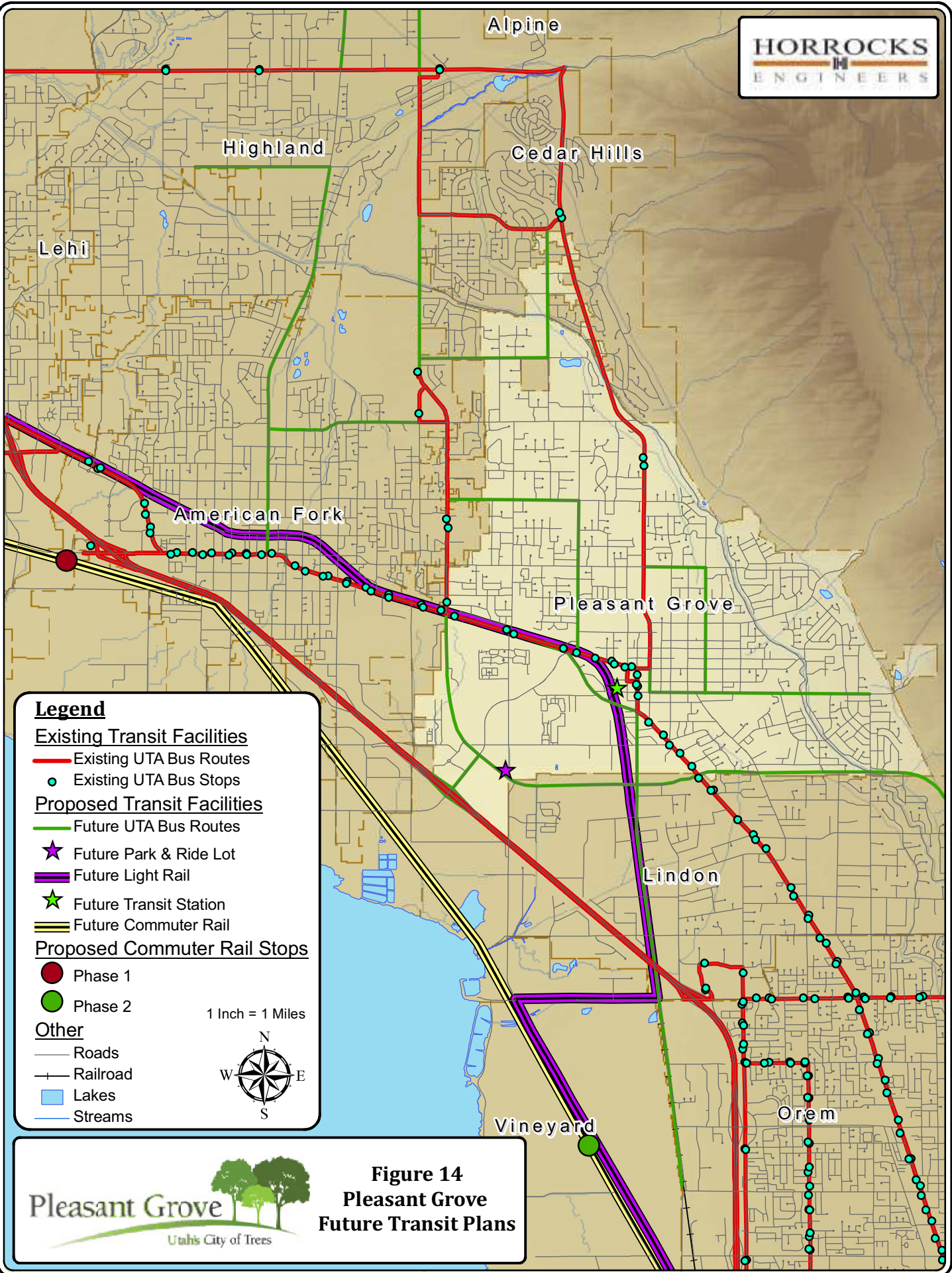
- Existing
- Planned/Proposed

#### Other

- Existing Parks
- Proposed Parks
- Existing Trailheads
- Future Trailheads
- Roads
- Railroad
- Lakes
- Streams



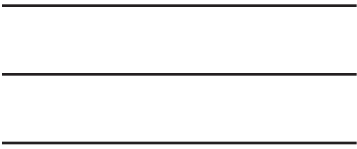
**Existing & Proposed  
Pleasant Grove Bicycle  
& Pedestrian Facilities**



## **Open House Comments and Responses**

*Fold Here*

---



Place  
Postage  
Stamp  
Here

**PLEASANT GROVE CITY**  
**86 EAST 100 SOUTH**  
**Pleasant Grove, UT 84062**

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# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ E-mail: \_\_\_\_\_

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

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Name: Muriel Elliott

Address: 665 W 4000 N

City: Pleasant Grove State: Ut Zip: 84062

Phone Number: 801-785-5647 E-mail: MurielKElliott@yahoo.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

It is much safer the way it is. Cars will go much faster with a under road. It would destroy our environment and cost a fortune (This 9600 N or 3800 N PG)

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

I'm not sure - we already have bus stops close.

\_\_\_\_\_  
\_\_\_\_\_

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

I've known it was coming for a long time. I think there are ways that would not have such an impact on so many people

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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Name: Wade & KayLee Fox

Address: ~~2222~~ 3905 N. 900 W.

City: Pleasant Grove State: UT Zip: 84062

Phone Number: 801-796-3903 E-mail: WFox3903@MSN.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

We disagree with the roundabout proposal @ 4000 N. 900 W. There is not enough growth or traffic flow potential to ever support or justify a roundabout at that location.

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

We also feel that 3 roundabouts on 2600 N. are unnecessary.

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: MARIO GONZALEZ

Address: 1119 EAST 100 NORTH

City: PG State: UT Zip: 84062

Phone Number: 435-201-7822 E-mail: ajamario@gmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

BEING A RECENT MOVE-IN, I CAN SEE THE NEEDS TO IMPROVE  
TRAFFIC/TRANSPORTATION PLANS. FROM WHAT I HAVE SEEN IN THE  
MASTER PLAN, THE CHANGES ARE NECESSARY AND VITAL TO THE CONTINUED  
GROWTH OF PLEASANT GROVE.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: Dennis Hullinger

Address: 637 West 4000 North

City: Pleasant Grove State: Ut Zip: 84062

Phone Number: 801 785 5991 E-mail: hull810@alpine.k12.ut.us

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

Houses on 4000 North are too close to the road - if widened to a 70' road or 106' right of way nearly every house on the road would need to be condemned it would be better to have the original road plan where the next road to the south is the 70' road.

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

The Trails look good, but there should be more access into Mt. Mahogany from more points than just the Forest Service Trail. It's already that wide.

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

UTA is a joke. It serves only those along State Street. Pleasant Grove shouldn't even participate unless they really serve our community. The Canyon Rd run is just twice a day.

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

If 4000 North is widened the hill on Canyon Rd to the North would need to be removed. A stop light there would cause many accidents unless the hill were removed. I have a hard time turning South of 4000 N without being run over. So far the widening of 4000 N is being done on just the South side. It needs to be widened equally on both sides.

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: Lotie Larsen

Address: 993 West 1800 No

City: Pleasant Grove State: UT Zip: 84062

Phone Number: 801-785-5130 E-mail: lotielarsen@me.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why? <sup>somewhat</sup>

I think it is too much even with the growth we have had; things are much slower. I would like to see good basic road repair throughout. I am afraid the master plan will lock the citizens into a situation where we are forced to participate. I am even more concerned about getting into a citizen utility program.

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

I don't think the bike lanes are good in the streets. I think they should be located off road.

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

Go a little more slowly. Don't sneak it through the City Council before people are aware. This is a big deal - and well requires public support. Maybe do it in stages especially since <sup>the citizens</sup> we are struggling economically. If PG is doing so well we should have money to put into street repair (maintenance).

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: Debbie Levin  
Address: 866 W 4000 N  
City: Pleasant Grove State: UT Zip: 84062  
Phone Number: 801-701-0440 E-mail: debi.levin@hotmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

I think that the intersection at 900 West 4000 North is way too steep to have a light, you can't stop in the winter or you get stuck! It is a very dangerous road to get onto. I think this road should be a one way road or a dead end.

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

I will never agree to ever have our trees removed to widen the road. They are very historical over 150 years old. This would be a disaster to have this happen. Words can't describe what this would do to a lot of people.  
This is our little lane! Please leave us alone!!

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: Fred + Trudi Levin

Address: 3939 W 9600 N

City: Cedar Hills State: UT Zip: 84062

Phone Number: 801-785-3356 E-mail: trudi.levin@hotmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

If road is widened on 4000 N most of the houses will have to be condemned. A better solution would be to widen the road just south because it is already at least 70 feet wide. If traffic light @ 4000 N + canyon would be placed a major security issue will be put in place

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

There really is not enough access to the trails

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

It is almost impossible to use UTA because the stops are not convenient + too far apart and the time is not frequent enough to assist us in our travel

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

If 4000 N should be widened the street should be widened on either side. Again, the road south of 4000 N is wide enough to accommodate the proposed road.

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Name: Ralph Levin

Address: 866 W 4000 N

City: PG State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: 801 701 0440 E-mail: Ralph-6444@hotmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

The intersection @ 900 West + 4000 North is a steep hill and people get stuck at top of the hill and when they attempt to go out on to Canyon road they create ALOT of near misses and accidents

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

4000 North needs to be a one way street going down hill only to eliviate accidents, and the plan to put in a round about @ the bottom of that hill would require removal of my 150 year old trees which WILL NOT HAPPEN!!! Over my dead body will those trees be messed with - Once again the solution is to make 4000 Nort a ONE WAY STREET or possibly a dead end street

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Name: Kathryn R. Phelan

Address: 1040 East 900 South

City: Pleasant Grove State: Ut Zip: 84062-4207

Phone Number: (801) 785-3705 E-mail: \_\_\_\_\_

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

When will you finish 1000 South between Locust and 1150 East?

My property borders this road. Will I have access to get onto this road from my backyard?

\_\_\_\_\_  
\_\_\_\_\_



# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



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Name: Heidi Potter

Address: 634 W. 4000 N.

City: Pleasant Grove State: UT Zip: 84062

Phone Number: 801-822-6434 E-mail: heidigoose@hotmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

~~cars~~ Cars already go way too fast down 4000 N., and don't see us when pulling out of the driveway because of all the trees. ~~It~~ It is just too dangerous to bring more traffic → (cont.)

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

→ down this road, especially on a steep hill. We pull several cars out of the ditches in the winter for going too fast. This will be a disaster, especially during winter months. Please don't take away the beautiful trees and somewhat peaceful atmosphere we have enjoyed on this road for years!

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Name: Randy & Jan Robinson

Address: 3945 N. 900 W.

City: Ple. Grove State: UT Zip: 84062

Phone Number: 801-785-2234 E-mail: randyrobinsongmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

too costly for the population to justify the cost - let the developers figure it out when Wadley's property is sold, developer

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

Didn't see it - Sounds like a good idea - we have a fair amount of bicyclist & people exercising on these back roads

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

The one in front of Lone Peak High School we are -

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

Seems like an exhorbitant amount of money for the amount of cars we see use these roads at this point in time - we would like to know who did the survey of 20,000 cars daily - Maybe in a week or two - Not warranted at this time -

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Name: Wendy Rupper

Address: 445 Valley View Dr

City: Pleasant Grove State: UT Zip: 84062

Phone Number: (801) 796-7520 E-mail: Wendy.rupper@gmail.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

The locust realignment is a wonderful idea, however the safety of the roundabout at locust + 200 concerns me. Stop signs are much safer for pedestrian traffic and I walk that way frequently

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why? sidewalks needed also on Locust

Sidewalks, in my opinion, are a greater priority than widening for bike lanes. IF its either or pick sidewalks! Have you considered

interconnecting HANDICAP routes as well. The majority of sidewalks in my neighborhood DO NOT have handicap ramps

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

Wishful thinking for 20 years in the future

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

I'm in desperate need of sidewalks with handicap ramps especially on the NE corner of Locust and Orchard PLEASE make this a priority! The new recreation center makes much more pedestrian traffic on Locust; and, at the speed most people drive on that road, it is unsafe for pedestrians to walk on the side of the road.

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Name: Jeff Thomson

Address: 617 Canyon View Dr.

City: PG State: UT Zip: 84062

Phone Number: \_\_\_\_\_ E-mail: \_\_\_\_\_

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

Love the idea of improving access to downtown  
and making it more attractive. Roundabouts would  
be a nice touch. Like bike trails, etc. as well

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ E-mail: \_\_\_\_\_

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

Totally opposed to "roundabouts" anywhere

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

600 West needs to be widened at two properties at 2211 N that stick out 12' into an otherwise straight street.

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Name: KENT & JILL WALKER

Address: 3805 NORTH 900 WEST

City: PLEASANT GROVE State: UT Zip: 84062

Phone Number: 801-796-7974 E-mail: \_\_\_\_\_

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

1. HARVEY BLVD. DOES NOT HAVE THE TRAFFIC COUNT TO JUSTIFY IT AS A MAIN ARTERIAL STREET. THE SCHOOL AREA WILL NOT LEAD ITSELF TO SPEEDS THAT OCCUR ON SUCH THOROUGHFARES.

2. THERE APPEARS TO BE A LACK OF COORDINATION WITH ADJOINING COMMUNITIES - ESPECIALLY IN OUR AREA (CEDAR HILLS/AMERICAN FORK)

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

DID NOT REVIEW

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

3. ROUNDABOUTS ARE A POPULAR (BUT NOT PROVEN SOLUTION) TO MOVING TRAFFIC BUT THE 3 ON 2100 NORTH DON'T MAKE ANY SENSE - (3WAY?)

4. IN OUR AREA THE MAIN TRAFFIC FLOW SEEMS TO MOVE TO THE SOUTH & TO THE WEST. THE MASTER PLAN DOES NOT ~~SEEM~~ APPEAR TO TAKE THIS INTO CONSIDERATION (THERE ARE NO DESTINATION 'NODES' NORTH OR EAST OF) OUR AREA EXCEPT A.F. CANYON.

5 THE GRID PLAN PROPOSED IN NORTH P.G. STARTS TO LOOK LIKE THE LAYOUT FOR OREM - (UCK) AND YOU WILL LOSE ALL SENSE OF NEIGHBORHOOD!

# PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN



Please submit this comment form before leaving the meeting tonight, or mail your comments to PLEASANT GROVE CITY, 86 EAST 100 SOUTH, Pleasant Grove, UT 84062. You may also e-mail comments to [dlewis@pgcity.org](mailto:dlewis@pgcity.org); all comments must be received by the City on or before May 28, 2009. We greatly appreciate your input and participation in this process.

Name: Dennis + Betty Zupan

Address: 3985 N. 900 W

City: Pleasant Grove State: UT Zip: 84062

Phone Number: 801 796 5361 E-mail: bdzupana@yahoo.com

1. Are you in favor of the proposed Roadway Master Plan? Yes  No  If no, why?

Too many roundabouts -  
Not coordinated with the other cities

2. Are you in favor of the proposed Trail/Bicycle Master Plan? Yes  No  If no, why?

3. Are you in favor of the proposed Transit Master Plan? Yes  No  If no, why?

4. Please list any comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.

The best way across the Valley, East-West is  
2600 N. - three roundabouts would be too much of  
a change, slowing down traffic on the best road -  
a signal light on 4000 N. + St. Rd. 146 or Canyon Rd  
is not a good choice - move it south to the Cedar Hills Rd.  
The Roundabout at 4000 N. + 9<sup>th</sup> West is an over-kill  
there is not and can not be enough traffic to justify it.

Last Name	First Name	Street	City	State	Zip	Phone	Email	1. Are you in favor of the proposed Roadway Master Plan? If no, why?	2. Are you in favor of the proposed Trail/Bicycle Master Plan? If no, why?	3. Are you in favor of the proposed Transit Master Plan? If no, why?	4. Please list any additional comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.	Response
Larsen	Lutie	993 West 1800 North	Pleasant Grove	UT	84062	801-785-5430	<a href="mailto:lutielarsen@mac.com">lutielarsen@mac.com</a>	No/Somewhat I think it is too much even with the growth we have had, things are much slower. I would like to see good basic road repair throughout. I am afraid the master plan will lock the citizens into a situation where we are forced to participate. I am even more concerned about getting into a citizen vs city, scenario	I don't think the bike lanes are good in the streets. I think they should be located off road.	Yes	Go a little more slowly. Don't sneak it through the city council before people are aware this is a big deal - and will require public support. Maybe do it in stages especially since the citizens are struggling economically. If PG is doing so well we should have money to put into the street repair (maintenance)	1 & 4 - The TMP is intended to be a dynamic document that will be updated on a regular basis (every few years). The TMP is not intended to commit the City or its citizens to building specific improvements; however, it is intended to be used as a tool to assist the City as new development is built throughout the City. 2-There are certain safety concerns with bikes using roads with cars and trucks. However, streets are supposed to accommodate multiple modes of transportation, including bicycles. Properly designed on-street bike facilities, such as bike lanes and streets with wide shoulders, are reasonable safe and allow bicyclists the opportunity to get around, which is their right. With proper signage, pavement markings, and other measures, the safety of the bicyclist can be maximized.
Potter	Heidi	634 West 4000 North	Pleasant Grove	UT	84062	801-822-6434	<a href="mailto:heidigoose@hotmail.com">heidigoose@hotmail.com</a>	Cars already go way too fast down 4000 North and don't see us when pulling out of the driveways because of all the trees. It is just too dangerous to bring more traffic down this road, especially on a steep hill. We pull several cars out of the ditches in the winter for going too fast. This will be a disaster, especially during winter months. Please don't take away the beautiful trees and somewhat peaceful atmosphere we have enjoyed on this road for years!				1 - Comment noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns.
Gonzalez	Mario	1119 East 100 North	Pleasant Grove	UT	84062	435-201-7822	<a href="mailto:ajamario@gmail.com">ajamario@gmail.com</a>				Being a recent move-in, I can see the needs to improve traffic/transportation plans. From what I have seen in the master plan, the changes are necessary and vital to the continued growth of Pleasant Grove	4 - Comment noted.
Levin	Debbie	866 West 4000 North	Pleasant Grove	UT	84062	801-701-0440	<a href="mailto:debilevin@hotmail.com">debilevin@hotmail.com</a>	I think that the intersection at 900 West 4000 North is way to steep to have light. You can't stop in the winter or you will get stuck! It is a very dangerous road to get onto. I think this road should be a one way road or dead end.			I will never agree to ever have our trees removed to widen the road. They are very historical over 150 years old. This would be a disaster to have this happen. Words can't describe what this would do to a lot of people. This is our little lane! Please leave us alone!!	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns.
Elliott	Muriel	655 West 4000 North	Pleasant Grove	UT	84062	801-785-5647	<a href="mailto:murielkelliott@yahoo.com">murielkelliott@yahoo.com</a>	It is much safer the way it is. Cars will go much faster with a wider road. It would destroy our environment and cost a fortune (9600 North or 3800 North PG)		I'm not sure - we already have bus stops close.	I've known it was coming for a long time. I think there are ways that would not have such an impact on so many people	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. 3-In the future, more than bus stops and express bus service will be needed as Utah County and Pleasant Grove grow. Plans include availability of and access to commuter rail service through the Intercity Connector facility, which is being developed as a high frequency bus route between Spanish Fork and Eagle Mountain and anticipated to be operational by 2015. Local circulator bus service will also be increased throughout the communities of Utah County, including Pleasant Grove.
Rupper	Wendy	445 Valley View Drive	Pleasant Grove	UT	84062	801-796-7520	<a href="mailto:wendy.rupper@gmail.com">wendy.rupper@gmail.com</a>	The locust realignment is a wonderful idea, however the safety of the roundabout at locust and 200 concerns me. Stop signs are much safer for pedestrian traffic and where walking is frequent.	Sidewalks, in my opinion, are a greater priority than widening for bikes lanes. If its either or pick sidewalks! Have you considered interconnecting HANDICAP routes as well. The majority of sidewalks in my neighborhood do NOT have handicap ramps.	Wishful thinking for 20 years in the future	I'm in desperate need of sidewalks with handicap ramps especially on the NE corner of Locust and Orchard. PLEASE make this a priority! The new recreation center makes much more pedestrian traffic on Locust; and at the speed most people drive in that road, it is unsafe for pedestrians to walk on the side of the road	1 - Roundabouts have proven to be just as safe, if not safer than stop signs for pedestrians when properly designed. If a roundabout is determined to be the best control for this intersection, the latest information will be used to design the roundabout to safely accommodate pedestrians. 2-There is no question that sidewalks should be the highest priority. However, they are more costly to construct and many times require additional right-of-way, making them more difficult to implement in comparison to painting a bicycle lane onto the pavement of an existing street. Handicap routes that are ADA compatible are also needed, but as with sidewalks, implementation of ADA facilities since there are relatively few ADA compatible sidewalks in the City, and therefore more problematic to implement. In order to implement more sidewalk and ADA compatible facilities, the City will need to allocate more financial resources on a regular basis for these improvements. 3-Plans identify transit projects for both long as well as short range implementation. To implement the transit element of the Plan will require substantial financial resources which the Mountainland Association of Governments (MAG) Plan has accounted for. 4- Comment noted.



Last Name	First Name	Street	City	State	Zip	Phone	Email	1. Are you in favor of the proposed Roadway Master Plan? If no, why?	2. Are you in favor of the proposed Trail/Bicycle Master Plan? If no, why?	3. Are you in favor of the proposed Transit Master Plan? If no, why?	4. Please list any additional comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.	Response
Levin	Fred & Trudi	3939 West 9600 North	Cedar Hills	UT	84062	801-785-3356	<a href="mailto:trudilevin@hotmail.com">trudilevin@hotmail.com</a>	If the road is widened on 4000 North most of the houses will have to be condemned. A better solution would be to widen the road just south because it is already at least 70 feet wide. If traffic light at 4000 North and canyon would be placed a major security issue will be put in place	There really is not enough access to the trails	It is almost impossible to use UTA because the steps are not convenient and too far apart and the time is not frequent enough to assist us in our travel	If 4000 North should be widened the street should be widened on either side. Again, the road south of 4000 North is wide enough to accommodate the proposed	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. 3-It must be agreed that there is much to be desired about the current transit (bus) service in many parts of Utah County, including Pleasant Grove. That is why transit projects have been identified in the Regional Transportation Plan that hopefully will meet the transit needs in both the long and short term.
Thompson	Jeff	617 Canyon View Drive	Pleasant Grove	UT	84062						Love the idea of improving access to down town and making it more attractive. Roundabouts would be a nice touch. Like bike trails ect. as well.	4 - Comment noted.
Zullinger	Dennis	637 West 4000 North	Pleasant Grove	UT	84062	801-785-5991	<a href="mailto:hull810@alpine.k12.ut.us">hull810@alpine.k12.ut.us</a>	Houses on 4000 North are too close to the road if widened to a 70 foot road or 106 foot right of way nearly every hose on the road would need to be condemned it would be better to have the original road plan where the next road to the south is the 70 foot road. It's already that wide.	The trails look good, but there should be more access into Mt. Mahogany from more points than just the Forest Service Trail	UTA is a joke. It serves only those along State Street. Pleasant Grove shouldn't even participate unless they really serve our community. The Canyon Road run is just twice a day	If 4000 North is widened the hill on Canyon Road to the north would need to be removed. A stop light there would cause many accidents unless the hill were removed. I have a hard time turning south of 4000 North without being run over. So far the widening of 4000 North is being done on just the south side. It needs to be widened equally on both sides.	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. 2- We agree with you that more access points are needed to the Forest Service lands and Mt. Mahogany to the east of the City. In response to your comment, the City has added more planned trailheads to the Draft Transportation Master Plan that would allow greater access to the natural areas east of the City. Starting from the Pleasant Grove/Lindon City boundary and working northward the planned trailheads are: Murdock Drive Trailhead, Murdock Estates Trailhead, Wade Springs Park Trailhead, Wadley Springs Trailhead, Manila Creek Trailhead, and Harvey Boulevard Trailhead (Murdock Canal). The existing trailheads are: Kiwanis Park Trailhead, and Grove Creek Trailhead. 3-As with the response made above to the Levin comment, the transit or bus service in Utah County generally, and Pleasant Grove specifically can and should be significantly improved. Plans call for the addition of commuter Rail, light rail, the Intercity Connector, Bus Rapid Transit, and expansion of local circulator bus service within the next 4 to 20 years. These improvements will make a difference in the ability of Pleasant Grove's residents to get around.
Levin	Ralph	866 West 4000 North	Pleasant Grove	UT	84062	801-701-0440	<a href="mailto:Ralph-6444@hotmail.com">Ralph-6444@hotmail.com</a>	The intersection at 900 West 4000 North is a steep hill and people get stuck at the top of the hill and when they attempt to go out onto Canyon Road they create A LOT of near misses and accidents			4000 North needs to be a one way street going down hill only to elevate accidents, and the plan to put in a roundabout at the bottom of that hill would require removal of my 150 year old trees which WILL NOT HAPPEN!!! Over my dead body will those trees be messed with - once again the solution is to make 4000 North a ONE WAY STREET or possibly a dead end street.	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns.
Phelon	Kathryn	1040 East 900 South	Pleasant Grove	UT	84062	801-785-3705					When will you finish 1000 South between Locust and 1150 East? My property borders this road. Will I have access to get onto this road from my back yard?	4 - The extension of 1000 South is a high priority (0 to 5 years); however, the actual implementation of this improvement is dependent on available funding. With this road being classified as a minor arterial, access will be restricted. Therefore, if your property is already accessible from the front, a secondary access would not be granted.
Wise	Jim	2211 North 600 West	Pleasant Grove	UT	84062			Totally opposed to "roundabouts" anywhere			600 West needs to be widened at two properties at 2211 North that stick out 12' into an otherwise straight street.	4 - As development occurs along this roadway, developers will be responsible to widen this roadway and install curb & gutter, park strips, and sidewalks.
Robinson	Randy & Jan	3945 North 900 West	Pleasant Grove	UT	84062	801-785-2224	<a href="mailto:randyw.robinson@gmail.com">randyw.robinson@gmail.com</a>	too costly for the population to justify the cost - Get the developers figure it out when Wadley property is sold, and developed	Didn't see it - Sounds like a good idea - we have a fair amount of bicyclist people exercising on these back roads	The one in front of Lone Peak High School we are	Seems like an exorbitant amount of money for the amount of cars we see use these roads at this point in time - We would like to know who did the survey of 20,000 cars daily-maybe in a week or two- Not warranted at this time	1 & 4 - It is unclear to which part of the City you are referring. The cost of the recommended improvements will not be solely covered by the City. Impact Fees will be collected from developers and other funds are available to the City to construct some of the recommended improvements. It should also be noted that these improvements will be spreadout over atleast the next 20 to 30 years as land continues to be developed. 2-We agree with you that the development of bicycle and pedestrian facilities in the City is a good idea.

Last Name	First Name	Street	City	State	Zip	Phone	Email	1. Are you in favor of the proposed Roadway Master Plan? If no, why?	2. Are you in favor of the proposed Trail/Bicycle Master Plan? If no, why?	3. Are you in favor of the proposed Transit Master Plan? If no, why?	4. Please list any additional comments, concerns, and/or suggestions you may have relating to the overall Transportation Master Plan.	Response
Walker	Kent & Jill	3865 North 900 West	Pleasant Grove	UT	84062	801-796-7974		<p>1. Harvey Blvd does not have the traffic count to justify it as a main arterial street. The school area will not lend itself to speeds that occur on such thorough fares</p> <p>2. There appears to be a lack of coordination with adjoining communities- especially in our area (Cedar Hills/American Fork)</p> <p>3. Roundabouts are a popular (but not proven solution) to moving traffic but the 3 on 2600 North don't make any sense -(3 way)</p> <p>4. In our area the main traffic flow seems to move to the south and to the west. The master plan does not appear to take this into consideration (there are not destination "nodes" north or east of our area except American Fork Canyon.</p> <p>5. The grid plan proposed in north Pleasant Grove starts to look like the layout for Orem (uck) and you will loose all sense of neighborhood!</p>				1 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. - Roundabouts have proven to be safer and just as efficient at moving traffic as a traffic signal when properly designed. If roundabouts are determined to be built along 2600 North, the latest design standards will be used to assure they operate as efficiently as possible.
Fox	Wade & Kaylee	3905 North 900 West	Pleasant Grove	UT	84062	801-796-3903	<a href="mailto:wfox3903@msn.com">wfox3903@msn.com</a>	We disagree with the roundabouts proposal at 4000 North 900 West. There is not enough growth or traffic flow potential to ever support or justify a roundabout at that location.			We also feel that 3 roundabouts on 2600 North are unnecessary	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. - Roundabouts have proven to be safer and just as efficient at moving traffic as a traffic signal when properly designed. If roundabouts are determined to be built along 2600 North, the latest design standards will be used to assure they operate as efficiently as possible.
Zupan	Dennis & Betty	3985 North 900 West	Pleasant Grove	UT	84062	801-796-5301	<a href="mailto:bdzupan@yahoo.com">bdzupan@yahoo.com</a>	too many roundabouts. Not coordinated with other cities			The best way across the valley, East-West is 2600 North. Three roundabouts would be too much of a change, slowing down traffic on the best road - A signal light on 4000 North and State Road 146 or Canyon Road is not a good choice - move it south to the Cedar Hills Road. The roundabouts at 4000 North 9th West is an overkill there is not and cannot be enough traffic to justify it.	1 & 4 - Comments noted. Since the regional transportation master plan by MAG shows a need for an east/west regional facility in this area, City will continue to work with MAG, UDOT, surrounding cities, and local residents to develop a solutions to the transportation needs in this area. The City has developed four alternatives that are being considered. For the time being, the City has not decided on a specific alternative and will continue to study the issues to appropriately address residents concerns. - Roundabouts have proven to be safer and just as efficient at moving traffic as a traffic signal when properly designed. If roundabouts are determined to be built along 2600 North, the latest design standards will be used to assure they operate as efficiently as possible.

## Appendix E: Resolution & Staff Report

**RESOLUTION NO. 2009-016**

**A RESOLUTION AMENDING THE PLEASANT GROVE CITY TRANSPORTATION MASTER PLAN AS PROVIDED IN CHAPTER 5 OF THE PLEASANT GROVE CITY GENERAL PLAN, AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, the transportation and circulation system of any community can be considered the framework of that community; and

**WHEREAS**, The City's goal is to have a good transportation system that provides quality circulation, regulates traffic appropriately, and that has vision for future growth; and

**WHEREAS**, concerns regarding transportation issues have increased as development has increased in the City of Pleasant Grove (the "City"); and

**WHEREAS**, to address said impacts and concerns, the City retained Horrocks Engineers Inc, to provide expert transportation consulting services and to assist in preparing an update of the Pleasant Grove City Transportation Master Plan; and

**WHEREAS**, the Mayor established a Transportation Master Plan Advisory Committee (the "Advisory Committee") to study transportation issues and work with Horrocks Engineers, Inc in preparing the Major Street Plan update; and

**WHEREAS**, Horrocks Engineers Inc, working with the Advisory Committee and City technical staff, prepared amendments to update the City's Transportation Master Plan; and

**WHEREAS**, on May 13, 2009 a public open house was held to review with the public the proposed amendments to the Transportation Master Plan and to receive input from the public on aspects of the amendments including: 600 West alignment, 4000 North options, and 100 East widening.

**WHEREAS**, on June 23, 2009 the Pleasant Grove Planning Commission held a duly noticed public hearing to consider the proposed amendments of the City's Transportation Master Plan, and after such public hearing and upon considering the recommendation of Horrocks Engineers Inc, the Advisory Committee, and the public, the Planning Commission recommended that the City Council adopt the update of the Transportation Master Plan with amendments; and

**WHEREAS**, on June 23, 2009 the City Council held a duly noticed public hearing to consider the recommendation of the Planning Commission to update the Transportation Master Plan; and

**WHEREAS**, after considering the Planning Commission's recommendations, and the facts and comments presented to the City Council, the Council finds that the proposed update of the Pleasant Grove City Transportation Master Plan reasonably furthers the health, safety and

general welfare of the citizens of Pleasant Grove.

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of Pleasant Grove City, Utah County, State of Utah, as follows:

SECTION 1. Chapter 5 "Transportation" of the Pleasant Grove City General Plan is hereby amended as shown on Exhibit "A" which is attached hereto and incorporated herein by this reference.

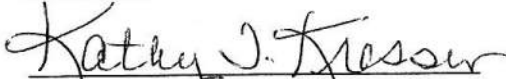
SECTION 2. SEVERABILITY. The sections, paragraphs, sentences, clauses, and phrases of this Resolution are severable. If any such section, paragraph, sentence, clause, or phrase shall be declared invalid or unconstitutional by the valid judgment or decree of a Court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any of the remaining sections, paragraphs, sentences, clauses, or phrases of this Resolution.

SECTION 3. THIS RESOLUTION APPROVED and ADOPTED by the City Council of Pleasant Grove City, Utah County, Utah, this 23<sup>rd</sup> day of June, 2009.



Michael W. Daniels, Mayor

ATTEST:

  
Kathy T. Kresser, City Recorder

(SEAL)





COMMUNITY DEVELOPMENT DEPARTMENT  
86 East 100 South  
Pleasant Grove, UT 84062  
(801) 785-6057 Fax: (801) 785-5667  
[www.pgcity.org](http://www.pgcity.org)

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## PLANNING COMMISSION & CITY COUNCIL STAFF REPORT

Meeting Date: June 23, 2009

Agenda Item Number: 1

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**Issue:** Public hearing to consider adoption of a Resolution regarding the adoption of the updated Pleasant Grove City Transportation Master Plan.

**From:** Degen Lewis  
City Engineer

**Applicant:** Pleasant Grove City

**Zoning:** All zones

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### **BACKGROUND:**

Over the last four months Pleasant Grove City has been working on an update to the transportation master plan. The current plan was adopted in 2001 and significant growth has occurred within the City since that time. The update anticipated a refinement of the current plan with no major changes expected. Growth and street expansion since 2001 needed to be accounted for in road maps and the Capital Facilities plan. Staff has also noted a need for formal guidance and standards on access management for roads classified at collector level or higher. There was also a desire to include several road realignments that the City has considered at various times in the past. Need for these changes appears greater now and staff wanted them formally included in the plan so that development can be appropriately directed to accommodate the anticipated changes.

A draft of the plan was presented for review by the public at an Open House on May 13, 2009. The comments were generally positive. The most common concerns verbalized that evening focused on how Canyon Road was accessed from 4000 North. This area is more specifically addressed later. Written comments on the proposed plan update are included in an appendix in the final document along with a summary of these comments and how they were addressed in the plan.

The revised Pleasant Grove City Transportation Master Plan update includes:

- (1) Amendment of the text of the Plan in its entirety. Most sections were expanded in scope and detail. The areas of access management and future street layout planning have had significant expansion. A discussion of traffic calming measures has been added. Trail and alternative transportation (non automobile) modes are discussed more fully.

(2) Amendment of the Street Master Plan Map. The Street Master Plan Map has been expanded in the information shown.

#### Local Street Vicinity Map

City ordinance requires the Planning Commission not only to adopt and maintain a Major Street Plan but also to adopt and maintain a vicinity map for the long range planning of local streets. Potential local streets are now shown on the Roadway Master Plan Map. The map is subdivided into a more detailed view in figures 8-10.

#### Roadway Realignment Or New Connections

There are several locations throughout the City where roads that need realignment or new connections to provide better long term traffic flow. They include:

- Shift of 1300 West (Proctor Lane) at 700 North in Lindon to reestablish the connectivity of Proctor lane south toward Utah Lake.
- Shift of 600 West and Center Street north of State Street so that 600 West connects directly with State Street and Center Street connects to 600 West to the north.
- Shift of 100 East and Geneva Road so that the two streets meet in a single intersection at State Street. This also includes a disconnection of Main Street from State Street.
- Shift of Murdock Drive east of 1500 East to the south so that it lines up with 1000 South. The existing Murdock Drive would disconnect from 1500 East but still service all homes along the street.
- Shift of 200 South and 220 South to align with each other and cross State Street at a right angle. Currently being accomplished through UDOT's project to widen State Street.
- Shift of 2600 North to the north as it connects to Canyon Road so that the intersection is squared up and widened to improve safety.
- New connection between Garden Drive and State Street at approximately 1000 West.

#### Intersection Improvements

The map now includes information regarding the type of traffic control ultimately needed at certain locations (primarily the intersections of collectors and arterials). Signals are shown where traffic volumes are anticipated to grow to levels that will meet the standards for traffic signals. Roundabouts (traffic circles) are shown at intersections where expected traffic demand will exceed the ability of a multi-way stop to handle but where a traffic signal would be unwarranted.

There are several routes where the expansion needed has changed from the previous plan and maps. Streets previously identified for expansion in the previous plan which no longer need expansion or the required expansion is less than previously forecast are listed below:

- 2600 North will function adequately as a three lane collector rather than a five lane arterial.
- 1100 North will function adequately as a three lane collector rather than a five lane arterial.
- 220 South from Pleasant Grove Boulevard to State Street and 200 South from State Street and Main Street will function adequately as a three lane collector rather than a five lane arterial.
- Center Street can be reduced from a five lane arterial to a three lane collector (road diet) and still convey the anticipated traffic. This may allow for additional park, trail, open space, or parking options along this portion of Center Street.

One street, 100 East from State Street to 1100 North was previously identified as a three lane collector, but is not expected to function at an acceptable level unless expanded to a five lane width. 100 East north of 1100 North had previously been identified as a five lane arterial.

- (3) Amendment and/or inclusion of other Transportation Master Plan Maps, to include: 1) Roadway Functional Classifications Map, 2) Bicycle & Pedestrian Facilities Map, 3) Future Transit Plans Map, 4) Signal Inventory Map, 5) Transportation Improvement Program Map.
- (4) Additional illustrations of potential roadway cross-sections, including a new class of road called residential sub-local which is narrower than a standard residential street. There are specific guidelines as to where these roads would be allowed.

### **DISCUSSION:**

There is one area where staff desires specific guidance. This is the plan for improvements to 4000 North. This area generated the bulk of the written comment on the draft plan. Due to the feedback a separate discussion of this area and possible alternatives are listed in Chapter Five (see pages 48-50).

From an engineering point of view the option shown in the current transportation master plan is not recommended as it expects motorists to use a longer route with required left and right turns at an additional intersection while a more direct route exists. Experience indicates that motorists will use to most direct route (from a travel time standpoint). The option to widen 4000 North as shown in figure 17 is first recommended option. Widening 4000 North to a collector width will likely move the roadway within the standard setback for some homes and would be a significant change from the historical roadway. However, even installing a standard residential street would be a significant change from the current street.

A second alternative to provide a direct connection to Canyon Road would be to swing 4000 North south to line up with Monson Drive. This option would also remove the turns at the intersections and the realignment would take place on largely undeveloped land. There would be one home on 900 West that would need to be removed to make the new connection to the west. This option would also require Cedar Hills to modify their plans for 9600 North which would include reconstruction and abandonment of already completed collector status road improvements.

A third alternative is to continue with offset route as illustrated in the current plan. It will likely create congestion that would otherwise be avoided in the previous options and it is unusual to offset a collector roadway for such a short distance.

A fourth option of "Do Nothing" is outlined in the document but since option three above has previously been adopted by the City it is not really an option.

### **RECOMMENDATION:**

Due to tonight's joint meeting, there are two actions needed. The Planning Commission needs to make a recommendation to approve / disapprove the proposed plan along with any recommended changes to the final document. After this the City Council needs approve / disapprove the final document along with any changes required.

PLANNING COMMISSION –



Staff recommends approval of the updated Pleasant Grove City Transportation Master Plan, based upon the following findings:

1. The process to update the Transportation Master Plan has been provided good opportunity for input from the public, staff, and the Planning Commission.
2. The updated Transportation Master Plan is consistent with the City's goals as represented in the General Plan.

**CITY COUNCIL –**

Based on the recommendations given in the forgoing action of the Planning Commission regarding the revised Transportation Master Plan and based on the above and other findings listed by the Commission, Staff recommends adoption of the resolution adopting the 2009 Pleasant Grove City Transportation Master Plan.

**MODEL MOTION:**

**PLANNING COMMISSION –**

Sample Motion for Approval – “I move the Commission to forward a positive recommendation to the City Council to approve the proposed 2009 Pleasant Grove City Transportation Master Plan, including the maps and exhibits therein, as attached.

List any additional findings....

Sample Motion for Denial – “I move the Commission to forward a recommendation to the City Council to deny the proposed 2009 Pleasant Grove City Transportation Master Plan, based on the following findings:”

List findings for denial....

**CITY COUNCIL –**

Sample Motion for Approval – “I move we adopt the Resolution #\_\_\_\_ adopting the adopting the 2009 Pleasant Grove City Transportation Master Plan, including the maps and exhibits therein, as attached.

List any additional findings....

Sample Motion for Denial – “I move we deny Resolution #\_\_\_\_ adopting the proposed 2009 Pleasant Grove City Transportation Master Plan, based on the following findings:”

List findings for denial....

## Appendix F: 600 West & Center Street Study



**600 WEST & CENTER STREET  
CONCEPT STUDY  
PLEASANT GROVE, UT**  
JANUARY 25, 2024

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## Purpose of Report

The purpose of this Concept Study is to identify viable alternatives to meet the demands of current and future traffic at the intersection of 600 West & Center Street in Pleasant Grove, Utah. The stacking between the State Street & Center Street intersections has been a point of concern. The two westbound through lanes on Center Street are reported to stack and block the left-turn lane. This can cause drivers intending to turn left onto State Street from Center Street wait an additional signal cycle to make the left turn. Additionally, the eastbound left onto 600 West can queue further than the existing storage resulting in obstruction of eastbound through traffic. The study objectives are to collect traffic data at the study intersections, model existing and future traffic projections, analyze concept designs for the project location, and provide plan view layouts for each solution.

The following intersections are included in the study:

- 600 West & Center Street
- State Street & Center Street
- 600 West & Garden Drive

State Street is a UDOT roadway with planned updates on the horizon. These updates are included in this study. The railroad line running parallel to State Street and Center Street is owned by UTA with operations from Union Pacific Railroad (UPRR).

## STUDY AREA CONDITIONS

The intersection identified for improvement is 600 West & Center Street located near the center of Pleasant Grove Utah. This is east of the major intersection of State Street & Center Street (see **Figure 1**).

**Figure 1: Study Location**



## ROADWAY DESCRIPTIONS

**State Street** is a 45-mph northwest/southeast 6-lane road classified as a primary arterial by UDOT. It is characterized by three southeast bound lanes and two northwest bound lanes separated by a two-way-left-turn lane (TWLTL) within the study area. UDOT's planned updates for State Street, estimated to be complete by 2025, will make it a 7-lane roadway with three travel lanes in both directions separated by a TWLTL.

**Center Street** is a 35-mph east/west 5-lane road classified as an arterial by Pleasant Grove City. It is characterized by two travel lanes in each direction separated by a TWLTL.

**600 West** is a 25-mph north/south 3-lane road classified as a collector by Pleasant Grove City. It is characterized by one travel lane in each direction separated by a TWLTL.

## INTERSECTION DESCRIPTIONS

**State Street & Center Street** has crosswalks on every approach and the following lane configurations:

- Southeast bound: 1L, 3T, 1R with sharrow bike lane markings.
- Northwest bound: 1L, 2T, and a shoulder that functions as a dedicated right-turn lane.
- Southwest bound: 1L, 2T, 1R.
- Northeast bound: 1L, 1T, 1TR.

UDOT's planned updates for State Street will impact all of the approaches in the following ways:

- Southeast and Northwest bound: 2L, 3T, 1Bike, 1R.
- Southwest and Northeast bound: 1L, 2T, 1R.

**600 West & Center Street** is a T-intersection with stop control on 600 West. The southbound lane geometry has a dedicated left-turn lane and a dedicated right-turn lane. The eastbound lane geometry has one dedicated left-turn lane and two through lanes. The westbound lane geometry has one through lane, one thru-right lane, and a TWLTL.

## RAILROAD CONSIDERATIONS

There is an existing railroad line that makes an east/west crossing of 600 West on the north side of the intersection with Center Street. Shortly after this crossing, it curves south crossing Center Street. UTA currently owns the railroad line with Union Pacific Railroad operating on it. The line has light use with approximately 2 crossings per week. Any modifications to the 600 West & Center Street intersection would include coordination with UTA, UDOT, and UPRR in consideration of current and future use of this railroad line.



## Study Conditions

Existing conditions for this study were established by collecting traffic volumes at the study intersections. The Mountainland Associated Governments (MAG) travel demand model (TDM) was used to forecast future traffic volumes at the study intersections. This section details the establishment of existing and future scenarios, as well as the updates to be made by UDOT to the State Street & Center Street intersection.

### EXISTING CONDITIONS

Traffic counts were collected in March 2022. The data for the following intersections can be found in **Appendix A:**

- State Street & Center Street
- 600 West & Center Street
- 600 West & Garden Drive
- Center Street & 200 West

These counts were put into Synchro 11 modelling the existing roadways. Adjustments to driver behavior in the SimTraffic tool helped reflect the observed conditions of the intersections. These adjustments were applied to a model reflecting the updates to the State Street & Center Street intersection. This model establishes the existing conditions for the study.

### FUTURE CONDITIONS

The MAG TDM forecasts regional transportation data. The existing counts combined with the information from the TDM produce the future volumes for the 2030 and 2050 scenarios. The UDOT updates to the State Street & Center Street intersection were included in all scenarios.

### FUTURE INTERSECTION CONFIGURATION

The State Street & Center Street intersection is part of the UDOT plans to update sections of State Street. This will result in State Street lane configurations with dual dedicated left-turn lanes, three through lanes, a dedicated bike lane, and a dedicated right-turn lane. The Center Street configurations will have a dedicated left-turn lane, two through lanes, and a dedicated right-turn lane. Turn movement sheets showing these lane configurations, as well as the corresponding existing, 2030, and 2050 volumes, are shown in **Figure 2**, **Figure 3**, and **Figure 4**.

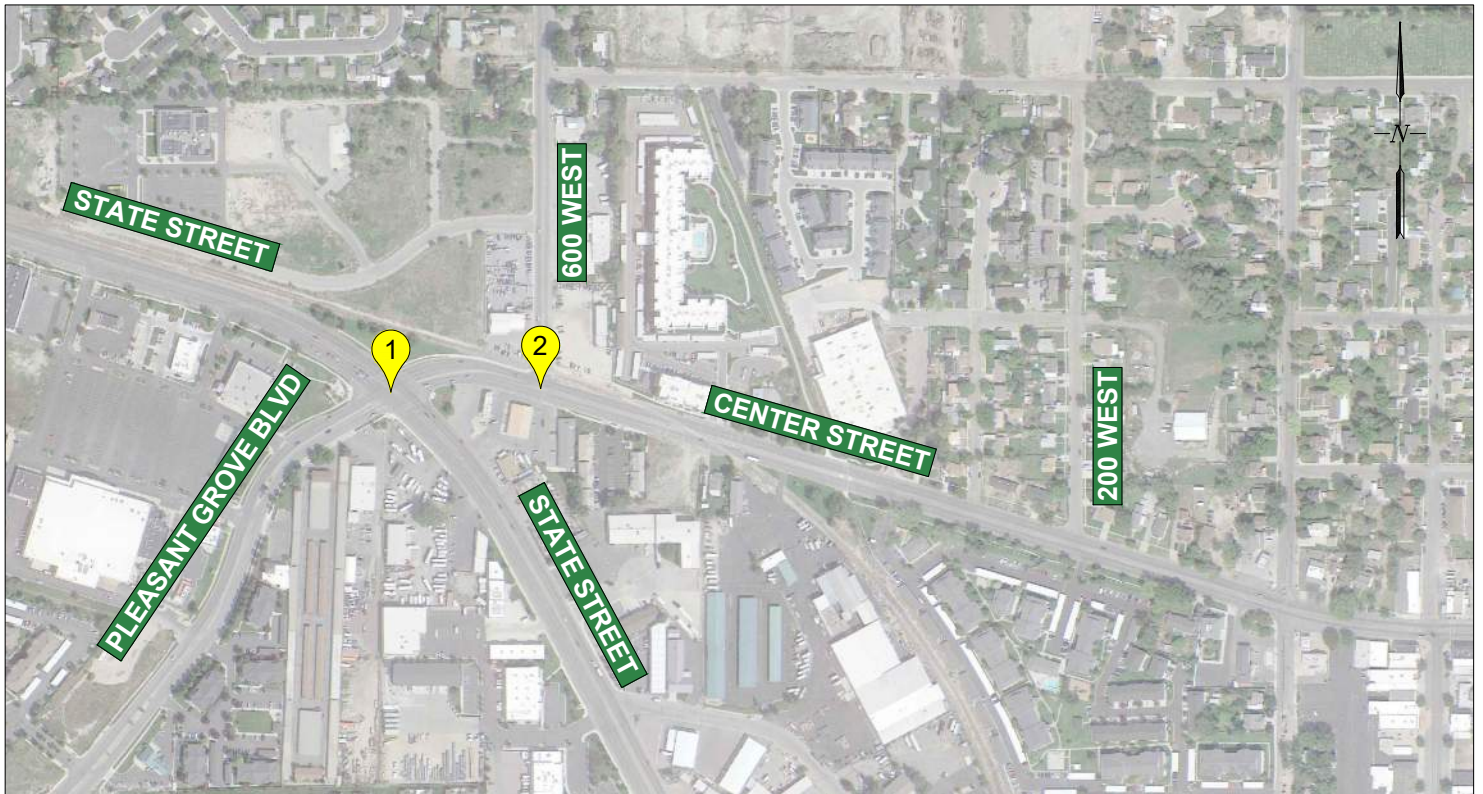
### PLANNED GROWTH

Future growth surrounding 600 West & Center Street was forecast using the MAG's TDM. This model integrates future population projections and proposed regional transportation projects to estimate future traffic conditions along the Wasatch Front. MAG's TDM is part of a larger model adopted by the Utah Department of Transportation for the entire Wasatch Front.

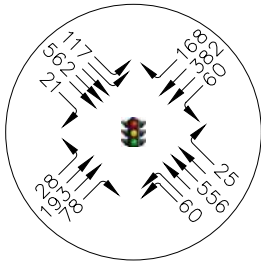
**Table 1** displays the existing and forecast volumes and growth rates for the study roadways. These growth rates determine future volumes at the State Street & Center Street and 600 West & Center Street intersections. These volumes can be seen in **Figure 2**, **Figure 3**, and **Figure 4**.

**Table 1: MAG TDM Traffic Volumes for the years 2030 and 2050**

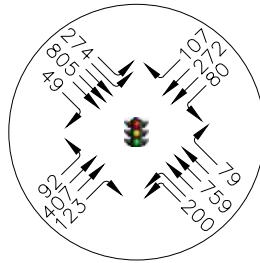
Road	Average Daily Weekday Traffic (ADWT)		
	Existing Volume	2030 Volume (% Difference from Existing)	2050 Volume (% Difference from Existing)
600 West	5,990	6,400	8,050
		(6.84%)	(34.39%)
Center Street	9,530	10,010	12,180
		(5.04%)	(27.81%)
State Street	24,550	24,310	23,450
		(-0.98%)	(-0.98%)



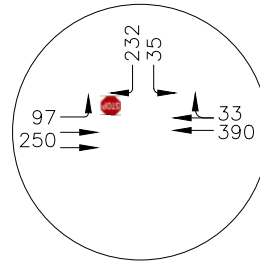
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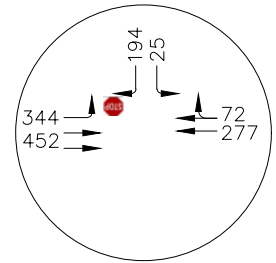
1 PM PEAK HOUR



2 AM PEAK HOUR

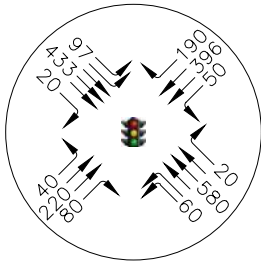


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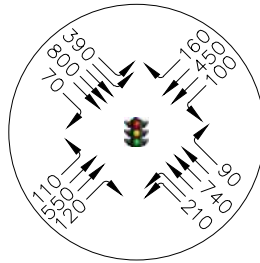




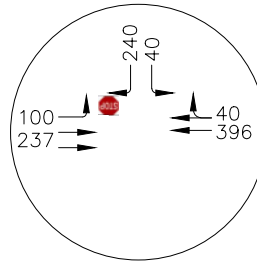
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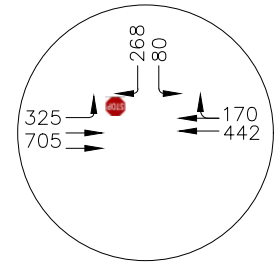
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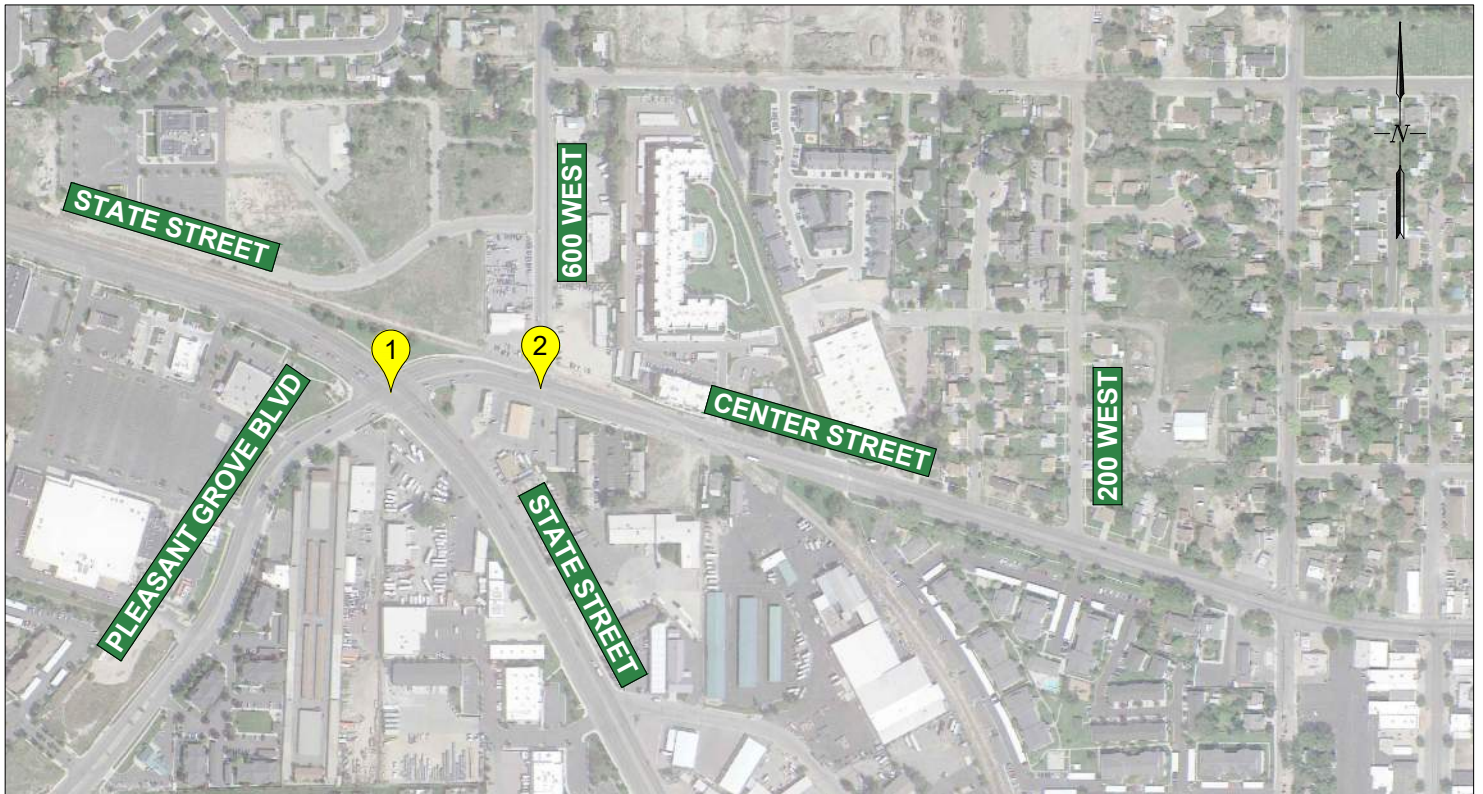


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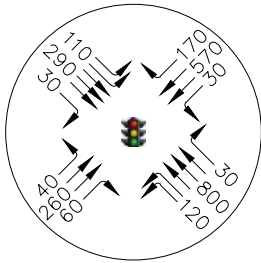


2 PM PEAK HOUR

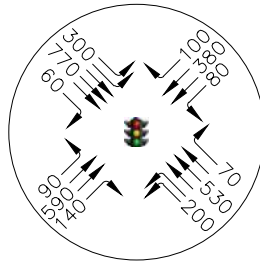




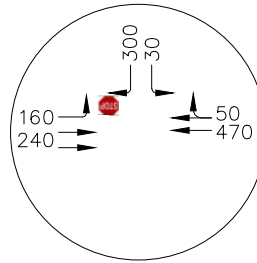
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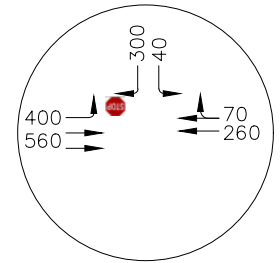
1 PM PEAK HOUR



2 AM PEAK HOUR



2 PM PEAK HOUR



## Concept Analysis

To help identify the needs and constraints at the 600 West and Center Street intersection, several abstract concepts were created and discussed with Pleasant Grove City staff. Concepts were narrowed as public use, cost, and general practicality were considered. Ultimately three (3) concepts were selected for further analysis and proof of concept.

Each concept was modeled and analyzed with existing, 2030, and 2050 traffic volumes. Analysis for each concept involved the following factors with their overall contribution to a total scoring:

- Safety – **30%**
- Operations – **40%**
  - 95<sup>th</sup> percentile queue – 30%
  - Level of Service – 10%
- Cost – **30%**

It is important to review these factors to provide recommendations that provide the highest benefit for all users at this intersection. The SimTraffic results for each concept showed that every concept performed at LOS A or B during the AM and PM peak hours. Because of this, Level of Service was given a lower weight to the total score to focus on how well each concept solved the storage of vehicle queueing. The sections below outline the analysis of each measure.

## CONCEPT SELECTION

Twelve (12) initial concepts were created and discussed with Pleasant Grove City. The following high-level drawings can be found in **Appendix B**:

- *Existing T-Intersection modified to be right-in-right-out (RIRO)*
- *Existing T-Intersection modified to be a  $\frac{3}{4}$  access (no SB left-turns)*
- *Existing T-Intersection modified to be a signalized  $\frac{3}{4}$  access (no SB left-turns)*
- *Existing T-Intersection modified to be a signalized high-T intersection*
- *New Roadway Alignment with a signalized high-T intersection*
- *Realign Center Street to T into 600 West as a signalized T-intersection*
- *Realign Center Street to T into 600 West as a signalized T-intersection with a two-lane channelized right towards Center Street*
- *Realign Center Street, 600 West, and Garden Drive into a full signalized intersection*
- *Realign Center Street, 600 West, and Garden Drive into a full signalized intersection with a two-lane channelized right towards Center Street*
- *Realign Center Street, 600 West, and Garden Drive into a four-leg roundabout*
- *Three-leg roundabout at the existing intersection*
- *Eliminate access to Center Street by making 600 West a cul-de-sac*

The initial concepts were discussed with City staff and City Council to review the high-level impacts for each concept. The following three (3) concepts were selected to be analyzed in greater detail:

- *Existing T-Intersection modified to be a signalized high-T intersection*
- *New Roadway Alignment with a signalized high-T intersection*
- *Three-leg roundabout at the existing intersection*

Figures summarizing this analysis can be found in **Appendix C**. The following sections provide a description of the selected concepts.

### CONCEPT 1: HIGH-T SIGNAL

A high-T signal works differently than a traditional signalized T-intersection. A traditional signalized T-intersection controls all 6 movements with the signal. A high-T intersection only controls 5, allowing one through movement to flow freely. At the study intersection this is the eastbound through movement on Center Street. Westbound through traffic would be stopped to all southbound left turns a protected movement to then merge with eastbound through traffic. Coordination with the State Street & Center Street intersection would ensure sufficient gaps for safe merging. **Figure 5** shows the high-level concept drawing of the High-T Signal.

### CONCEPT 2: HIGH-T SIGNAL WITH NEW ALIGNMENT

Shifting the alignment of 600 West to the east provides more space between the State Street & Center Street and 600 West & Center Street intersections. More space allows for greater volumes of vehicles to stack into a queue without blocking turn lanes or spilling into adjacent intersections. **Figure 6** shows the high-level concept drawing of the High-T Signal with the New Alignment.

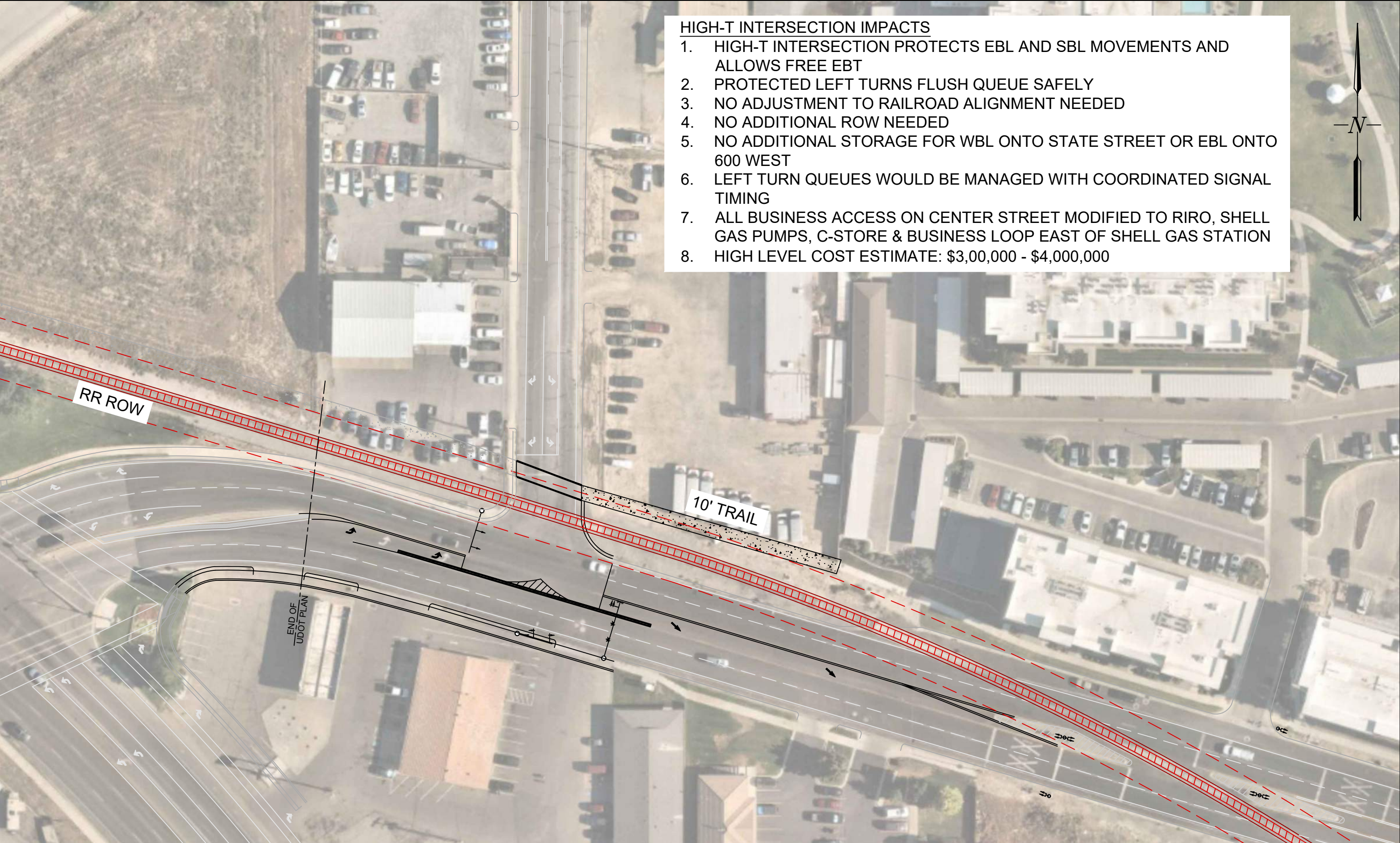
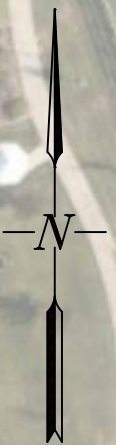
### CONCEPT 3: TURBO ROUNDABOUT

The turbo roundabout concept places a roundabout at the intersection of 600 West & Center Street. A turbo roundabout has design features that are different from a traditional roundabout that potentially increase safety and flow through the roundabout. **Figure 7** shows the high-level concept drawing of the Turbo Roundabout.

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**HIGH-T INTERSECTION IMPACTS**

1. HIGH-T INTERSECTION PROTECTS EBL AND SBL MOVEMENTS AND ALLOWS FREE EBT
2. PROTECTED LEFT TURNS FLUSH QUEUE SAFELY
3. NO ADJUSTMENT TO RAILROAD ALIGNMENT NEEDED
4. NO ADDITIONAL ROW NEEDED
5. NO ADDITIONAL STORAGE FOR WBL ONTO STATE STREET OR EBL ONTO 600 WEST
6. LEFT TURN QUEUES WOULD BE MANAGED WITH COORDINATED SIGNAL TIMING
7. ALL BUSINESS ACCESS ON CENTER STREET MODIFIED TO RIRO, SHELL GAS PUMPS, C-STORE & BUSINESS LOOP EAST OF SHELL GAS STATION
8. HIGH LEVEL COST ESTIMATE: \$3,00,000 - \$4,000,000



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
1" = 60'  
VERTICAL

**WARNING**  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



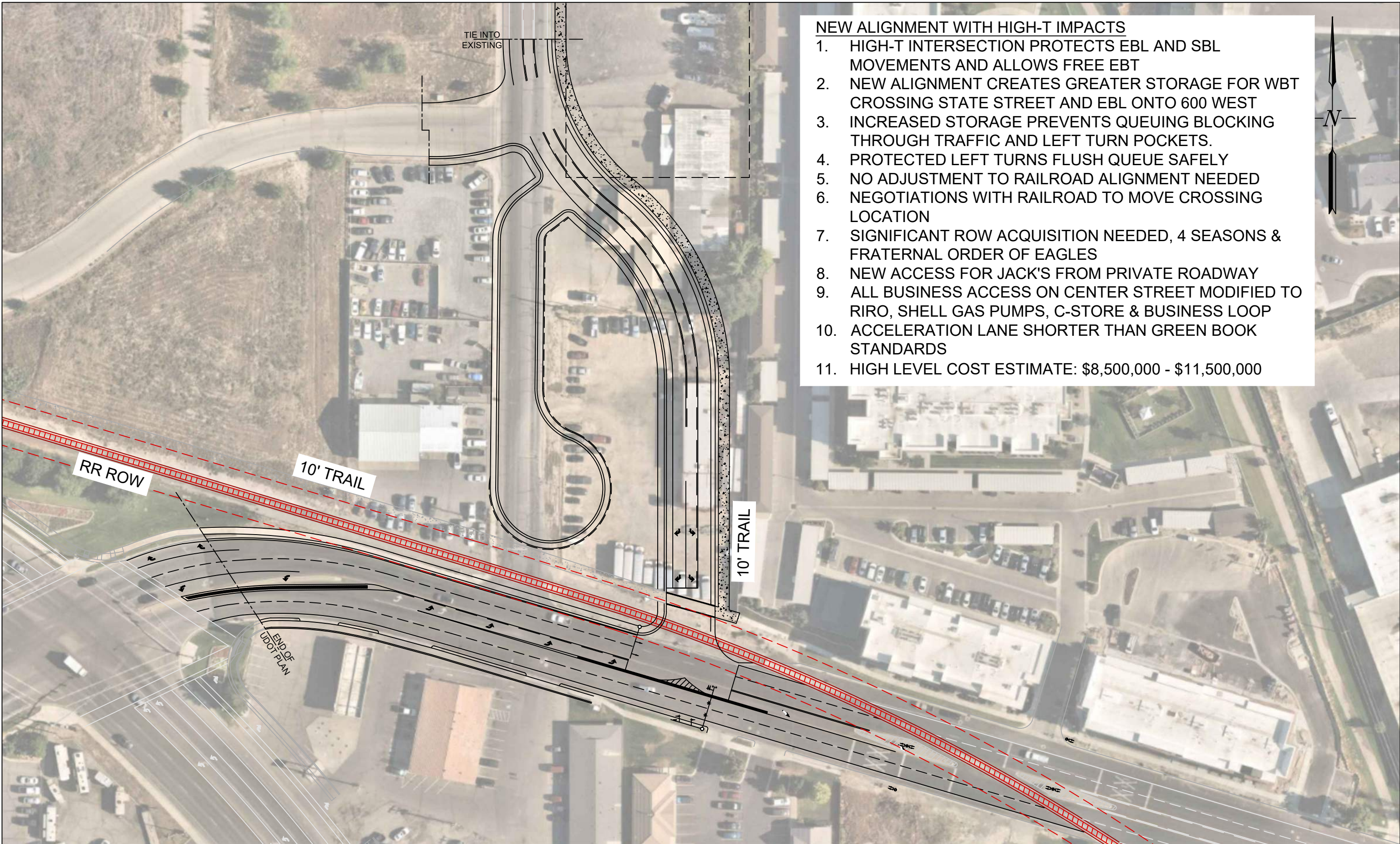
2162 West Grove Parkway  
Suite 100  
Pleasant Grove, UT 84062  
(801) 763-5100

**HIGH-T 1**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	1 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----



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**NEW ALIGNMENT WITH HIGH-T IMPACTS**

1. HIGH-T INTERSECTION PROTECTS EBL AND SBL MOVEMENTS AND ALLOWS FREE EBT
2. NEW ALIGNMENT CREATES GREATER STORAGE FOR WBT CROSSING STATE STREET AND EBL ONTO 600 WEST
3. INCREASED STORAGE PREVENTS QUEUING BLOCKING THROUGH TRAFFIC AND LEFT TURN POCKETS.
4. PROTECTED LEFT TURNS FLUSH QUEUE SAFELY
5. NO ADJUSTMENT TO RAILROAD ALIGNMENT NEEDED
6. NEGOTIATIONS WITH RAILROAD TO MOVE CROSSING LOCATION
7. SIGNIFICANT ROW ACQUISITION NEEDED, 4 SEASONS & FRATERNAL ORDER OF EAGLES
8. NEW ACCESS FOR JACK'S FROM PRIVATE ROADWAY
9. ALL BUSINESS ACCESS ON CENTER STREET MODIFIED TO RIRO, SHELL GAS PUMPS, C-STORE & BUSINESS LOOP
10. ACCELERATION LANE SHORTER THAN GREEN BOOK STANDARDS
11. HIGH LEVEL COST ESTIMATE: \$8,500,000 - \$11,500,000

**PRELIMINARY**  
NOT FOR CONSTRUCTION

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VERTICAL

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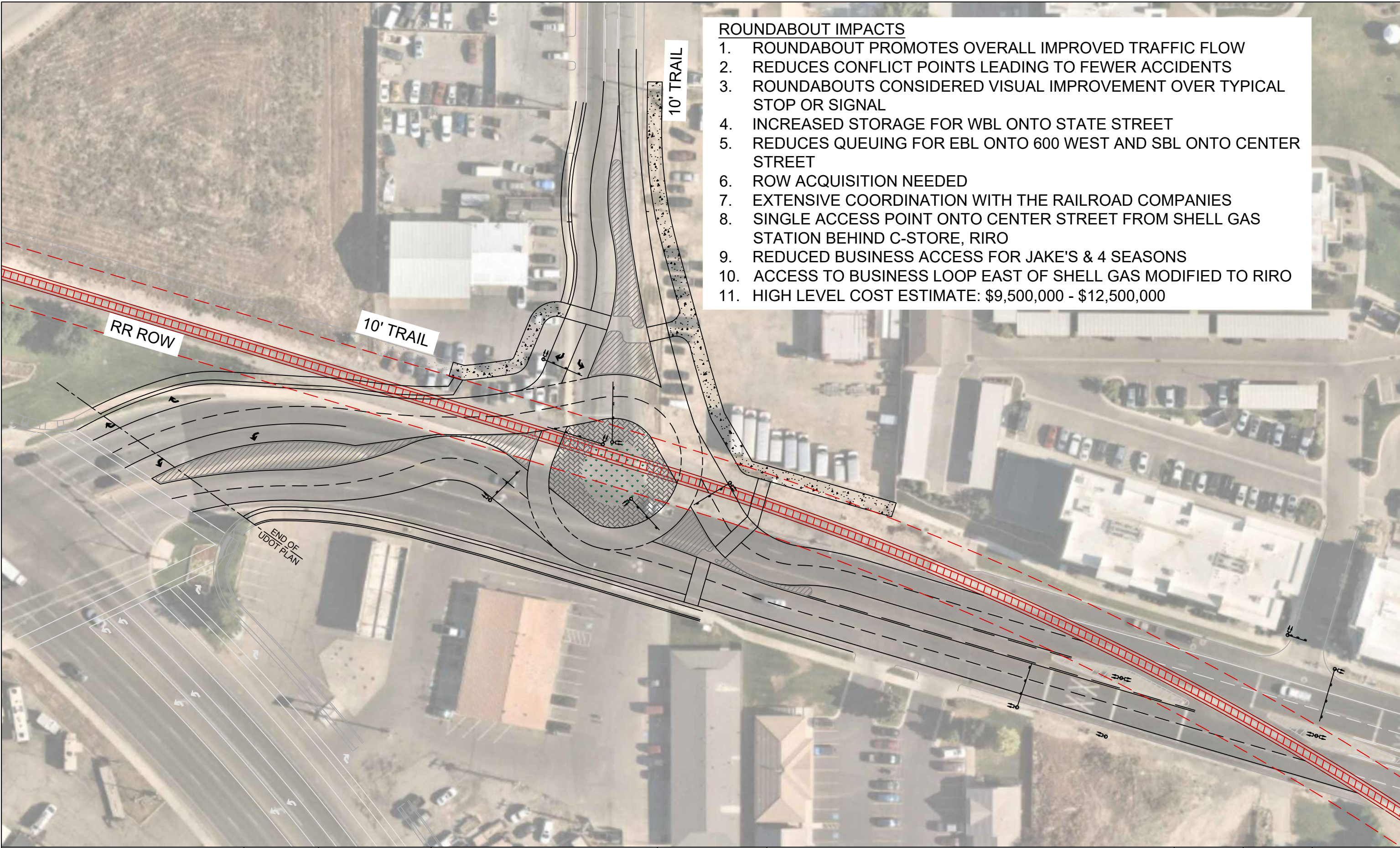


2162 West Grove Parkway  
Suite 100  
Pleasant Grove, UT 84062  
(801) 763-5100

**HIGH-T 2**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	2 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**ROUNDOABOUT IMPACTS**

1. ROUNDOABOUT PROMOTES OVERALL IMPROVED TRAFFIC FLOW
2. REDUCES CONFLICT POINTS LEADING TO FEWER ACCIDENTS
3. ROUNDOABOUTS CONSIDERED VISUAL IMPROVEMENT OVER TYPICAL STOP OR SIGNAL
4. INCREASED STORAGE FOR WBL ONTO STATE STREET
5. REDUCES QUEUING FOR EBL ONTO 600 WEST AND SBL ONTO CENTER STREET
6. ROW ACQUISITION NEEDED
7. EXTENSIVE COORDINATION WITH THE RAILROAD COMPANIES
8. SINGLE ACCESS POINT ONTO CENTER STREET FROM SHELL GAS STATION BEHIND C-STORE, RIRO
9. REDUCED BUSINESS ACCESS FOR JAKE'S & 4 SEASONS
10. ACCESS TO BUSINESS LOOP EAST OF SHELL GAS MODIFIED TO RIRO
11. HIGH LEVEL COST ESTIMATE: \$9,500,000 - \$12,500,000

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	1" = 60'
VERTICAL	

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



2162 West Grove Parkway  
Suite 100  
Pleasant Grove, UT 84062  
(801) 763-5100

**TURBO ROUNDOABOUT**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	3 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

## EXISTING INTERSECTION OPERATIONS

The AM and PM peak hour traffic counts for the study intersections were collected in March 2022. These counts were put into Synchro 11 modelling the existing roadways. Adjustments in the SimTraffic tool helped reflect the observed conditions of the intersections. These adjustments were applied to a model reflecting the coming updates to the State Street & Center Street intersection. This model establishes the existing conditions for the study. The traffic movements are shown in **Figure 2**. Both intersections perform at an acceptable **Level of Service** (LOS) considering delay times. However, the queue lengths during the AM and PM peak hour traffic between State Street and 600 West are greater than the available left-turn storage lengths as shown in **Table 2**.

The storage lengths shown in the table are the westbound through (WBT) at State Street & Center Street, and the eastbound left (EBL) at 600 West & Center Street. The WBT movement at State Street & Center Street is stacking past the available WBL storage. This prevents left turning vehicles to enter the storage lane. For this reason, the WBT queue length is being shown in the table and analyzed for improvement. The queue length shown for 600 West & Center Street is the EBL movement. When queueing exceeds the storage length the EBT movements are blocked by drivers waiting for these left-turn movements.

**Table 2: Existing Peak Hour Traffic Analysis**

Intersection Number (Control)	Intersection	AM Peak Hour		PM Peak Hour		Queue Lengths*		
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service	**Storage Length (ft)	AM Queue Length (ft)	PM Queue Length (ft)
1 (Signal)	State Street & Center Street	23.9	C	35.0	C	100	208	260
2 (Stop)	600 West & Center Street	17.8	C	34.4	D	100	99	237

Source: HCM Methodologies using SimTraffic in Synchro 11

Control delay for unsignalized intersections shown for the worst approach only per the HCM.

\*Queue lengths shown for WBT for intersection 1 and EBL for intersection 2.

\*\*Storage lengths shown for WBL for intersection 1 and EBL for intersection 2.

The lack of queue storage is consistent with the feedback that Pleasant Grove City has received surrounding the study intersections. The analysis of the proposed concepts includes queuing vs available storage to ensure that this issue is resolved with the implementation of a new design.

## SAFETY

Pedestrian and driver safety was analyzed with each concept intersection configuration. Conflict points for drivers and pedestrians provide a metric to reduce the potential for collisions. The fewer conflict points correlates to a lower number of collisions.

### HIGH-T SIGNAL

A high-T signal would improve pedestrian safety crossing 600 West compared to the existing conditions. There is currently no crosswalk at this location. Pleasant Grove City has identified this as a potential crossing for a future multiuse trail. The protected walking phase at a high-T signal provides increased safety and awareness of pedestrian traffic for a future trail.

A high-T signal doesn't reduce the number of conflict points for drivers, but it creates protected phases where drivers can more safely make these movements.

### HIGH-T SIGNAL WITH NEW ALIGNMENT

For the same reasons described above, adding a crossing for a future use trail would be safer at a high-T signal than the existing stop-controlled intersection. Additionally, by shifting the alignment there is more space available for vehicle storage between the signals. This moves heavy traffic volumes away from State Street decreasing the chance that stacking queues into the intersection. The greater distance between signals also allows for more flexibility with the signal timing.

The shift in alignment brings the two railroad crossings closer together. This is safer for both drivers and pedestrians. The shift brings both crossings to a more central location at the signal, making all users more aware of the train and controlling both crossings with a single signal. The added storage, flexibility in signal timing, and condensing the crossings increases the safety of the High-T Signal for both drivers and pedestrians.

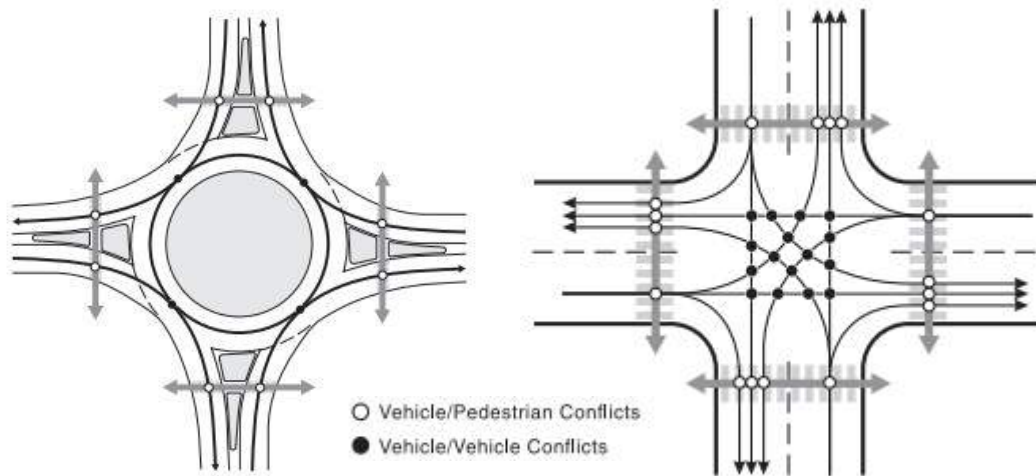
### ROUNDBABOUT

The Federal Highway Administration (FHWA) states in its report [\*ROUNDBABOUTS: An Informational Guide\*](#) that:

For pedestrians, the risk of being involved in a severe collision is lower at roundabouts than at other forms of intersections, due to the slower vehicle speeds. Likewise, the number of conflict points for pedestrians is lower at roundabouts than at other intersections, which can lower the frequency of collisions. The splitter island between entry and exit allows pedestrians to resolve conflicts with entering and exiting vehicles separately. (Robinson, 2000)

Roundabouts have fewer pedestrian-vehicle and vehicle-vehicle conflict points than traditional stop or signal controlled intersections. **Figure 8** displays the possible locations at which pedestrians and vehicles are likely to conflict at a single lane roundabout versus a four-way intersection.

Figure 8: Comparison Between All-Way Stop and Single-Lane Roundabout Conflict Points



United States Department of Transportation, Federal Highway Administration

A roundabout at this location would be 3 legs. The number of conflict points crossing 600 West is the same as with a high-T signal and stop-control. However, the splitter island increases safety as previously described. The roundabout also provides an option for a future pedestrian crossing Center Street where the high-T signals do not.

**BEST OPTION FOR SAFETY: ROUNDABOUT**

Scores were given on a scale of 1-10 with 10 being the best and 1 the worst. These scores were weighted and placed in a matrix shown in Table 3. All three concepts increase pedestrian safety when compared to the existing stop-control. The benefits of the splitter islands, as well as the potential for future crossings gives the roundabout the most potential for decreasing pedestrian-vehicle conflicts. This is due to the decrease in conflict points (as shown in Figure 8) and the requirement of vehicles to yield through the roundabout. The new roadway alignment is safer than the existing for drivers and pedestrians because it consolidates the RR crossing to a single location.

Table 3: Safety Scoring

Option	Safety Score	Total Score
% of Total	30%	Score x0.3
High-T	7	2.1
High-T New	9	2.7
Roundabout	10	3.0

## OPERATIONS

Each concept was evaluated looking at the following metrics for operations:

- 95<sup>th</sup> percentile queue length (it has a 5% probability of being exceeded) of two movements between the intersections, the EBL at 600 West and the WBT at State Street.
- The delay/vehicle at the intersections. The lower the delay, the better the level of service at the intersection, and the less time vehicles are taking to pause at the intersection before passing through. For signalized intersections, the weighted average of all delays is used to determine the LOS. For unsignalized intersections, the delay of the worst movement is used to determine the LOS.

The SimTraffic results of each option are shown in **Table 4**. The SimTraffic reports can be found in **Appendix D**.

**Table 4: SimTraffic Comparisons Between Each Concept in 2022, 2030, and 2050**

Peak Hour	Year	Concept	WBT Queue @State St & Center St	EBL Queue @600 W & Center St	State St & Center St Delay/Vehicle (s) (LOS)	600 W & Center St Delay/Vehicle (s) (LOS)
AM Peak Hour	2022	No Build	208 (>100)	99 (<100)	24.3 (C)	25.1 (D)
		High-T EX	209 (>100)	134 (>100)	21.5 (C)	15.7 (B)
		High-T New	160 (<220)*	104	21.6 (C)	15.4 (B)
		Roundabout	177 (<250)	76 (<200)	25.7 (C)	5.6 (A)
	2030	No Build	199 (<100)	76 (<100)	23.8 (C)	15.0 (B)
		High-T EX	205 (<100)	103 (<100)	21.6 (C)	5.6 (A)
		High-T New	157 (<220)*	114	21.4 (C)	15.8 (B)
		Roundabout	177 (<250)	76 (<200)	24.7 (C)	5.6 (A)
	2050	No Build	292 (<100)	111 (>100)	25.4 (C)	23.1 (C)
		High-T EX	309 (<100)	119 (>100)	24.7 (C)	7.3 (A)
		High-T New	217 (<220)*	158	25.1 (C)	17.0 (B)
		Roundabout	266 (<250)	95 (<200)	26.1 (C)	7.1 (A)
PM Peak Hour	2022	No Build	260 (>100)	237 (>100)	35.6 (D)	22.5 (C)
		High-T EX	127 (>100)	224 (>100)	27.1 (C)	6.7 (A)
		High-T New	113 (<220)*	192	26.2 (C)	11.2 (B)
		Roundabout	122 (<250)	131 (<200)	27.0 (C)	7.9 (A)
	2030	No Build	268 (>100)	268 (>100)	37.9 (D)	27.0 (D)
		High-T EX	136 (>100)	305 (>100)	27.6 (C)	8.0 (A)
		High-T New	118 (<220)*	262	26.4 (C)	10.5 (B)
		Roundabout	113 (<250)	145 (<200)	33.0 (C)	9.3 (A)
	2050	No Build	345 (>100)	276 (>100)	38.9 (D)	29.6 (D)
		High-T EX	187 (>100)	311 (>100)	27.3 (C)	8.4 (A)
		High-T New	128 (<220)*	221	25.9 (C)	11.3 (B)
		Roundabout	143 (<250)	159 (<200)	33.3 (C)	10.1 (B)

*Determined using SimTraffic capabilities via Synchro 11 software*

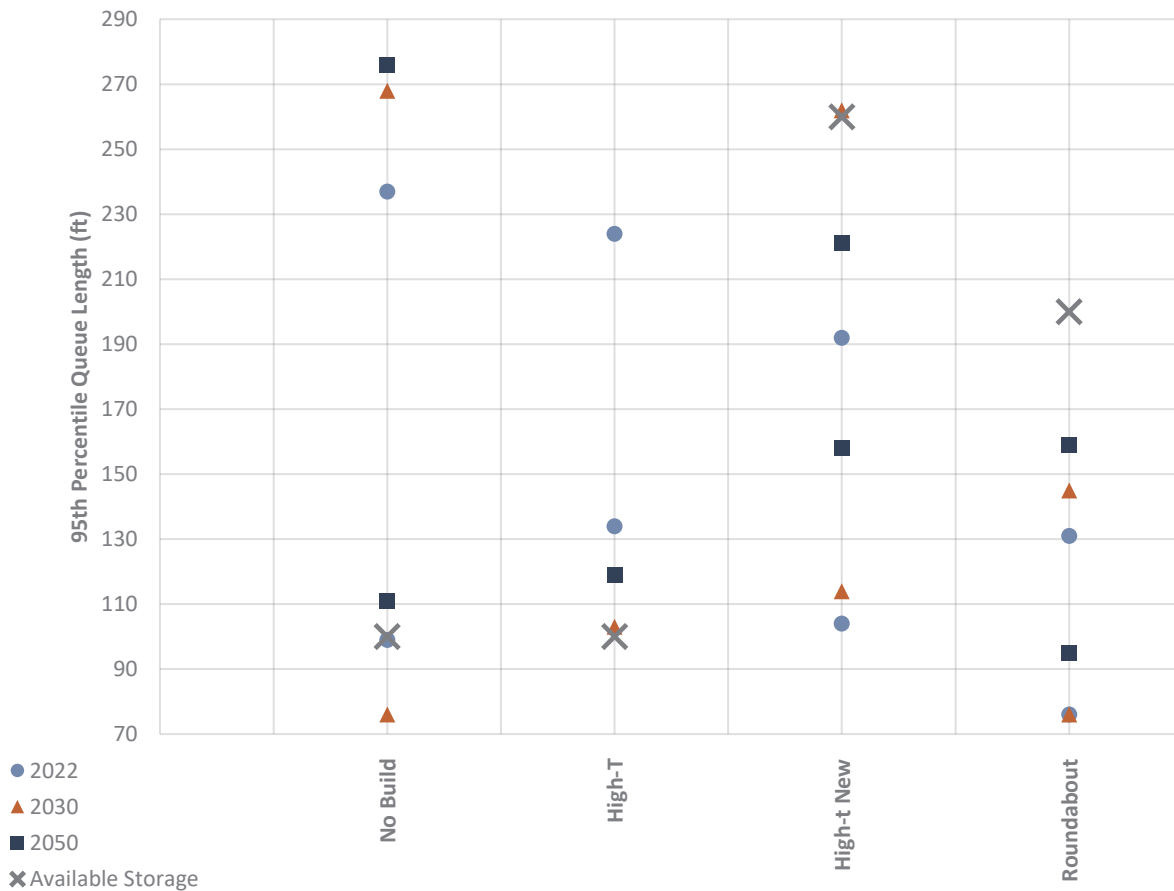
*\*The storage length for the High-T Signal and New Alignment would be determined further into the design stage. At a high-level there is sufficient storage to accommodate the queuing represented in the modeling.*

### 95<sup>TH</sup> PERCENTILE QUEUE LENGTH

The longest 95<sup>th</sup> percentile queue length (the queue length that has only a 5% probability of being exceeded) was used to compare the ability of each concept to effectively store vehicles at the study intersections, specifically the westbound through (WBT) movement on Center Street and the eastbound left (EBL) on.

The eastbound left-turn (EBL) at 600 West & Center Street has 100 ft of storage in the No Build and High-T Signal concepts. For the realignment concept, there is approximately 480 ft between State Street and the new 600 West intersection. Further into the design stage, this can be divided between the EBL and WBL demand as needed. Based on demand from the model, we have set the EBL storage at 260 ft. **Table 5** shows the 95<sup>th</sup> percentile queue length for each concept relative to these limits.

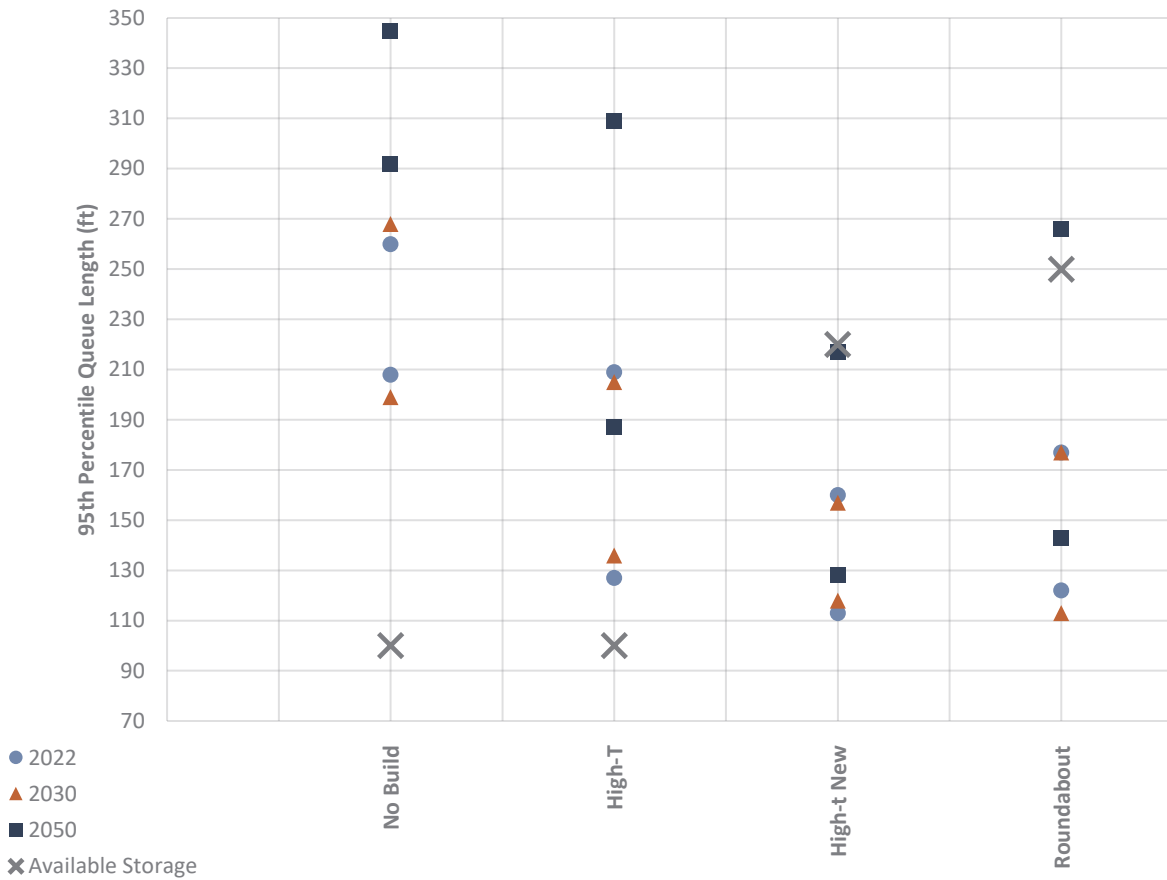
**Table 5: 600 West EBL Queuing vs Available Storage**



*Determined using SimTraffic capabilities via Synchro 11 software*

The westbound left-turn (WBL) at State Street & Center Street has 100 ft of storage in the No Build and High-T Signal concepts. As mentioned above, there is approximately 480 ft between State Street and the new 600 West intersection that can be divided between the EBL and WBL demand as needed. Based on demand from the model, we have set the WBL storage at 220 ft. **Table 6** shows the 95<sup>th</sup> percentile queue length for each concept relative to these limits.

Table 6: State Street WBT Queuing vs Available Storage



Determined using SimTraffic capabilities via Synchro 11 software

The intersections were analyzed considering if they had sufficient storage capacity to contain the EBL movement onto 600 West, and allow access to the WBL storage on Center Street to State Street:

- High-T:** EBL queue exceeds storage blocking through traffic; WBT stacking blocks access to WBL lane. This applies to every scenario analyzed.
- High-T New:** successfully stores EBL; WBT lanes stack just past the WBL storage (2 ft) during the 2030 AM peak hour.
- Roundabout:** EBL queue successfully managed; WBT lanes stack past the WBL storage less than a full car length (20 ft) during the 2050 AM peak hour.

The High-T Signal with a new roadway alignment most successfully contains the 95<sup>th</sup> percentile queue lengths. The Roundabout fails to provide access to the WBL by 16 ft during the 2050 AM peak. For scoring purposes this concept is considered to successfully maintain access to the WBL lane, but not as well as the High-T with New Alignment concept.



## LEVEL OF SERVICE

Level of Service (LOS) is a term used by the *Highway Capacity Manual* (HCM) to describe the traffic operations of an intersection, based on congestion and delay. It ranges from LOS A (almost no congestion or delay) to LOS F (traffic demand is above capacity and the intersection experiences long queues and delay). LOS C is generally considered acceptable for rural intersections, while LOS D is acceptable for urbanized intersections. LOS E is the threshold when the intersection reaches capacity. For two-way stop-controlled intersections, average intersection-wide delay and LOS are not defined by the HCM. **Table 7** summarizes LOS delay criteria for stop-controlled movements at unsignalized and signalized intersections.

**Table 7: Level of Service Criteria**

Level of Service	Average Control Delay	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

*Source: Highway Capacity Manual (HCM)*

**Table 4** at the beginning of this section shows the delay/vehicle of each concept for each scenario. State Street consistently performs at an acceptable LOS C. 600 West & Center Street operate at an acceptable LOS with each concept in the following manner:

- High-T:** The weighted average delay of all movements stays between LOS A & B. This is significantly helped by the nature of a high-T signal that allow no delay for one of the major through movements.
- High-T New:** The average delay of all movements is LOS B. The same benefits described above apply here.
- Roundabout:** The delay of the worst movement stays between LOS A & B. As an unsignalized intersection, the delay of the worst movement determines the LOS, not the weighted average delay of all movements.

### Signal Timing

The existing signal timing for State Street was applied to the model. However, the splits and cycle length would not be the same with the planned UDOT updates previously described. Network optimization for the splits and cycle length were applied to each scenario while all other times were preserved (red, amber, all clear, etc.). As a result, the best possible LOS was obtained for each layout and volumes to compare the queue lengths and storage capacities in the best-case scenarios. UDOT timing for State Street & Center Street will likely be coordinated to other State Street signals and a signal at 600 West & Center Street would be optimized accordingly.

### BEST OPTION FOR OPERATIONS: HIGH-T SIGNAL WITH NEW ALIGNMENT

Scores based on the SimTraffic measurements were given on a scale of 1-10 with 10 being the best and 1 the worst. These scores were weighted and placed in a matrix shown in **Table 8**. The total score displays the value of the concept scoring with the weight applied. The higher the total score, the better the intersection concept operates. All concepts performed at acceptable LOS, so delay was weighted as 10 percent of the total score while storage management was weighted as 30 percent.

**Table 8: SimTraffic Operations Scoring**

Option	95 <sup>th</sup> %tile Queue Length	Delay/Vehicle	Total Score
% of Total	30%	10%	x0.3 + x0.1
High-T	1*	9	1.2
High-T New	10	8	3.8
Roundabout	8	10	3.4

*\*Did NOT successfully store queue lengths between intersections*

The concept that will operate the best considering delay per vehicle and critical vehicle storage is the High-T Signal with New Alignment.

## COST

Cost estimates were developed for each design using the detail available from the high-level concept drawings. These estimates can be found in **Appendix E**. Moving forward in the design, it is recommended to continue to refine the exact costs for the preferred concept. The following identifies the general costs for each concept.

### HIGH-T SIGNAL

The High-T Signal concept has minimal right-of-way (ROW) cost, with some roadway construction needed, but minimal impact on existing traffic for construction. Installation costs for a signal at a stop-controlled intersection with a railroad crossing integration falls between \$3,000,000 - \$4,000,000.

### HIGH-T SIGNAL WITH NEW ALIGNMENT

When considering moving the road there are ROW costs as well as roadway construction costs to include. ROW costs would fall in the \$2,250,000 - \$2,700,000 range. This is estimating full property purchases. In this case Pleasant Grove City would be able to resell the land left over for new development.

Given the modifications to existing medians and infrastructure, and unique nature of the railroad crossing, the roadway construction and signal installation would fall between \$6,250,000 - \$8,800,000. Total cost between \$8,500,000 - \$11,500,000.

### ROUNDAABOUT

Upfront costs for a single lane landscaped roundabout can cost anywhere from \$750,000 to \$1,250,000, depending on size, site conditions, and ROW acquisitions, utility costs, engineering costs, and

construction costs. In this case, ROW was estimated to be \$2,000,000 - \$2,500,000 with construction costs surrounding the railroad between \$7,500,000 - \$10,000,000. Total cost would be \$9,500,000 - \$12,500,000.

**BEST OPTION FOR COST: HIGH-T SIGNAL**

Scores were given on a scale of 1-10 with 10 being the best and 1 the worst. These scores were placed in a matrix shown in **Table 9**. The High-T Signal Concept at the existing location is the least expensive concept. The benefit of using the existing ROW minimizes the need to purchase additional ROW and impact businesses.

**Table 9: Cost Scoring**

Option	Cost Score	Total Score
% of Total	30%	Score x0.3
High-T	8	2.4
High-T New	5	1.5
Roundabout	3	0.9

## Conclusion

To compare each concept’s performance in Safety, Operations, and Cost, as described in the previous sections, scores were given on a scale of 1-10 with 10 being the best and 1 the worst. These scores were placed in a matrix shown in **Table 10** and weighted to provide a total score. Based on the analysis for safety, operations and cost, the high-t intersection with a new roadway alignment provides the highest benefit for this intersection.

**Table 10: Scoring Matrix**

Option	Safety	Operations		Cost	Average
		95 <sup>th</sup> Queue	LOS		
% of Total	30%	30%	10%	30%	100%
High-T	7	1*	9	8	5.7
High-T New	9	10	8	5	8.0
Roundabout	10	8	10	3	7.3

*\*Did not successfully store left-turn queue*

## NEXT STEPS

This study identifies viable alternatives to meet the demands of current and future traffic at the intersection of 600 West & Center Street in Pleasant Grove, Utah. The queuing for left turns between the State Street & Center Street intersections was a focus to mitigate blockage of through traffic. The study objectives of collecting traffic data at the study intersections, modeling existing and future traffic projections, analyze alternative designs for the project location, and providing plan view layouts for each solution were met.

The presence of the railway adds a complex element to all of the proposed concepts. UTA currently owns the railroad line, and the line currently has light use with approximately 2 crossings per week. The future of this railroad line is unknown at this time. Any concept at this location will require coordination with UTA. It is recommended to continually coordinate with UTA regarding the future of the railroad line so the design can reflect the proposed future configuration of the line.

# Appendix A: Count Data

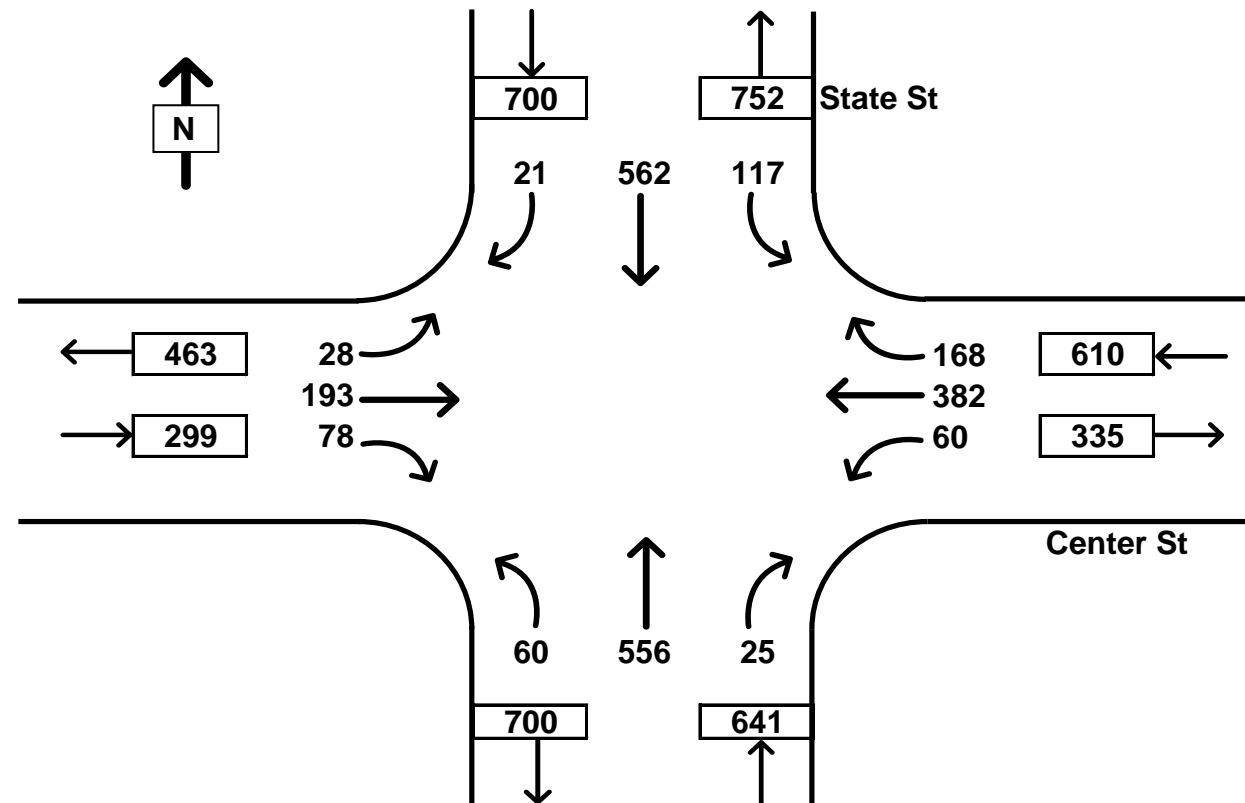
# TRAFFIC COUNT SUMMARY



City: **Pleasant Grove**  
 N-S Street: **State St**  
 Date: **2/29/2022**  
 Begin Time: **07:00 AM**  
 Interval Length: **15 min**

E-W Street: **Center St**

Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	14	85	2	0	6	97	23	0	9	79	4	0	7	24	11	0	361	
07:15 AM	07:30 AM	19	114	7	0	6	81	28	0	10	86	8	0	3	41	9	0	412	
07:30 AM	07:45 AM	39	121	2	0	13	82	40	0	17	109	9	0	1	30	17	0	480	
07:45 AM	08:00 AM	30	129	7	1	19	117	43	0	8	135	11	0	9	60	17	0	585	1838
08:00 AM	08:15 AM	30	150	4	0	7	107	46	0	15	139	6	0	5	52	16	0	577	2054
08:15 AM	08:30 AM	29	134	4	0	15	100	43	0	12	155	7	0	8	43	20	0	570	2212
08:30 AM	08:45 AM	27	119	6	0	13	75	37	0	19	119	7	0	9	47	17	0	495	2227
08:45 AM	09:00 AM	31	159	7	1	25	100	42	0	14	143	5	3	6	51	25	0	608	2250



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
117	562	21	60	382	168	60	556	25	28	193	78	
700			610			641			299			
Trucks:		0%	Trucks:		0%	Trucks:		0%	Trucks:		0%	
Peak Hour:		8:00:00 AM	9:00 AM		Peak Vol:		2250	PHF:		0.93		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

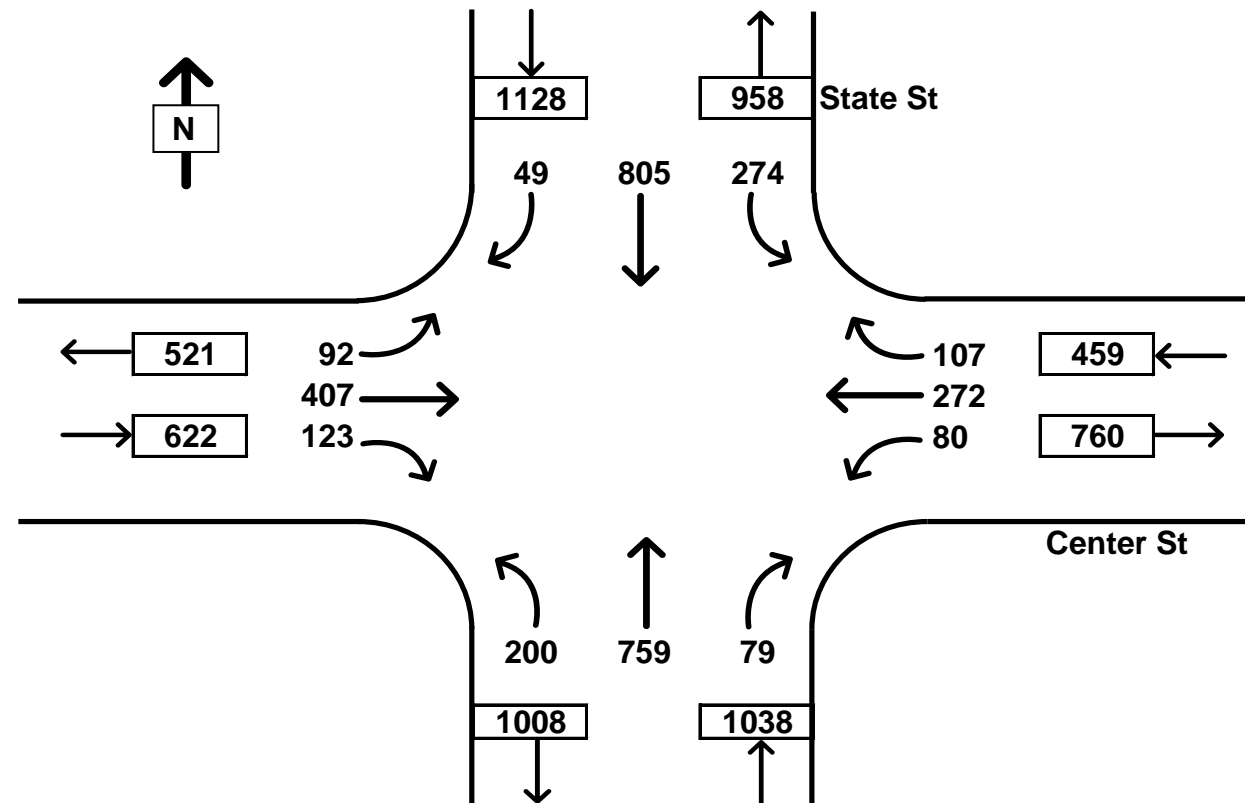
# TRAFFIC COUNT SUMMARY



City: **Pleasant Grove**  
 N-S Street: **State St**  
 Date: **2/29/2022**  
 Begin Time: **04:00 PM**  
 Interval Length: **15 min**

E-W Street: **Center St**

Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	63	166	14	2	19	68	47	0	35	180	13	4	13	84	34	0	736	
04:15 PM	04:30 PM	57	187	9	0	17	84	32	1	37	180	10	2	18	119	25	0	775	
04:30 PM	04:45 PM	74	172	9	2	17	77	28	2	45	186	24	1	32	101	33	1	798	
04:45 PM	05:00 PM	73	215	10	0	22	67	20	0	58	188	15	2	22	91	22	0	803	3112
05:00 PM	05:15 PM	59	204	12	0	22	66	32	0	53	181	24	0	20	101	28	0	802	3178
05:15 PM	05:30 PM	68	214	18	0	19	62	27	0	44	204	16	0	18	114	40	0	844	3247
05:30 PM	05:45 PM	71	201	16	1	23	67	19	1	27	154	21	2	21	114	29	0	763	3212
05:45 PM	06:00 PM	64	190	13	0	29	65	36	0	39	179	21	1	16	108	39	1	799	3208



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
274	805	49	80	272	107	200	759	79	92	407	123	
1128			459			1038			622			
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%			
Peak Hour: 4:30:00 PM			Peak Hour: 5:30 PM			Peak Vol: 3247			PHF: 0.96			

OPTIONAL Adjustment Factor	
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Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

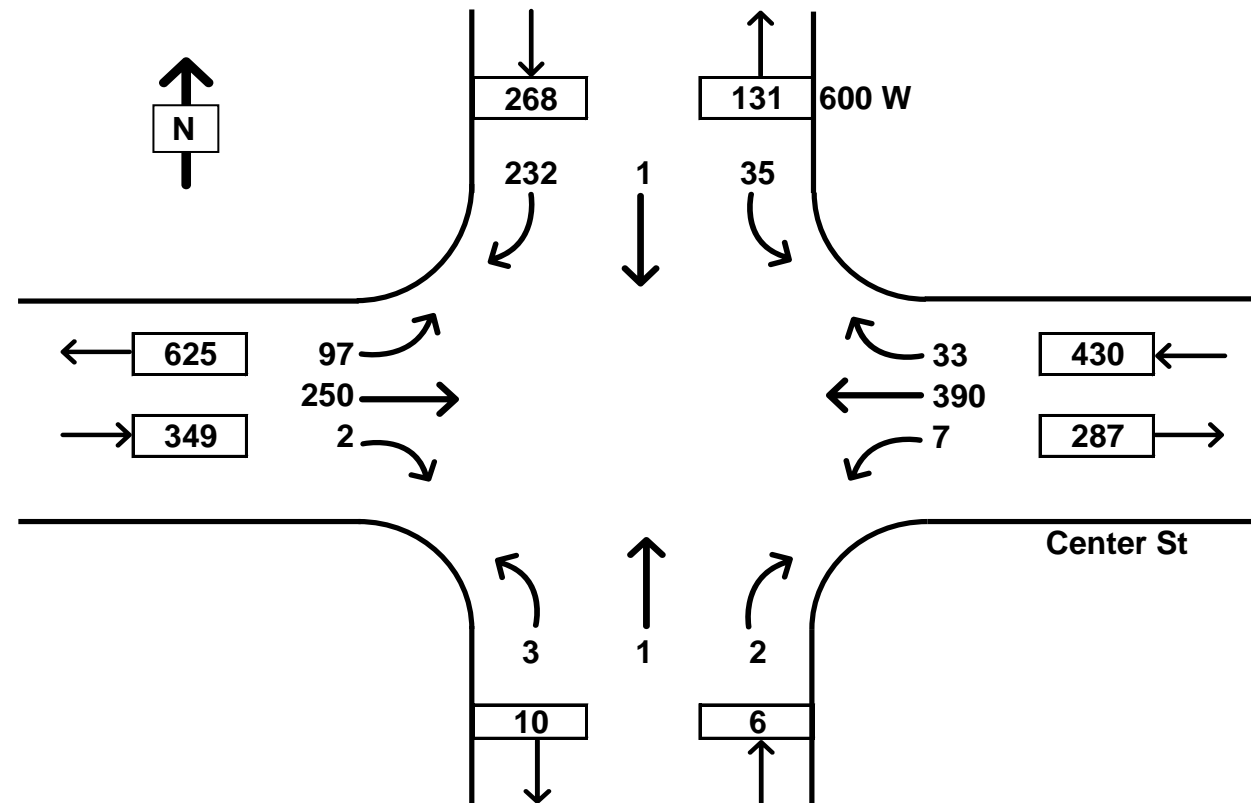
# TRAFFIC COUNT SUMMARY

City: **Pleasant Grove**  
 N-S Street: **600 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **07:00 AM**  
 Interval Length: **15 min**

E-W Street: **Center St**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	5	1	58	0	1	72	3	0	0	2	1	0	15	28	0	0	186	
07:15 AM	07:30 AM	11	0	50	0	3	70	5	0	0	0	2	0	25	37	0	0	203	
07:30 AM	07:45 AM	5	1	64	0	2	72	4	0	0	0	0	0	21	61	0	0	230	
07:45 AM	08:00 AM	8	0	62	0	3	115	14	0	1	0	0	0	24	70	0	0	297	916
08:00 AM	08:15 AM	13	0	57	0	1	101	9	0	1	0	1	0	26	55	2	0	266	996
08:15 AM	08:30 AM	9	0	49	0	1	102	6	0	1	1	1	0	26	64	0	0	260	1053
08:30 AM	08:45 AM	7	0	48	0	1	76	4	0	0	1	1	0	40	42	0	0	220	1043
08:45 AM	09:00 AM	8	0	75	1	0	93	3	0	0	2	1	0	29	53	1	0	265	1011



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	1	232	7	390	33	3	1	2	97	250	2	
268			430			6			349			
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%			
Peak Hour: 7:30:00 AM			8:30 AM			Peak Vol: 1053			PHF: 0.89			

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1



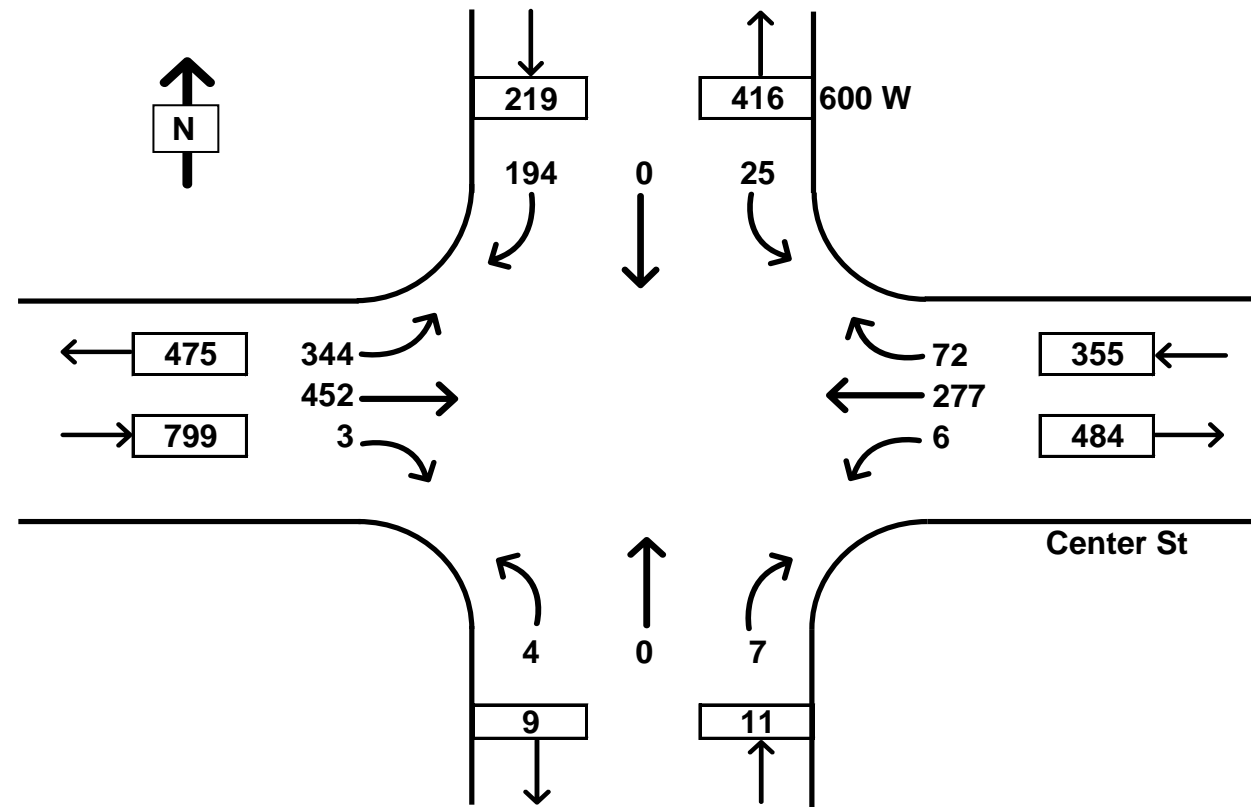
# TRAFFIC COUNT SUMMARY

City: **Pleasant Grove**  
 N-S Street: **600 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **04:00 PM**  
 Interval Length: **15 min**

E-W Street: **Center St**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	13	0	53	0	0	84	11	0	1	0	3	0	66	100	0	1	331	
04:15 PM	04:30 PM	6	0	62	0	0	75	12	0	0	0	0	0	81	112	0	0	348	
04:30 PM	04:45 PM	5	0	47	0	1	79	14	0	1	0	5	0	84	115	0	0	351	
04:45 PM	05:00 PM	6	0	56	0	3	75	21	0	1	0	2	0	86	102	1	0	353	1383
05:00 PM	05:15 PM	8	0	49	0	1	68	11	0	2	0	3	0	78	108	1	0	329	1381
05:15 PM	05:30 PM	6	0	43	0	1	65	23	0	0	0	2	0	88	121	0	0	349	1382
05:30 PM	05:45 PM	5	0	46	0	1	69	17	0	1	0	0	0	92	121	1	0	353	1384
05:45 PM	06:00 PM	8	1	55	0	3	63	21	0	1	1	1	0	82	110	0	0	346	1377



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25	0	194	6	277	72	4	0	7	344	452	3	
219			355			11			799			
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%			
Peak Hour: 4:45:00 PM			Peak Hour: 5:45 PM			Peak Vol: 1384			PHF: 0.98			

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

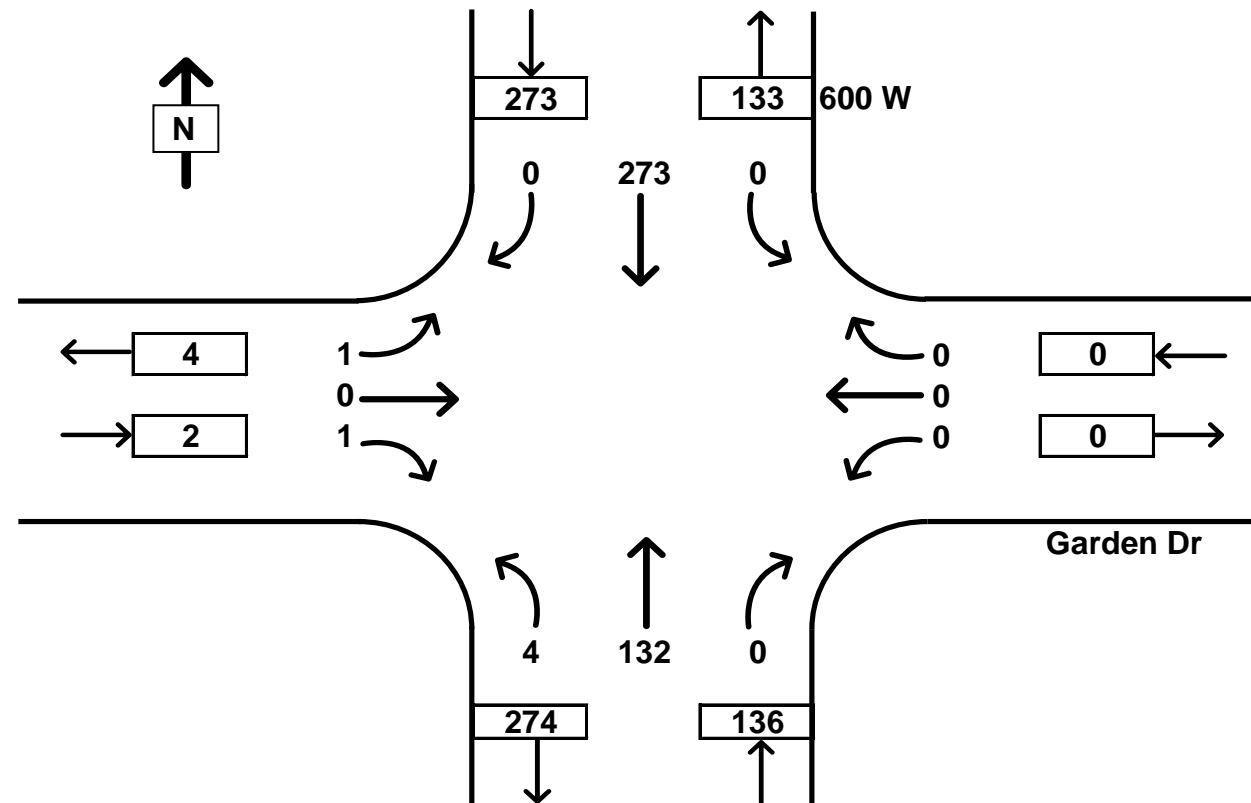
# TRAFFIC COUNT SUMMARY

City: **Pleasant Grove**  
 N-S Street: **600 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **07:00 AM**  
 Interval Length: **15 min**

E-W Street: **Garden Dr**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	0	62	0	0	0	0	0	0	0	21	0	0	0	0	0	0	83	
07:15 AM	07:30 AM	0	65	0	0	0	0	0	0	0	28	0	0	0	0	0	0	93	
07:30 AM	07:45 AM	0	66	0	0	0	0	0	0	0	21	0	0	0	0	0	0	87	
07:45 AM	08:00 AM	0	70	0	0	0	0	0	0	0	38	0	0	0	0	0	0	108	371
08:00 AM	08:15 AM	0	73	0	0	0	0	0	0	0	32	0	0	1	0	1	0	107	395
08:15 AM	08:30 AM	0	58	0	0	0	0	0	0	0	33	0	0	0	0	0	0	91	393
08:30 AM	08:45 AM	0	61	0	0	0	0	0	0	2	37	0	0	0	0	0	0	100	406
08:45 AM	09:00 AM	0	81	0	0	0	0	0	0	2	30	0	0	0	0	0	0	113	411



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
0	273	0	0	0	0	4	132	0	1	0	1	
273			0			136			2			
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%			
Peak Hour: 8:00:00 AM			Peak Hour: 9:00 AM			Peak Vol: 411			PHF: 0.91			

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

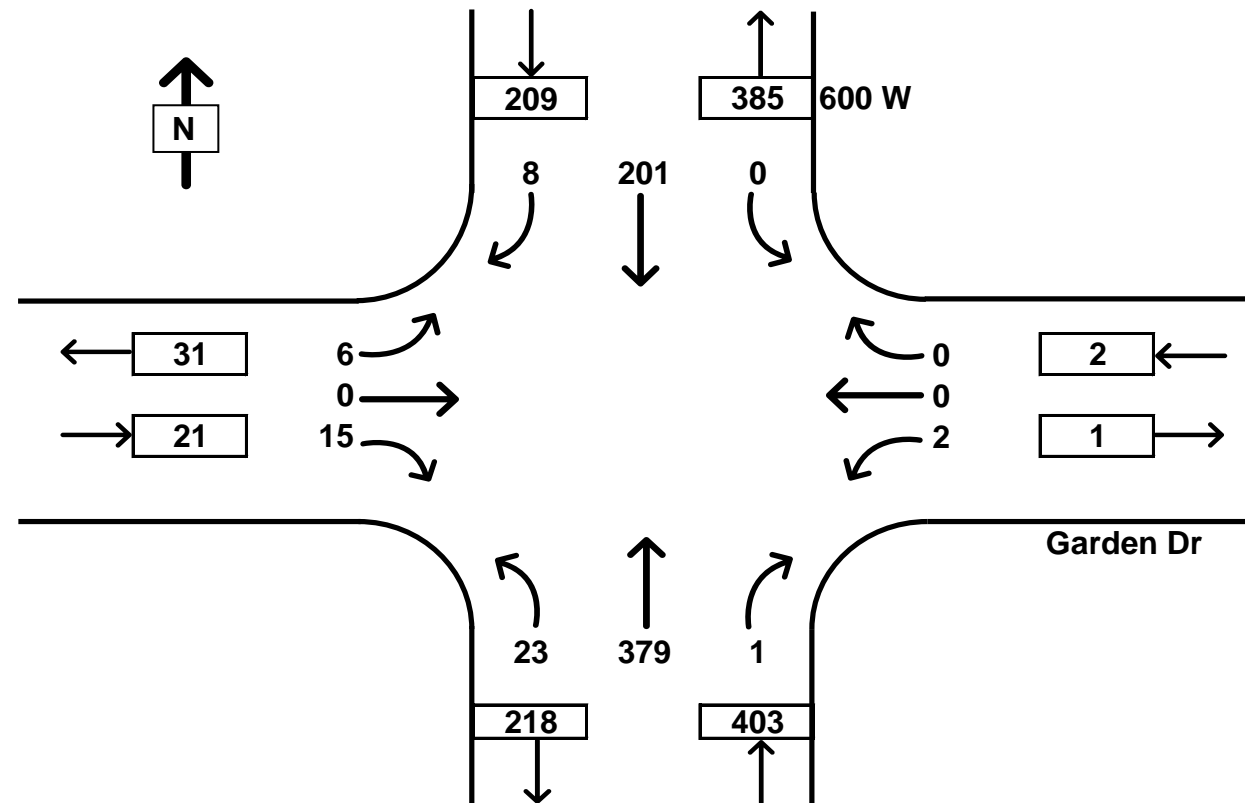
# TRAFFIC COUNT SUMMARY



City: **Pleasant Grove**  
 N-S Street: **600 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **04:00 PM**  
 Interval Length: **15 min**

E-W Street: **Garden Dr**

Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	2	63	0	0	0	0	1	0	1	72	0	0	2	0	0	1	141	
04:15 PM	04:30 PM	0	62	3	0	0	0	0	0	5	80	0	0	0	0	1	1	151	
04:30 PM	04:45 PM	1	48	1	0	0	0	0	0	10	83	1	0	1	0	1	0	146	
04:45 PM	05:00 PM	0	63	2	0	0	0	1	0	6	89	0	0	0	0	0	0	161	599
05:00 PM	05:15 PM	0	54	2	0	1	0	0	0	3	84	1	0	1	0	1	0	147	605
05:15 PM	05:30 PM	0	43	0	0	0	0	0	0	0	104	0	0	2	0	1	0	150	604
05:30 PM	05:45 PM	0	46	3	0	1	0	0	0	6	96	0	0	3	0	4	0	159	617
05:45 PM	06:00 PM	0	58	3	2	0	0	0	0	14	95	0	0	0	0	9	0	179	635



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
0	201	8	2	0	0	23	379	1	6	0	15	
209			2			403			21			
Trucks: 1%			Trucks: 0%			Trucks: 0%			Trucks: 0%			
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 635			PHF: 0.89			

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

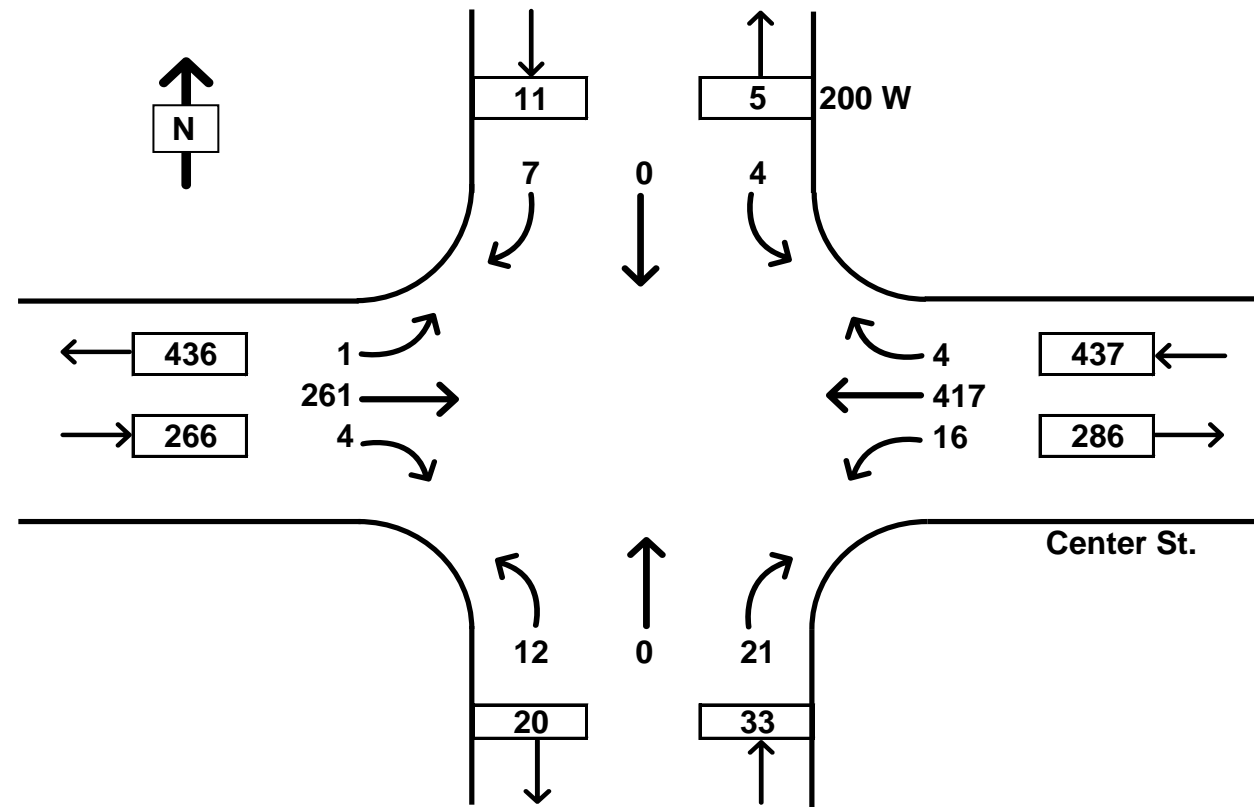
# TRAFFIC COUNT SUMMARY

City: **Pleasant Grove**  
 N-S Street: **200 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **07:00 AM**  
 Interval Length: **15 min**

E-W Street: **Center St.**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	4	0	3	0	1	67	1	0	7	1	3	0	0	37	3	0	127	
07:15 AM	07:30 AM	4	0	2	0	2	61	1	0	5	0	4	0	1	46	1	0	127	
07:30 AM	07:45 AM	2	0	1	0	3	79	0	0	3	0	5	2	0	60	1	0	154	
07:45 AM	08:00 AM	1	0	2	0	7	127	0	0	2	0	10	0	1	75	1	0	226	634
08:00 AM	08:15 AM	0	0	1	0	2	109	2	0	2	0	5	0	0	60	0	0	181	688
08:15 AM	08:30 AM	1	0	3	0	4	102	2	0	5	0	1	0	0	66	2	0	186	747
08:30 AM	08:45 AM	2	0	1	1	0	74	1	0	2	0	3	0	1	47	0	0	131	724
08:45 AM	09:00 AM	2	0	1	0	2	82	2	0	6	0	4	0	1	57	0	0	157	655



ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	0	7	16	417	4	12	0	21	1	261	4	
11			437			33			266			
Trucks: 0%			Trucks: 0%			Trucks: 6%			Trucks: 0%			
Peak Hour: 7:30:00 AM			Peak Hour: 8:30 AM			Peak Vol: 747			PHF: 0.83			

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

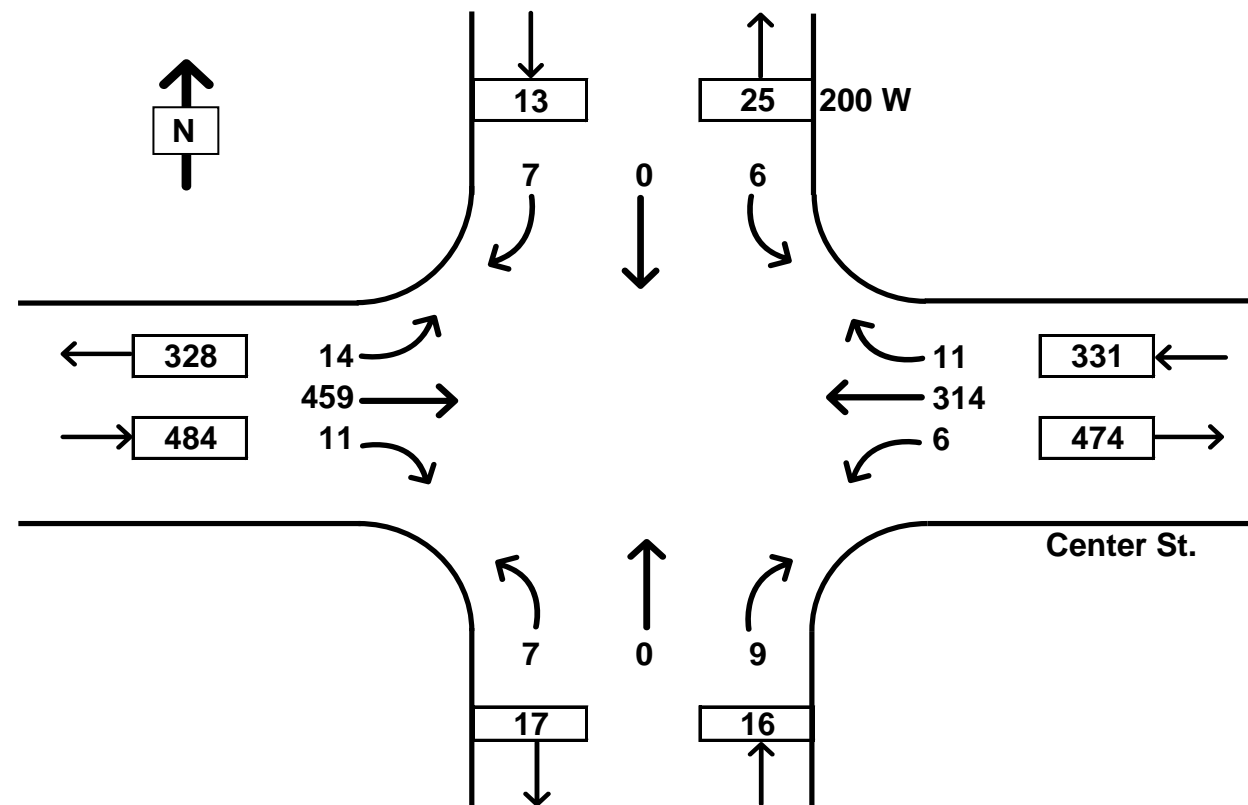
# TRAFFIC COUNT SUMMARY

City: **Pleasant Grove**  
 N-S Street: **200 W**  
 Date: **Tuesday, March 8, 2022**  
 Begin Time: **04:00 PM**  
 Interval Length: **15 min**

E-W Street: **Center St.**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	0	0	0	0	0	86	3	0	0	0	2	0	2	111	0	0	204	
04:15 PM	04:30 PM	0	0	1	0	3	78	2	0	2	0	5	0	2	102	6	0	201	
04:30 PM	04:45 PM	1	0	2	0	2	84	2	0	1	0	5	0	3	119	1	0	220	
04:45 PM	05:00 PM	2	0	0	0	1	91	1	0	1	0	1	2	1	97	2	0	197	822
05:00 PM	05:15 PM	3	0	2	0	2	75	1	0	1	0	4	1	5	110	5	0	208	826
05:15 PM	05:30 PM	1	0	1	0	2	80	3	0	2	0	0	0	2	126	1	0	218	843
05:30 PM	05:45 PM	0	0	1	0	0	78	1	0	2	0	2	2	3	104	1	0	192	815
05:45 PM	06:00 PM	2	0	3	0	2	81	6	0	2	0	3	0	4	119	4	0	226	844

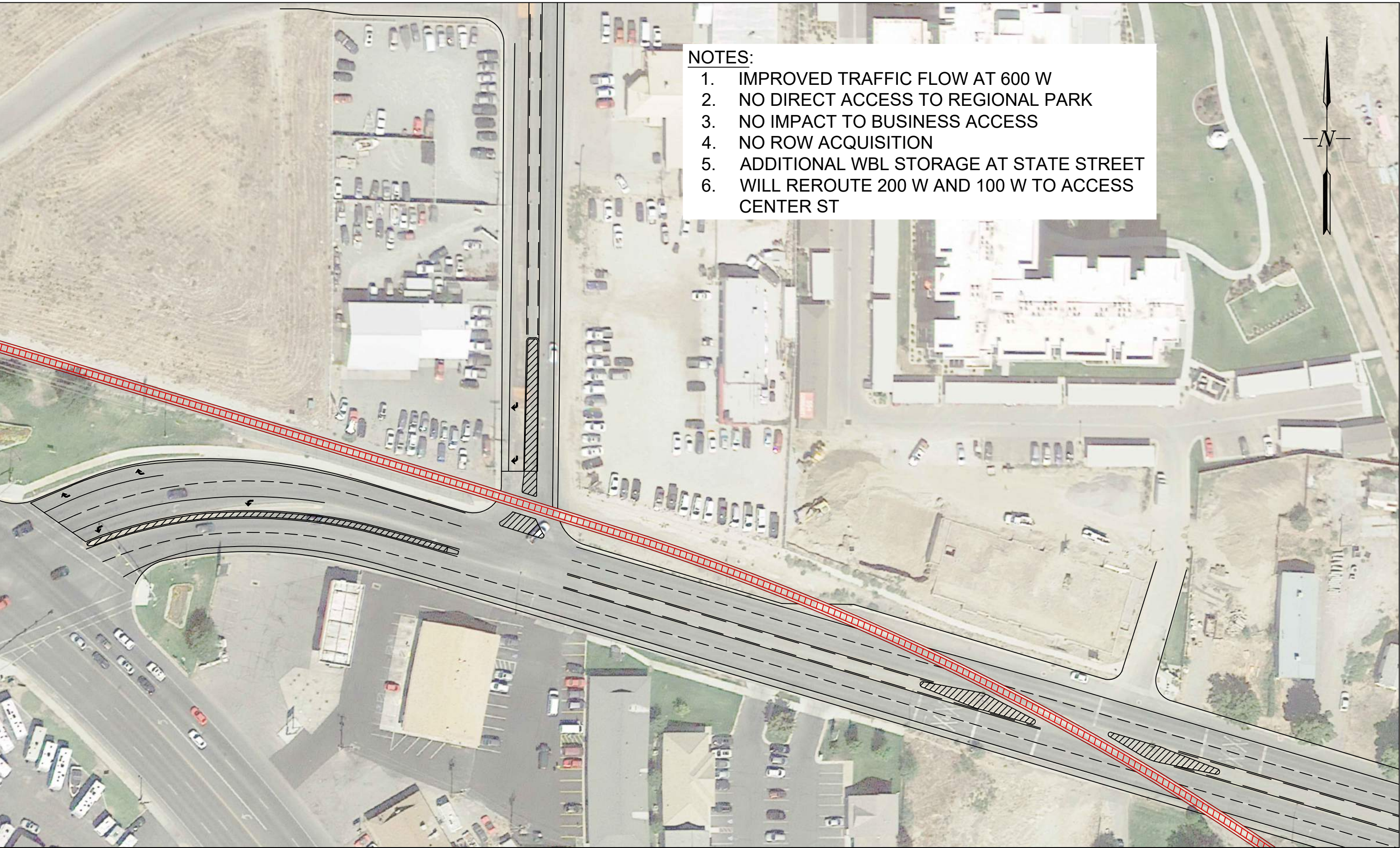


ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	0	7	6	314	11	7	0	9	14	459	11	
13			331			16			484			
Trucks: 0%			Trucks: 0%			Trucks: 19%			Trucks: 0%			
Peak Hour: 5:00:00 PM			Peak Hour: 6:00 PM			Peak Vol: 844			PHF: 0.93			

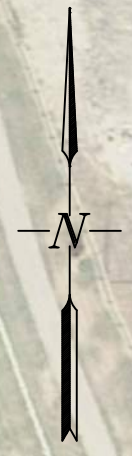
OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

## Appendix B: 12 Initial Concepts

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Existing RIRO.dwg - Layout1 - 9/08/2022 11:59am - led.cannon



- NOTES:**
1. IMPROVED TRAFFIC FLOW AT 600 W
  2. NO DIRECT ACCESS TO REGIONAL PARK
  3. NO IMPACT TO BUSINESS ACCESS
  4. NO ROW ACQUISITION
  5. ADDITIONAL WBL STORAGE AT STATE STREET
  6. WILL REROUTE 200 W AND 100 W TO ACCESS CENTER ST



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

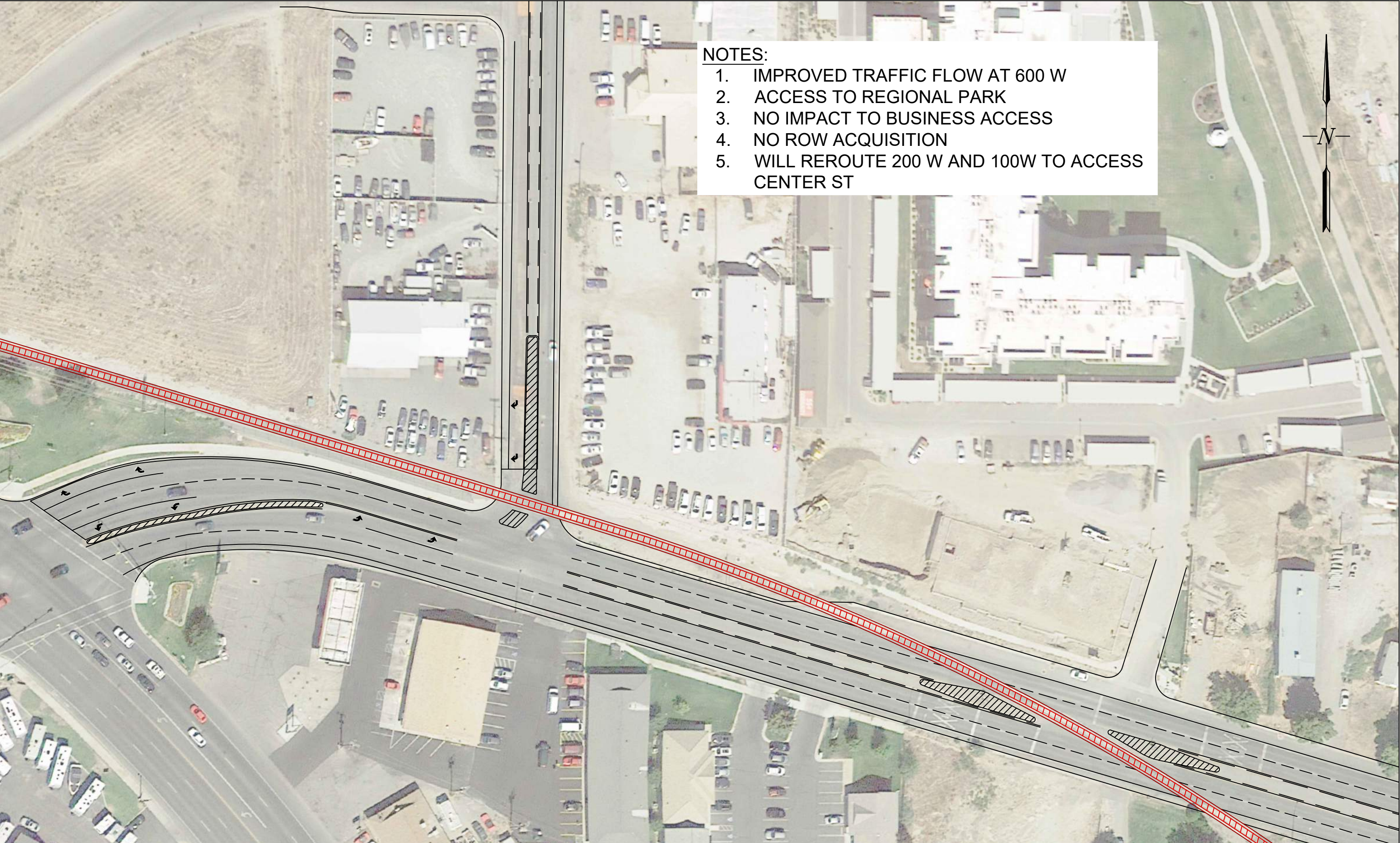


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Existing with RIRO

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
TC	8/23/22	1 OF 11

C:\Users\red.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Existing 3 Quarter Access no signal.dwg - Layout1 - 9/09/2022 12:53pm - ted.cannon



- NOTES:**
1. IMPROVED TRAFFIC FLOW AT 600 W
  2. ACCESS TO REGIONAL PARK
  3. NO IMPACT TO BUSINESS ACCESS
  4. NO ROW ACQUISITION
  5. WILL REROUTE 200 W AND 100W TO ACCESS CENTER ST



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



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Existing with  $\frac{3}{4}$  Access

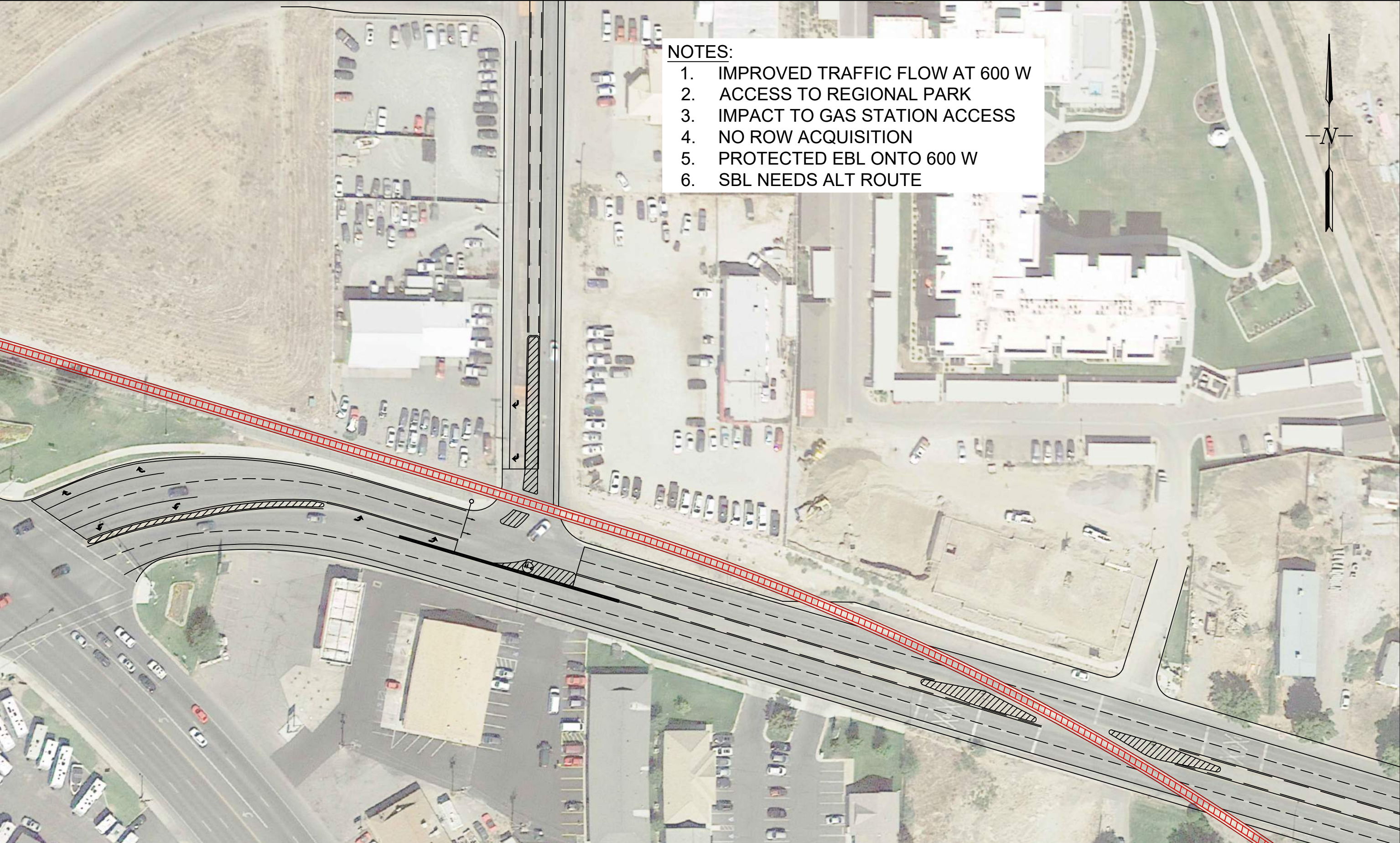
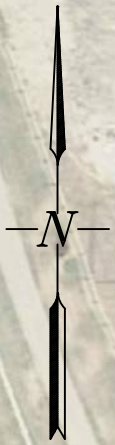
DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
TC	8/23/22	2 OF 11



C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Existing 3 Quarter Access with signal.dwg - Layout1 - 9/08/2022 12:53pm. led.cannon

**NOTES:**

1. IMPROVED TRAFFIC FLOW AT 600 W
2. ACCESS TO REGIONAL PARK
3. IMPACT TO GAS STATION ACCESS
4. NO ROW ACQUISITION
5. PROTECTED EBL ONTO 600 W
6. SBL NEEDS ALT ROUTE



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



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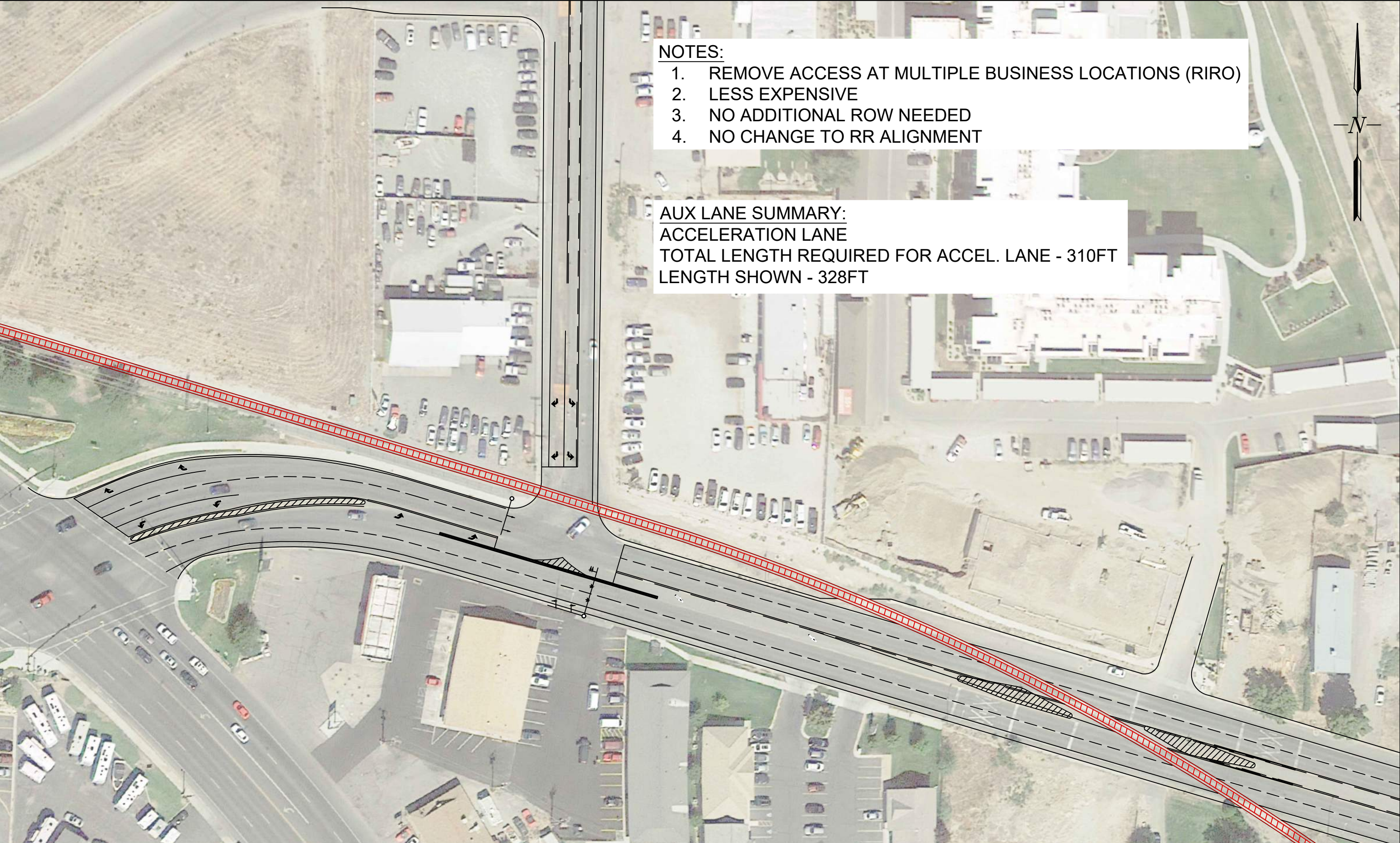
Existing with Signalized  $\frac{3}{4}$  Access

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
TC	8/23/22	3 OF 11

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Existing with High T Signal.dwg - Layout1 - 9/08/2022 12:51 pm, led.cannon

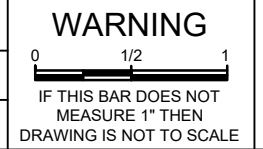
- NOTES:**
1. REMOVE ACCESS AT MULTIPLE BUSINESS LOCATIONS (RIRO)
  2. LESS EXPENSIVE
  3. NO ADDITIONAL ROW NEEDED
  4. NO CHANGE TO RR ALIGNMENT

**AUX LANE SUMMARY:**  
 ACCELERATION LANE  
 TOTAL LENGTH REQUIRED FOR ACCEL. LANE - 310FT  
 LENGTH SHOWN - 328FT



**PRELIMINARY**  
 NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	VERTICAL

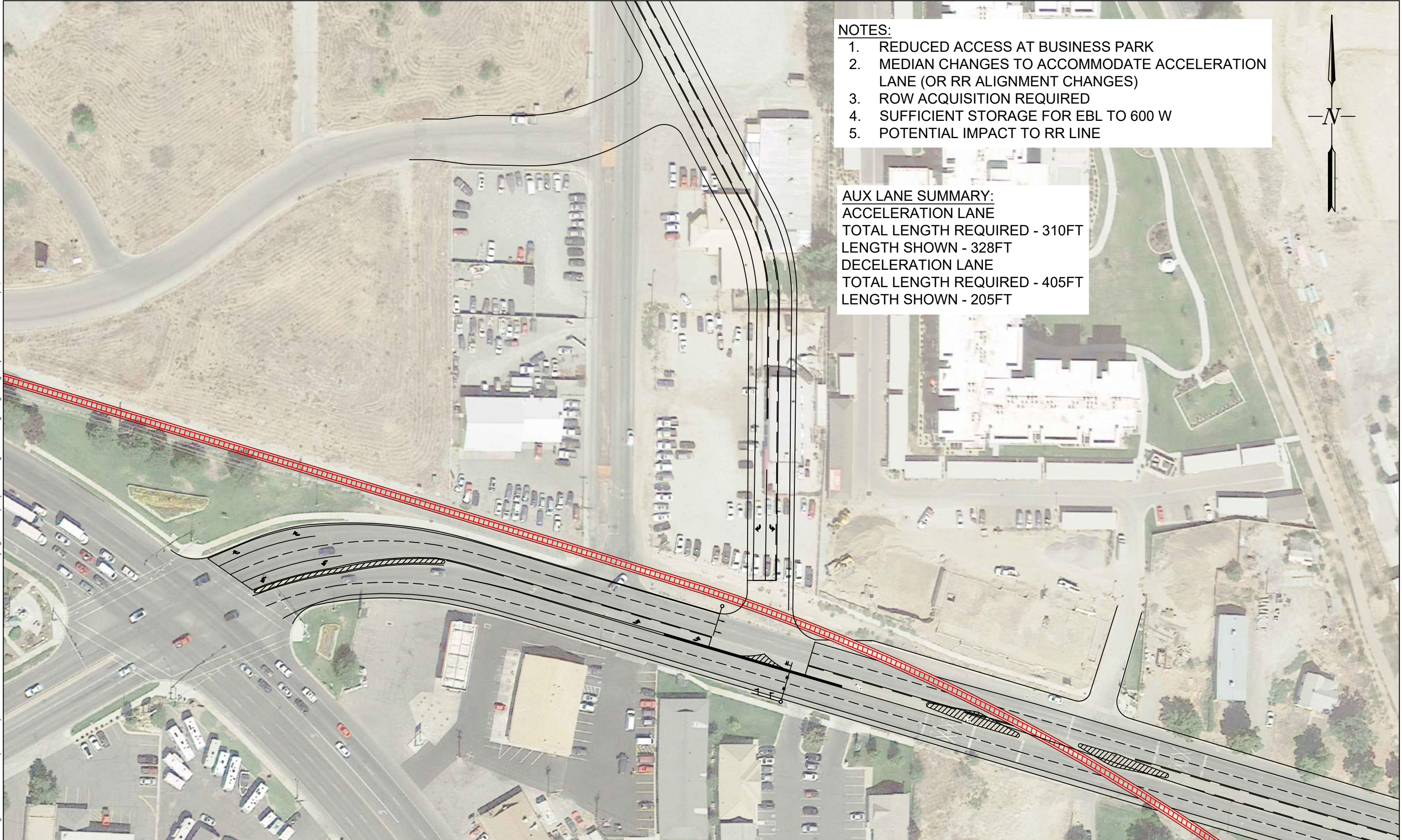


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Existing with High T Intersection

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
TC	8/23/22	4 OF 11

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\New Alignment with High T Signal.dwg - Layout1 - 9/08/2022 01:04pm - led.cannon



- NOTES:**
1. REDUCED ACCESS AT BUSINESS PARK
  2. MEDIAN CHANGES TO ACCOMMODATE ACCELERATION LANE (OR RR ALIGNMENT CHANGES)
  3. ROW ACQUISITION REQUIRED
  4. SUFFICIENT STORAGE FOR EBL TO 600 W
  5. POTENTIAL IMPACT TO RR LINE

**AUX LANE SUMMARY:**  
 ACCELERATION LANE  
 TOTAL LENGTH REQUIRED - 310FT  
 LENGTH SHOWN - 328FT  
 DECELERATION LANE  
 TOTAL LENGTH REQUIRED - 405FT  
 LENGTH SHOWN - 205FT

**PRELIMINARY**  
 NOT FOR CONSTRUCTION

SCALE  
 HORIZONTAL  
 VERTICAL

**WARNING**  
 0 1/2 1  
 IF THIS BAR DOES NOT  
 MEASURE 1" THEN  
 DRAWING IS NOT TO SCALE

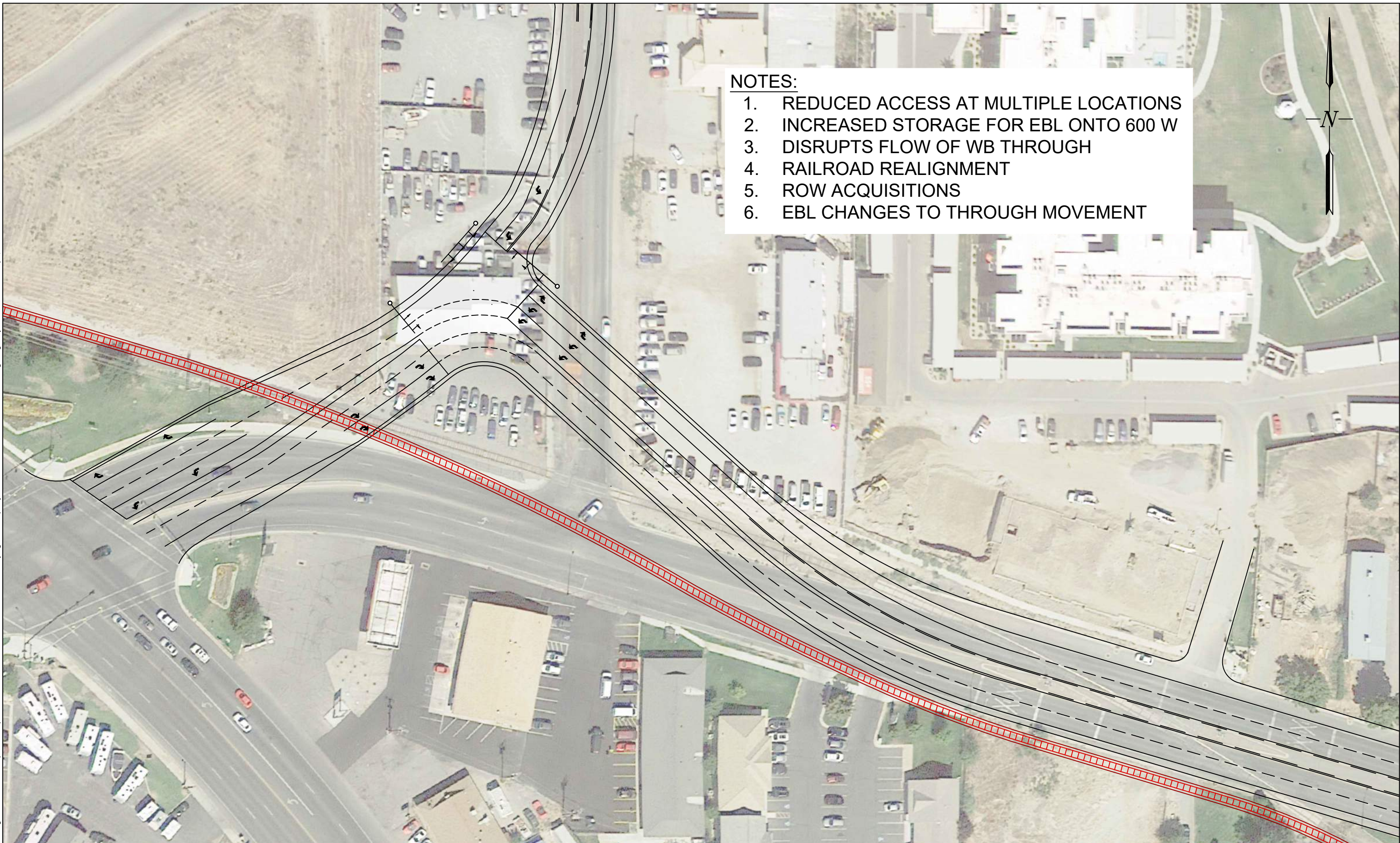


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**New Alignment with High T Intersection**

DESIGNED	DATE	PROJECT NO.
DRAWN TC	DATE 8/23/22	SHEET NO. 5 OF 11
CHECKED	DATE	DRAWING NO.

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Center St & 600 W T without channelized right.dwg - Layout1 - 9/09/2022 01:08pm, led.cannon



- NOTES:**
1. REDUCED ACCESS AT MULTIPLE LOCATIONS
  2. INCREASED STORAGE FOR EBL ONTO 600 W
  3. DISRUPTS FLOW OF WB THROUGH
  4. RAILROAD REALIGNMENT
  5. ROW ACQUISITIONS
  6. EBL CHANGES TO THROUGH MOVEMENT

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

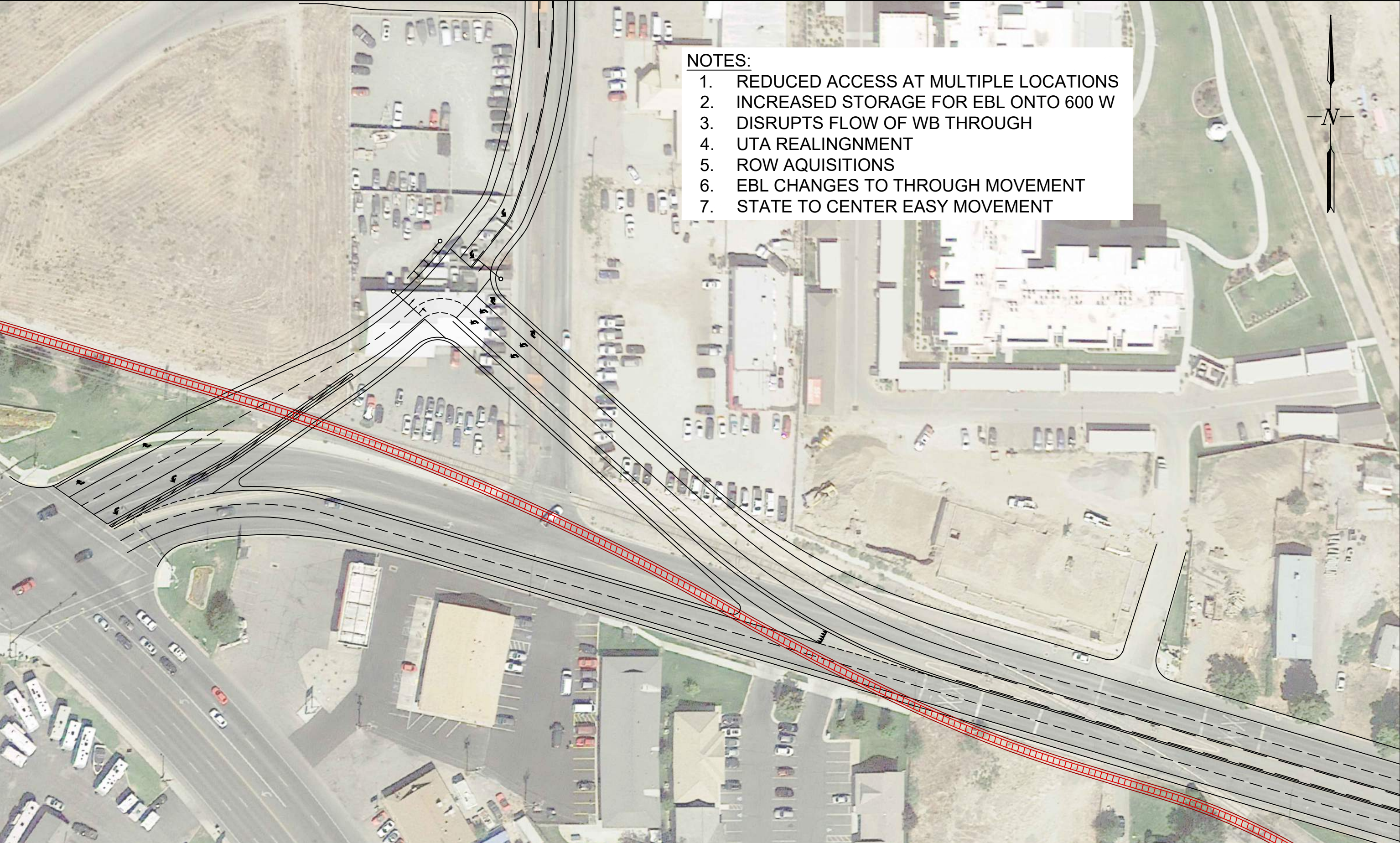


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**Center St & 600 W Signalized T Intersection**

DESIGNED	DATE	PROJECT NO.
DRAWN TC	DATE 8/23/22	SHEET NO. 6 OF 11
CHECKED	DATE	DRAWING NO.

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Center St & 600 W T channelized right.dwg - Layout1 - 9/08/2022 01:11pm, led.cannon



- NOTES:**
1. REDUCED ACCESS AT MULTIPLE LOCATIONS
  2. INCREASED STORAGE FOR EBL ONTO 600 W
  3. DISRUPTS FLOW OF WB THROUGH
  4. UTA REALIGNMENT
  5. ROW AQUISITIONS
  6. EBL CHANGES TO THROUGH MOVEMENT
  7. STATE TO CENTER EASY MOVEMENT

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE

HORIZONTAL
VERTICAL

**WARNING**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

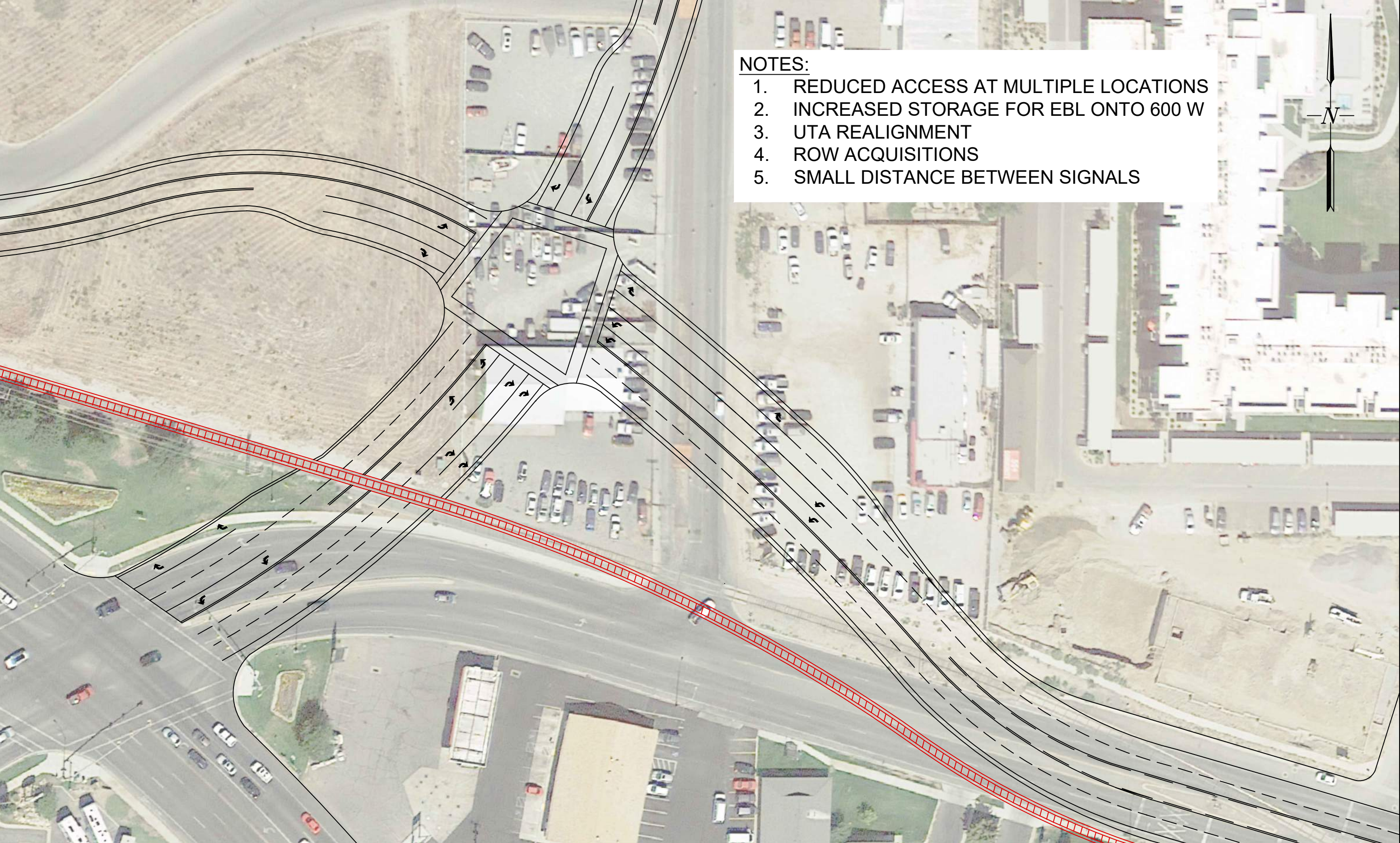


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Center St & 600 W Signalized T with Chan. Right

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
TC	8/23/22	7 OF 11

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\2022.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\New Alignment without channelized right.dwg - Layout1 - 9/08/2022 01:14pm - led.cannon



- NOTES:**
1. REDUCED ACCESS AT MULTIPLE LOCATIONS
  2. INCREASED STORAGE FOR EBL ONTO 600 W
  3. UTA REALIGNMENT
  4. ROW ACQUISITIONS
  5. SMALL DISTANCE BETWEEN SIGNALS



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE

HORIZONTAL
VERTICAL

**WARNING**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

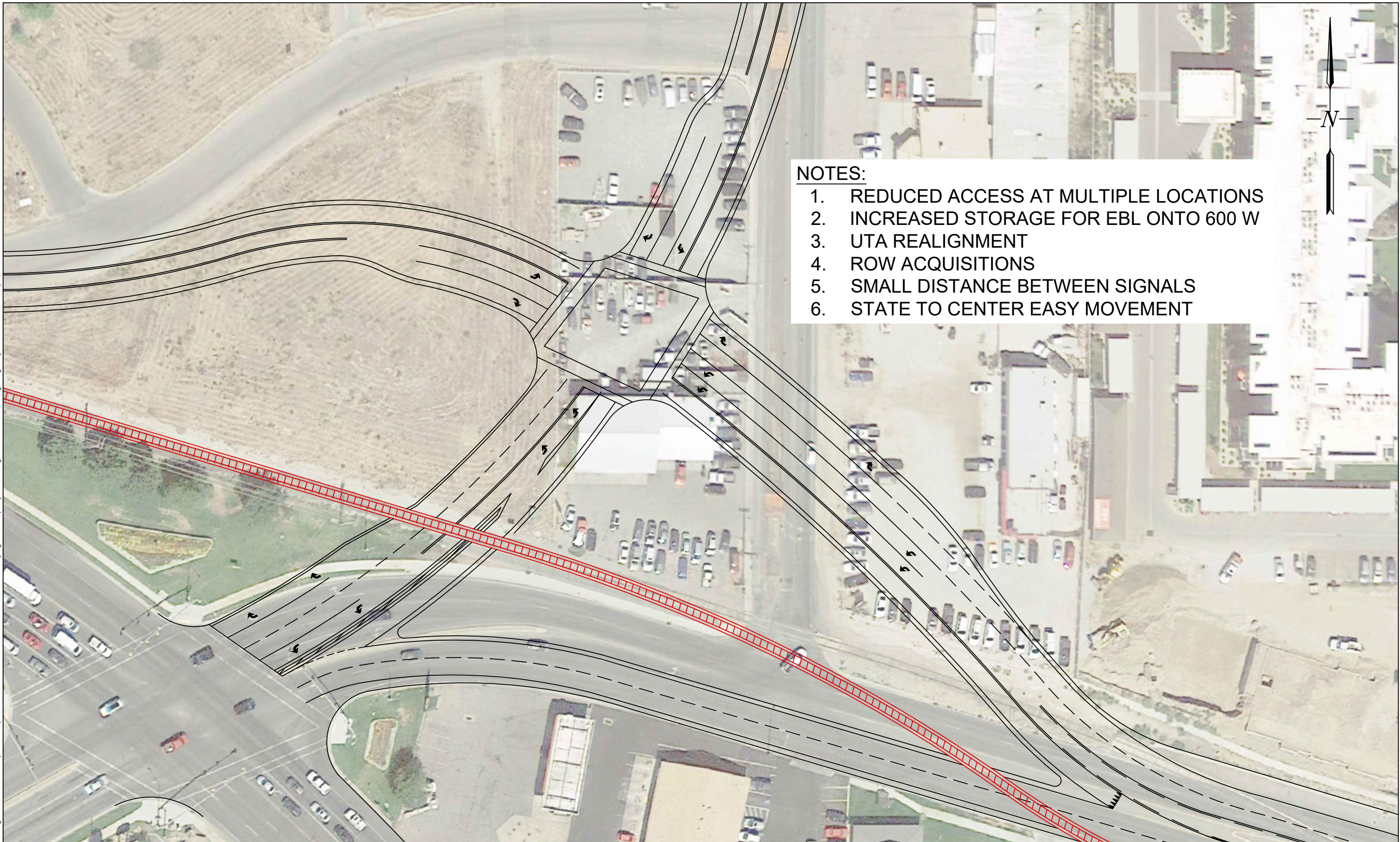


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**NEW ALIGNMENT WITHOUT CHANNELIZED RIGHT**

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
SE	8/23/22	8 OF 11

C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\New Alignment with Channelized Right.dwg - Layout1 - 9/28/2022 01:17pm, led.cannon



**NOTES:**

1. REDUCED ACCESS AT MULTIPLE LOCATIONS
2. INCREASED STORAGE FOR EBL ONTO 600 W
3. UTA REALIGNMENT
4. ROW ACQUISITIONS
5. SMALL DISTANCE BETWEEN SIGNALS
6. STATE TO CENTER EASY MOVEMENT

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE

HORIZONTAL

VERTICAL

**WARNING**

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

**HORROCKS**

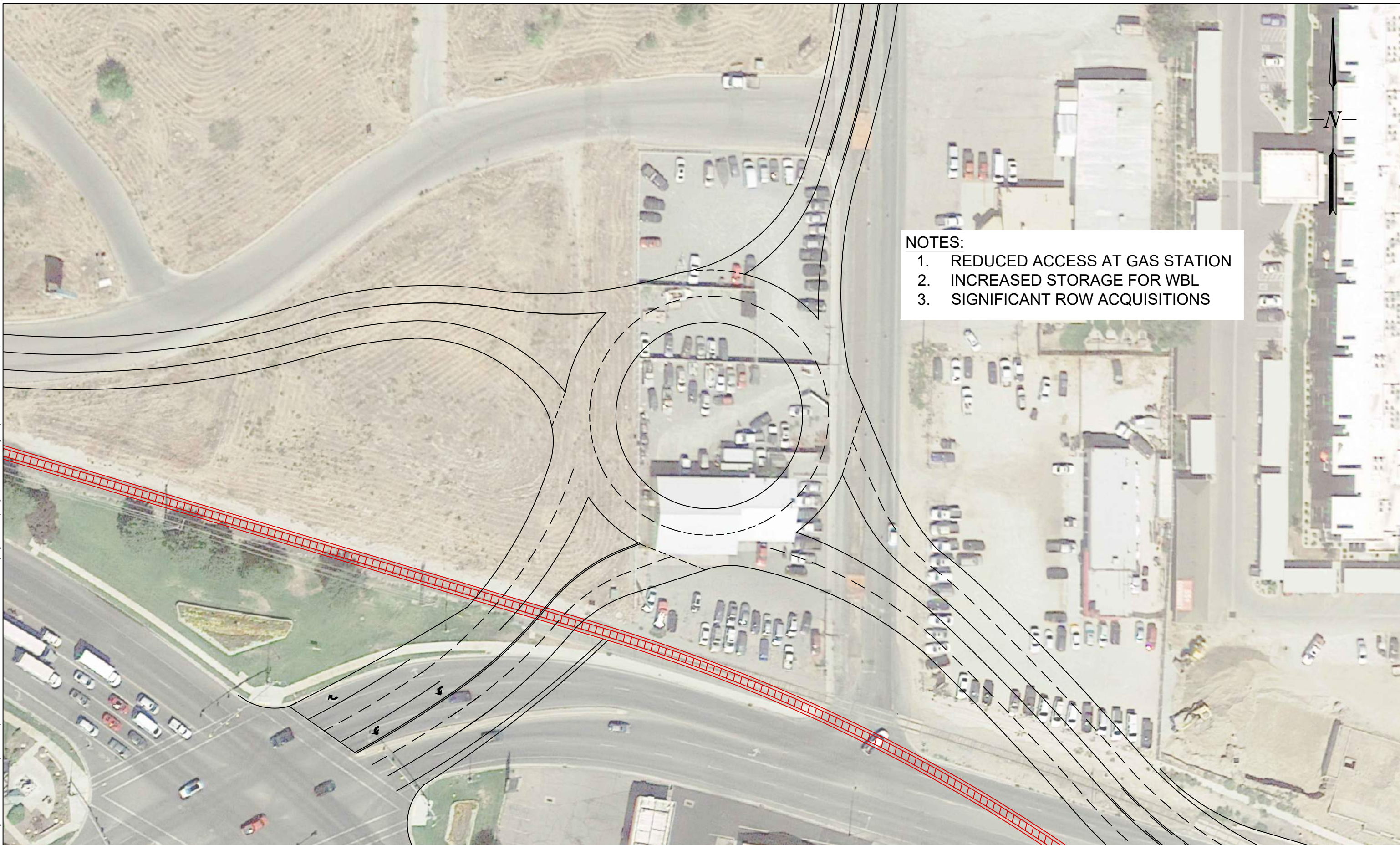
**ENGINEERS**

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Suite 100  
Pleasant Grove, UT 84062  
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**NEW ALIGNMENT WITH CHANNELIZED RIGHT**

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
SE	8/23/22	9 OF 11

C:\Users\led.cannon\Documents\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Roundabout.dwg - Layout1 - 9/09/2022 1:12:27pm led.cannon



- NOTES:**
1. REDUCED ACCESS AT GAS STATION
  2. INCREASED STORAGE FOR WBL
  3. SIGNIFICANT ROW ACQUISITIONS

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



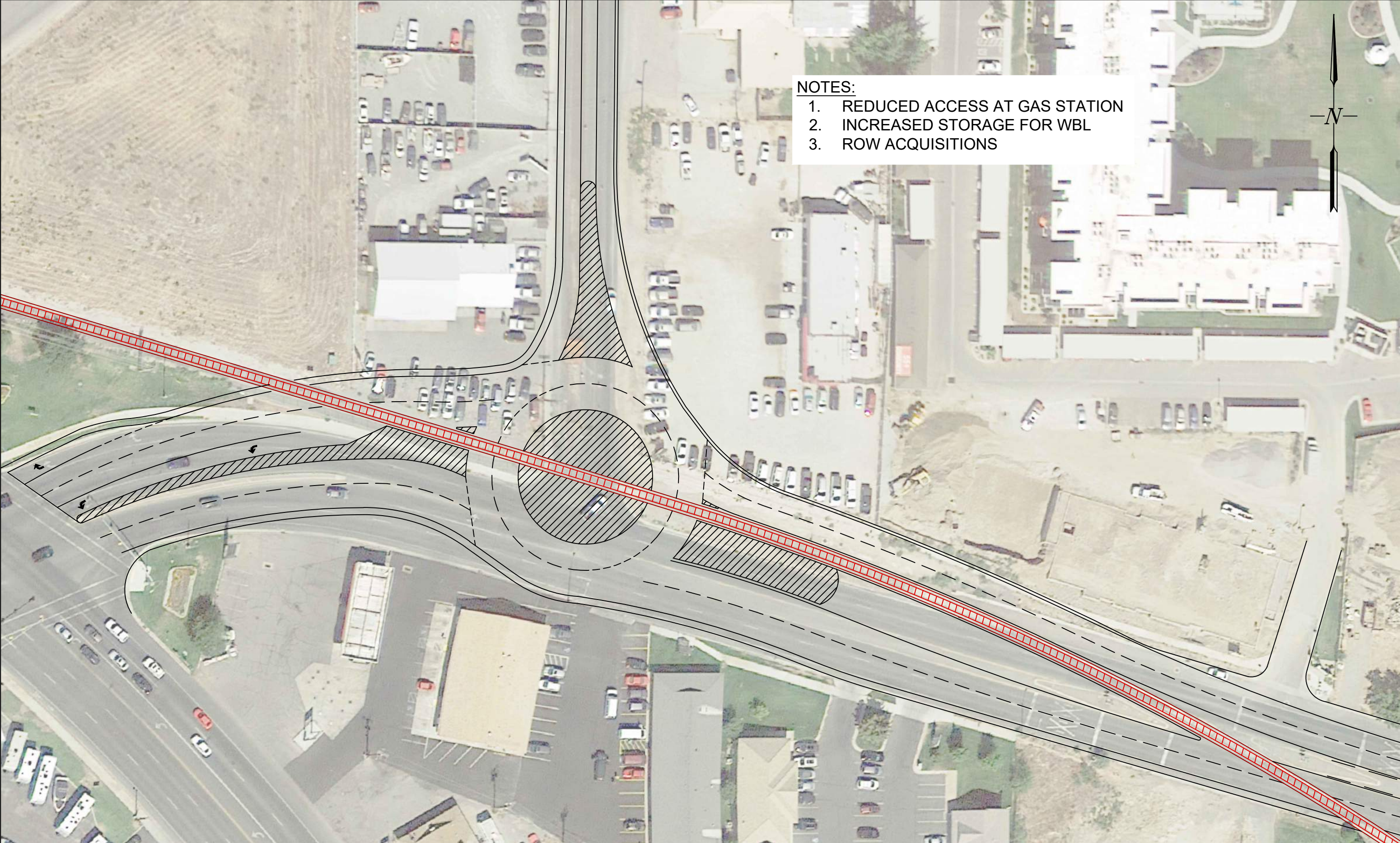
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**New Alignment with Roundabout**

DESIGNED	DATE	PROJECT NO.
DRAWN SE	DATE 8/23/22	SHEET NO. 10 OF 11
CHECKED	DATE	DRAWING NO.



C:\Users\led.cannon\Horrocks Engineers\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Roundabout #2.dwg - Layout1 - 9/09/2022 03:29pm, led.cannon



- NOTES:**
1. REDUCED ACCESS AT GAS STATION
  2. INCREASED STORAGE FOR WBL
  3. ROW ACQUISITIONS

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE
HORIZONTAL
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



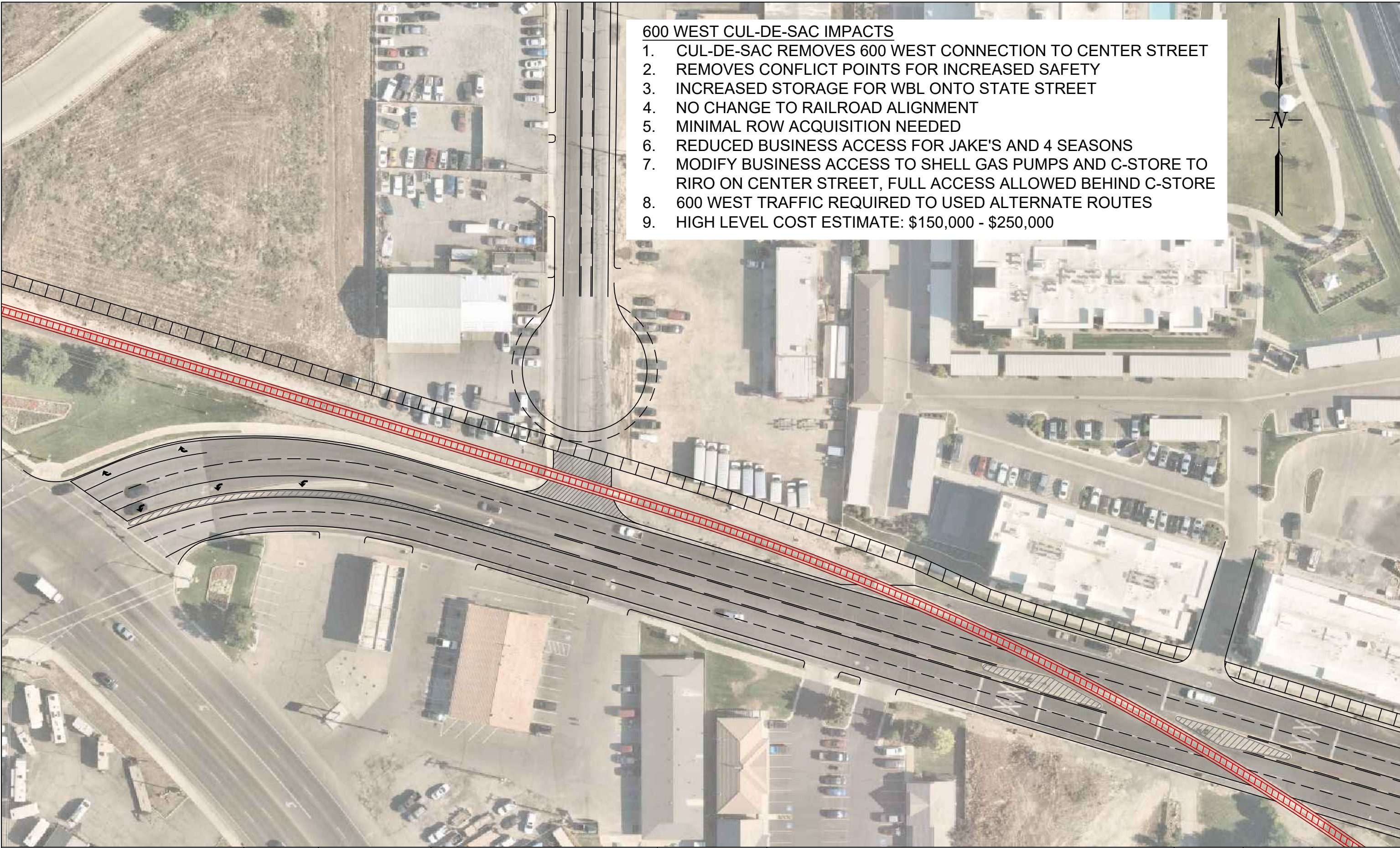
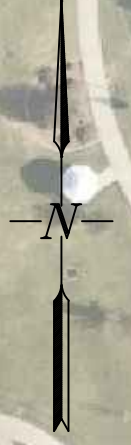
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**ROUNDAABOUT**

DESIGNED	DATE	PROJECT NO.
DRAWN	DATE	SHEET NO.
CHECKED	DATE	DRAWING NO.
SE	8/23/22	11 OF 11

**600 WEST CUL-DE-SAC IMPACTS**

1. CUL-DE-SAC REMOVES 600 WEST CONNECTION TO CENTER STREET
2. REMOVES CONFLICT POINTS FOR INCREASED SAFETY
3. INCREASED STORAGE FOR WBL ONTO STATE STREET
4. NO CHANGE TO RAILROAD ALIGNMENT
5. MINIMAL ROW ACQUISITION NEEDED
6. REDUCED BUSINESS ACCESS FOR JAKE'S AND 4 SEASONS
7. MODIFY BUSINESS ACCESS TO SHELL GAS PUMPS AND C-STORE TO RIRO ON CENTER STREET, FULL ACCESS ALLOWED BEHIND C-STORE
8. 600 WEST TRAFFIC REQUIRED TO USED ALTERNATE ROUTES
9. HIGH LEVEL COST ESTIMATE: \$150,000 - \$250,000



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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



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**600 West Cul De Sac**

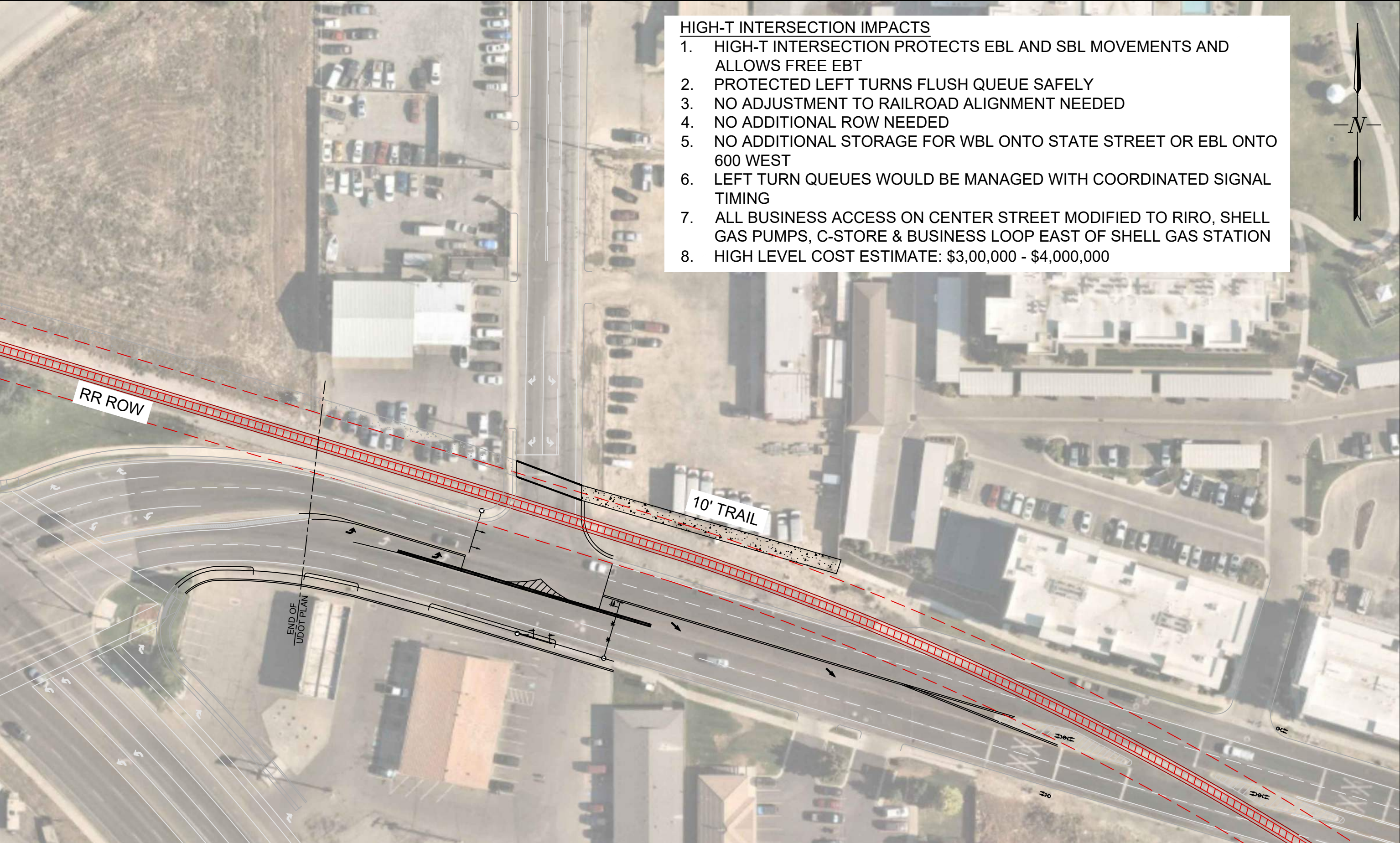
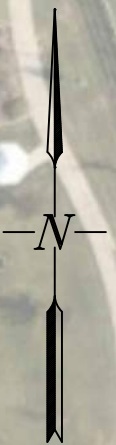
DESIGNED	DATE	PROJECT NO.
DRAWN TC	DATE 1/09/23	SHEET NO. 1 OF 4
CHECKED	DATE	DRAWING NO.

## Appendix C: 3 Analyzed Concepts

C:\Users\led.cannon\Horrocks\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PG 600 West & Center Street Study\Figures\Concept Layouts\Existing with High T Signal.dwg - High-T 1 - 10/03/2023 11:26am led.cannon

**HIGH-T INTERSECTION IMPACTS**

1. HIGH-T INTERSECTION PROTECTS EBL AND SBL MOVEMENTS AND ALLOWS FREE EBT
2. PROTECTED LEFT TURNS FLUSH QUEUE SAFELY
3. NO ADJUSTMENT TO RAILROAD ALIGNMENT NEEDED
4. NO ADDITIONAL ROW NEEDED
5. NO ADDITIONAL STORAGE FOR WBL ONTO STATE STREET OR EBL ONTO 600 WEST
6. LEFT TURN QUEUES WOULD BE MANAGED WITH COORDINATED SIGNAL TIMING
7. ALL BUSINESS ACCESS ON CENTER STREET MODIFIED TO RIRO, SHELL GAS PUMPS, C-STORE & BUSINESS LOOP EAST OF SHELL GAS STATION
8. HIGH LEVEL COST ESTIMATE: \$3,00,000 - \$4,000,000



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
1" = 60'  
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

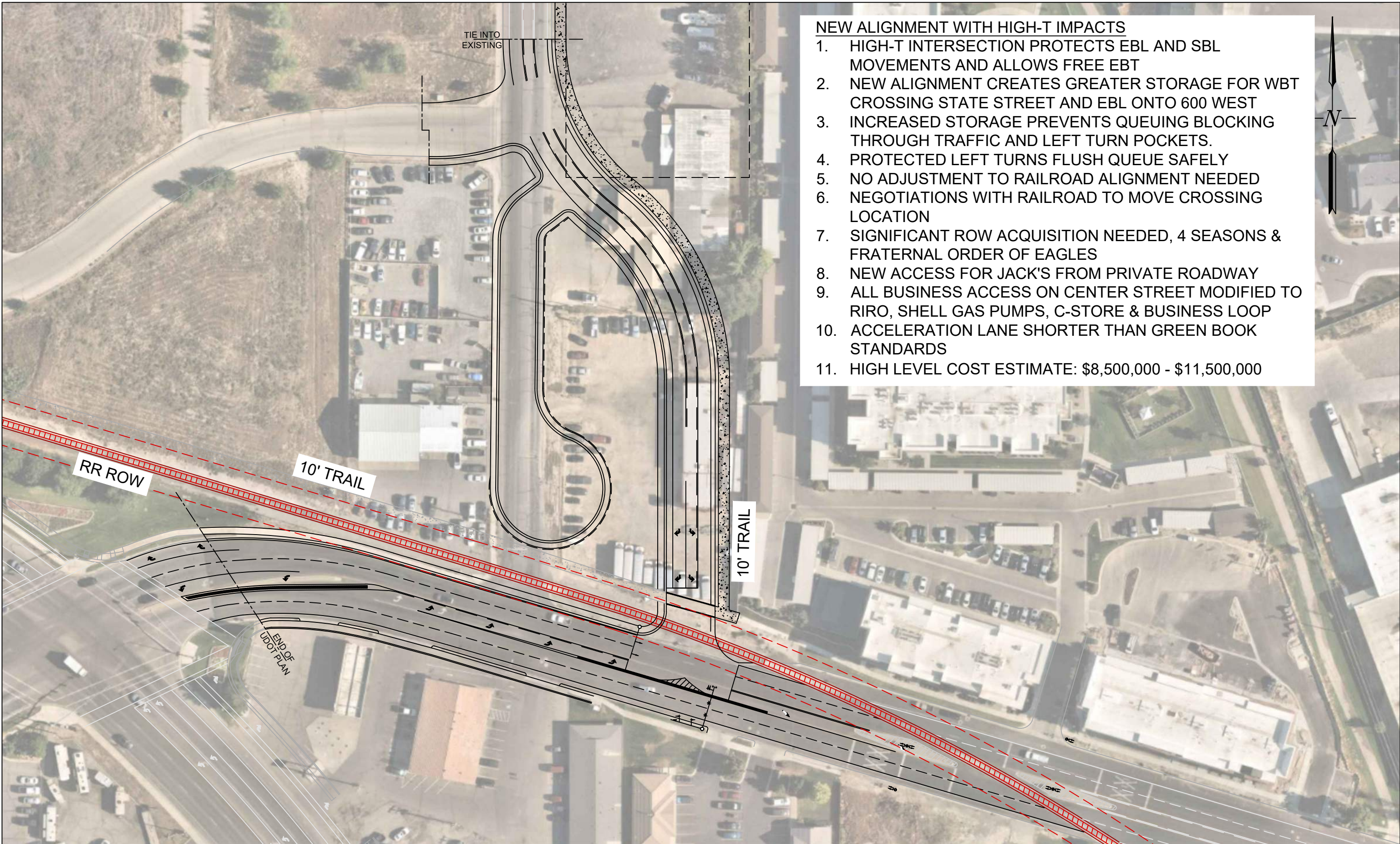


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**HIGH-T 1**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	1 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

C:\Users\led.cannon\Horrocks\Civil Traffic Group - Traffic Impact Studies\2022\22.04 - PC 600 West & Center Street Study\Figures\Concept Layouts\New Alignment with High T Signal.dwg - High-T-2 - 10/03/2023 11:26am. led.cannon



**NEW ALIGNMENT WITH HIGH-T IMPACTS**

1. HIGH-T INTERSECTION PROTECTS EBL AND SBL MOVEMENTS AND ALLOWS FREE EBT
2. NEW ALIGNMENT CREATES GREATER STORAGE FOR WBT CROSSING STATE STREET AND EBL ONTO 600 WEST
3. INCREASED STORAGE PREVENTS QUEUING BLOCKING THROUGH TRAFFIC AND LEFT TURN POCKETS.
4. PROTECTED LEFT TURNS FLUSH QUEUE SAFELY
5. NO ADJUSTMENT TO RAILROAD ALIGNMENT NEEDED
6. NEGOTIATIONS WITH RAILROAD TO MOVE CROSSING LOCATION
7. SIGNIFICANT ROW ACQUISITION NEEDED, 4 SEASONS & FRATERNAL ORDER OF EAGLES
8. NEW ACCESS FOR JACK'S FROM PRIVATE ROADWAY
9. ALL BUSINESS ACCESS ON CENTER STREET MODIFIED TO RIRO, SHELL GAS PUMPS, C-STORE & BUSINESS LOOP
10. ACCELERATION LANE SHORTER THAN GREEN BOOK STANDARDS
11. HIGH LEVEL COST ESTIMATE: \$8,500,000 - \$11,500,000



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
1" = 80'  
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

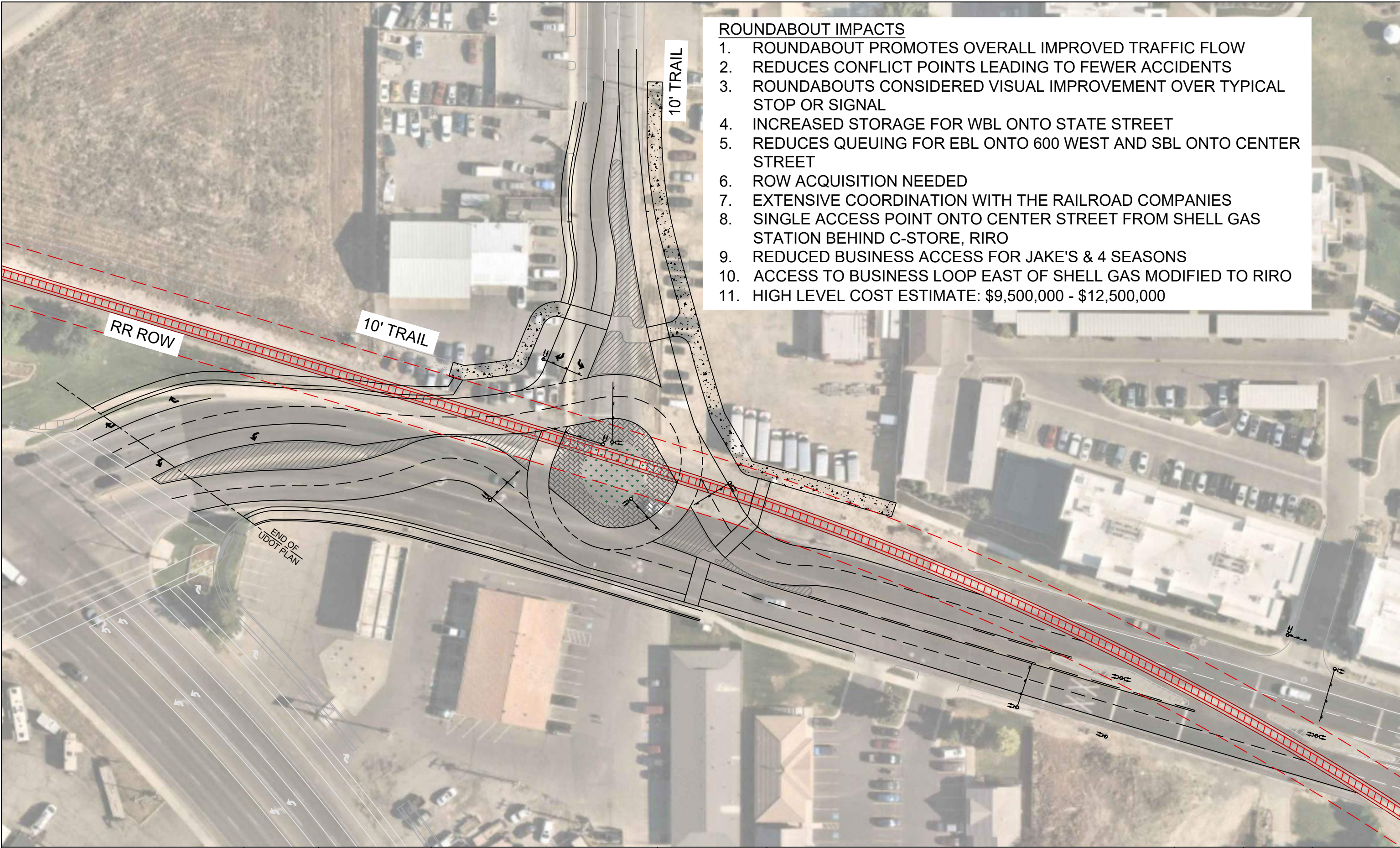


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**HIGH-T 2**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	2 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**ROUNDBOUT IMPACTS**

1. ROUNDBOUT PROMOTES OVERALL IMPROVED TRAFFIC FLOW
2. REDUCES CONFLICT POINTS LEADING TO FEWER ACCIDENTS
3. ROUNDBOUTS CONSIDERED VISUAL IMPROVEMENT OVER TYPICAL STOP OR SIGNAL
4. INCREASED STORAGE FOR WBL ONTO STATE STREET
5. REDUCES QUEUING FOR EBL ONTO 600 WEST AND SBL ONTO CENTER STREET
6. ROW ACQUISITION NEEDED
7. EXTENSIVE COORDINATION WITH THE RAILROAD COMPANIES
8. SINGLE ACCESS POINT ONTO CENTER STREET FROM SHELL GAS STATION BEHIND C-STORE, RIRO
9. REDUCED BUSINESS ACCESS FOR JAKE'S & 4 SEASONS
10. ACCESS TO BUSINESS LOOP EAST OF SHELL GAS MODIFIED TO RIRO
11. HIGH LEVEL COST ESTIMATE: \$9,500,000 - \$12,500,000

**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	1" = 60'
VERTICAL	

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

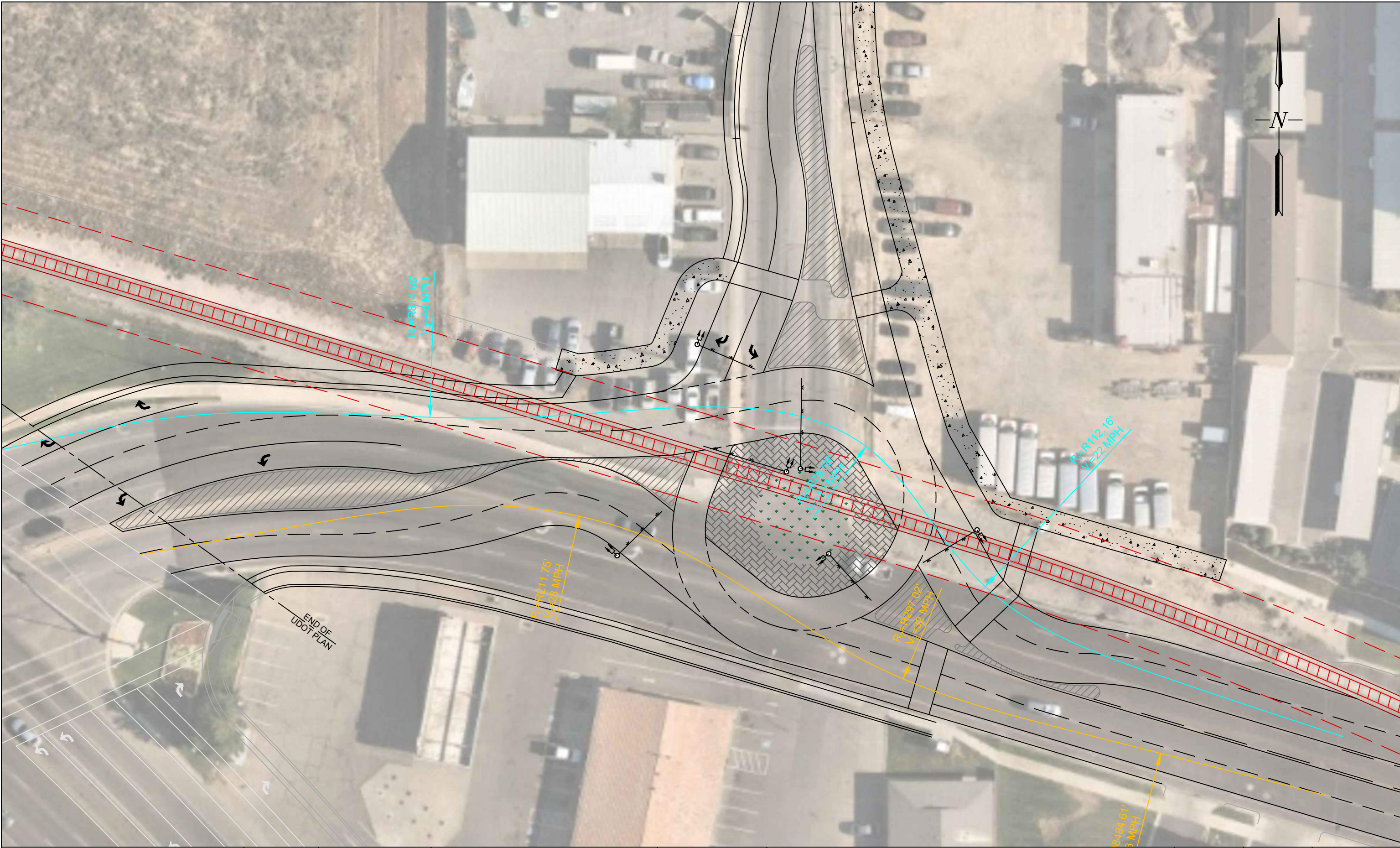


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**TURBO ROUNDBOUT**

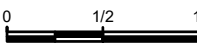
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DRAWN	TC	DATE	10/2023	SHEET NO.	3 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	

**WARNING**  
  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

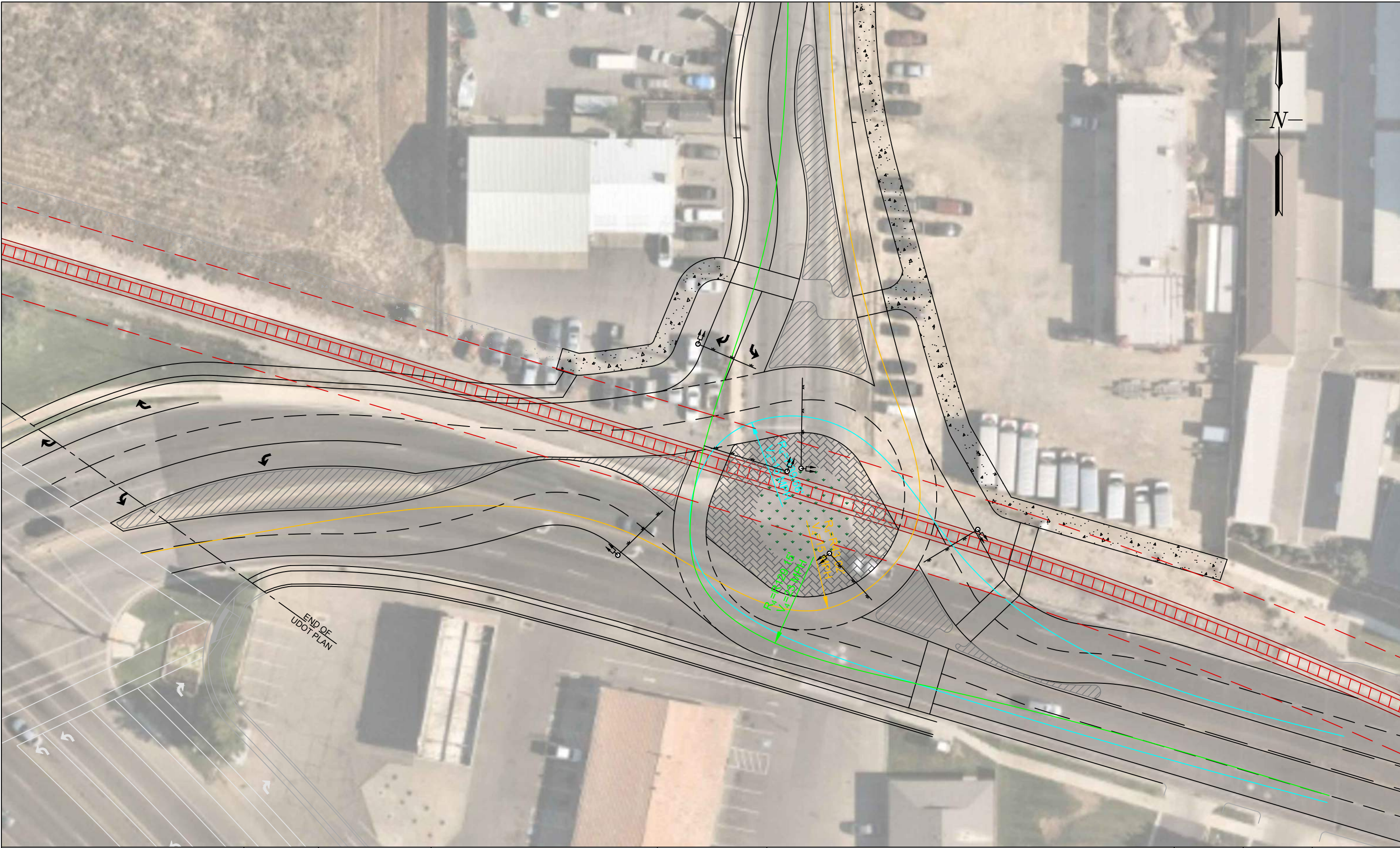


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**FASTEST PATH R1, R2, R3**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	4 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL  
1" = 40'  
VERTICAL

**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



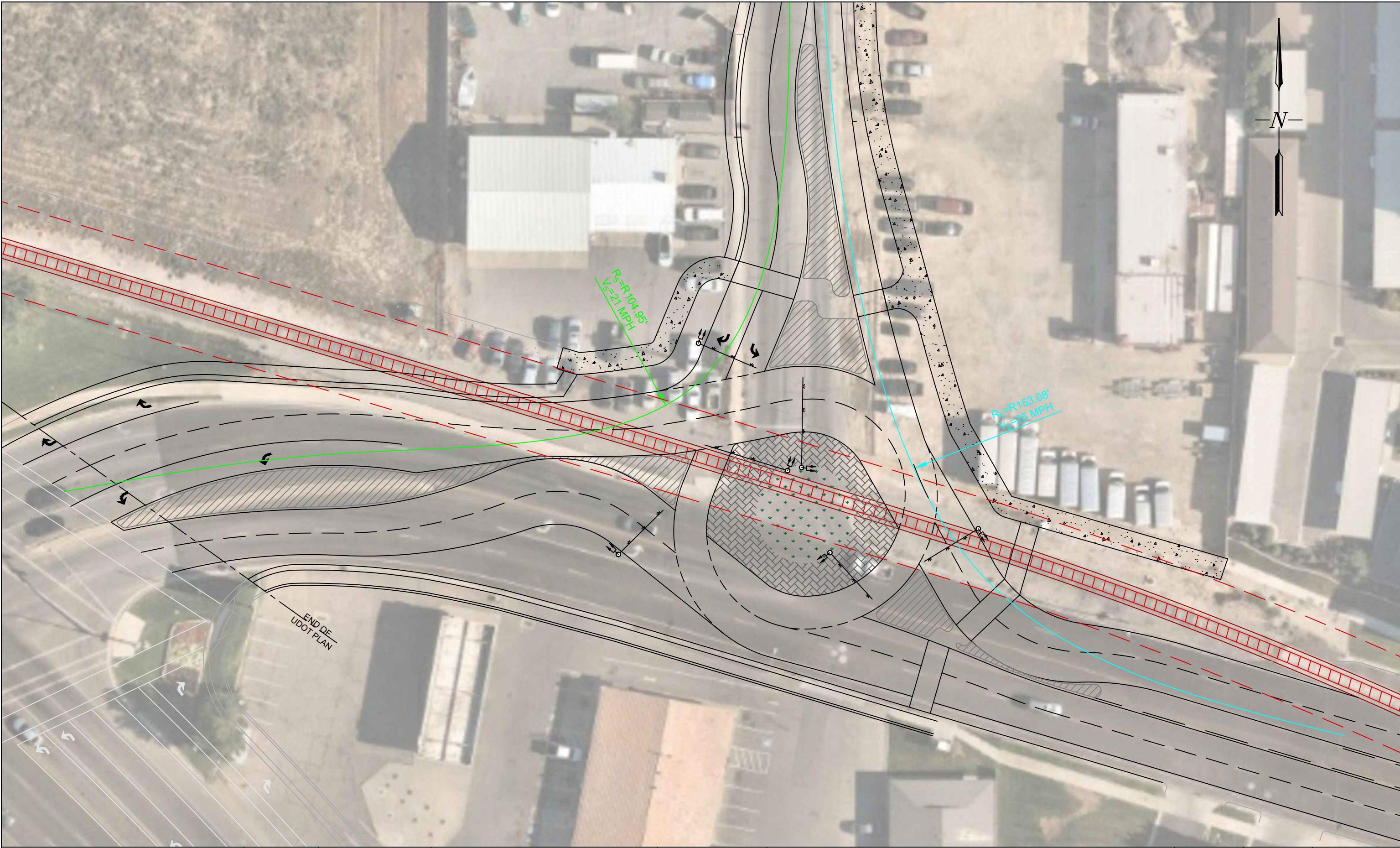
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**FASTEST PATH R4**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	5 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----



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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	

**WARNING**  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

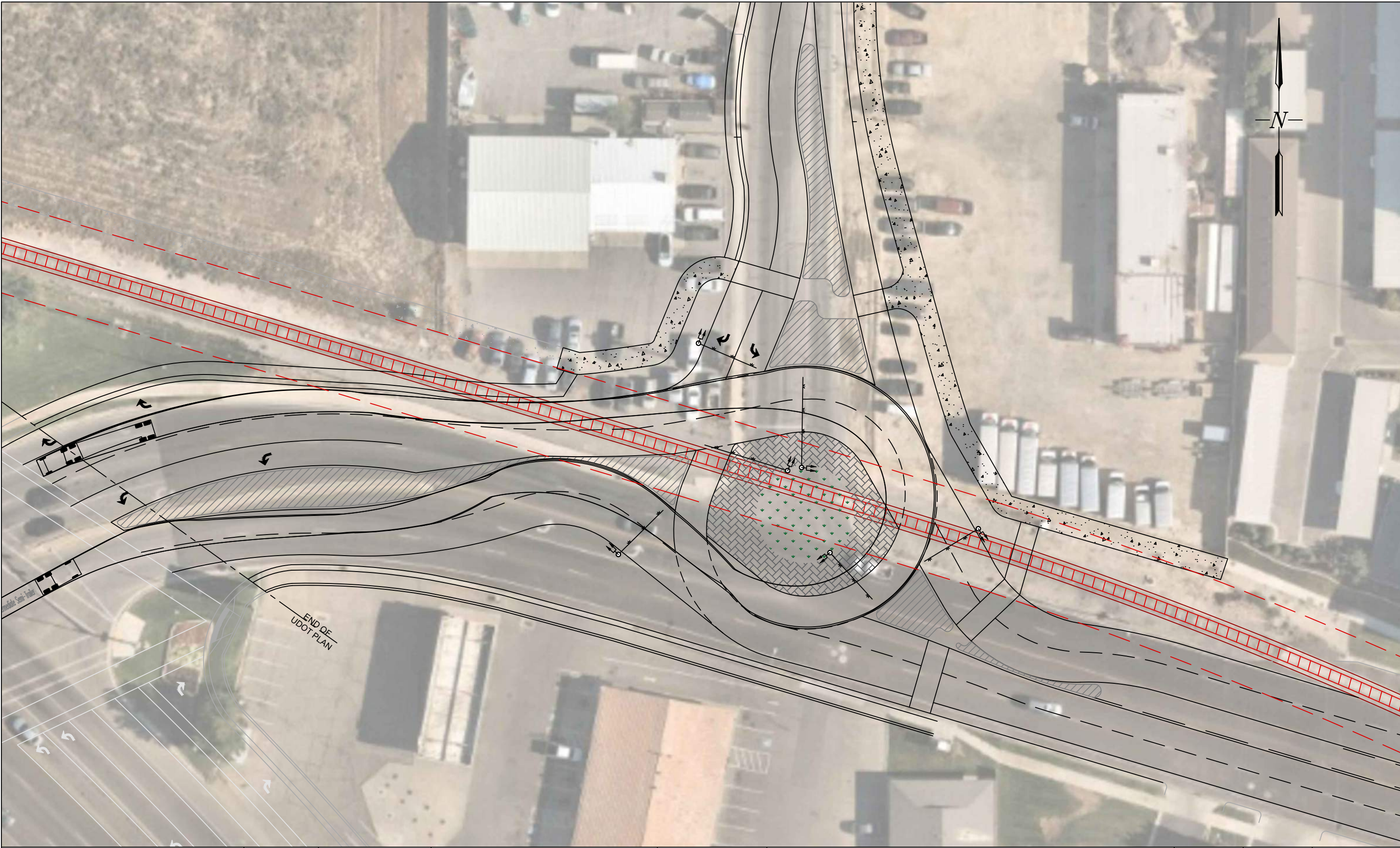


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**FASTEST PATH R5**

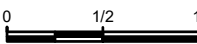
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DRAWN	TC	DATE	10/2023	SHEET NO.	6 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE
HORIZONTAL
1" = 40'
VERTICAL

**WARNING**  
  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

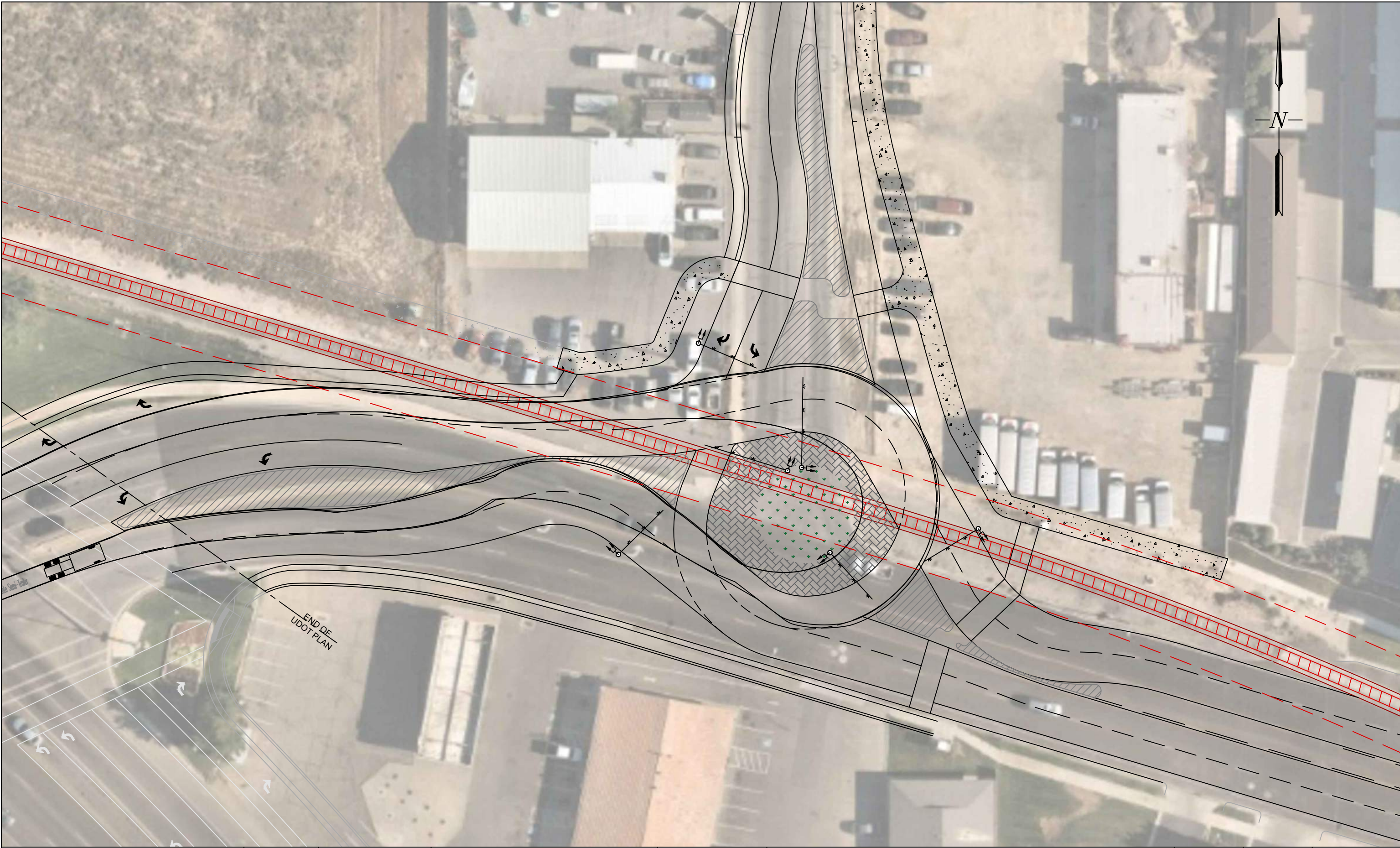


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### INTERMEDIATE SEMI-TRAILER WB-15(50)

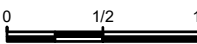
DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	7 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

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**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	

**WARNING**  
  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



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**INTERSTATE SEMI-TRAILER WB-20(67)**

DESIGNED	--	DATE	10/2023	PROJECT NO.	UT-5057-22
DRAWN	TC	DATE	10/2023	SHEET NO.	8 OF 8
CHECKED	--	DATE	10/2023	DRAWING NO.	----

## Appendix D: Synchro 11 SimTraffic Reports

NO BUILD 2022 AM

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.3	2.0	0.1	0.8	3.8	0.2	1.6	3.9	0.0	0.0	0.5	2.5
Total Del/Veh (s)	44.1	36.3	2.6	43.0	33.8	4.8	42.7	24.7	0.8	4.0	27.9	15.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	15.9
Total Del/Veh (s)	13.4	24.3

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.3	0.0	0.2	0.0	0.4	1.2
Total Del/Veh (s)	9.0	2.6	3.4	24.0	0.4	5.6	5.2

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.3	0.3
Total Del/Veh (s)	0.5	2.3	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.7	3.1	0.5	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	1.7	0.6	0.1	0.1	17.0	3.2	0.5

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	0.9	0.0	0.0	1.6
Total Del/Veh (s)	6.4	7.9	4.9	7.9	4.8	3.3	7.8

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Delay (hr)	1.5	1.6	0.1	3.2
Total Del/Veh (s)	8.6	7.2	4.0	7.6

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3		0.1	1.1	0.2

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.1	0.3
Total Del/Veh (s)	2.3	1.6	0.6	1.0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	25.3
Total Del/Veh (s)	36.3

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	61	163	126	39	122	180	234	160	102	98	199	174
Average Queue (ft)	18	84	37	6	44	97	108	41	40	42	110	94
95th Queue (ft)	47	141	103	23	91	155	180	112	85	82	181	160
Link Distance (ft)		454	454			173	173				515	515
Upstream Blk Time (%)					0	0	1	0				
Queuing Penalty (veh)					0	1	4	0				
Storage Bay Dist (ft)	420			430	85			80	350	350		
Storage Blk Time (%)					3	15	22	0				
Queuing Penalty (veh)					5	9	40	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	136	39	23	61	140	143	120	62
Average Queue (ft)	61	8	3	17	79	73	35	11
95th Queue (ft)	120	29	13	46	127	124	92	39
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	103	66	100	71	113
Average Queue (ft)	41	23	35	24	57
95th Queue (ft)	86	56	77	55	92
Link Distance (ft)	23	213	213		364
Upstream Blk Time (%)	14				
Queuing Penalty (veh)	14				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	26	24
Average Queue (ft)	2	1
95th Queue (ft)	14	12
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	6	28
Average Queue (ft)	0	9
95th Queue (ft)	6	29
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		



Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	42	105	42	110	23	32
Average Queue (ft)	9	56	4	62	4	11
95th Queue (ft)	34	86	23	95	19	34
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	5	0	7		
Queuing Penalty (veh)	0	1	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	223	155	46	153	173	172	62
Average Queue (ft)	127	40	10	60	68	75	29
95th Queue (ft)	207	105	34	132	151	149	54
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	1						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	123	35
Average Queue (ft)	4	2
95th Queue (ft)	73	14
Link Distance (ft)	292	213
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	20	8	59
Average Queue (ft)	1	0	3
95th Queue (ft)	13	8	28
Link Distance (ft)	173	173	23
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 75

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**NO BUILD 2022 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.3	6.8	0.2	1.4	4.2	0.2	3.5	4.6	0.0	3.7	6.9	0.7
Total Del/Veh (s)	49.1	54.1	6.2	59.9	52.7	6.5	43.3	20.1	3.3	65.5	31.7	28.1

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	33.7
Total Del/Veh (s)	35.6

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.7	0.1	0.0	0.1	0.0	0.2	1.2
Total Del/Veh (s)	7.0	0.9	0.6	20.8	0.3	4.3	4.4

8: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	2.7	0.4	0.1	3.1
Total Del/Veh (s)	8.7	1.4	4.1	5.2

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3
Total Del/Veh (s)	0.9	2.2	1.5

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	9.3	3.4	2.8	0.7	0.2	0.1	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.1	1.1	0.2	0.1	18.2	4.6	0.9

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.2	0.0	0.7	0.0	0.0	2.0
Total Del/Veh (s)	7.3	9.9	6.8	7.4	4.9	2.8	8.6

21: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.8	0.0	0.1	1.7	0.5

23: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	0.3	0.0	0.8
Total Del/Veh (s)	4.4	2.3	0.2	2.1

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	45.7
Total Del/Veh (s)	45.4

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	180	327	281	68	147	181	216	168	187	163	140	163
Average Queue (ft)	61	212	152	12	66	101	109	39	102	76	77	90
95th Queue (ft)	131	305	261	44	125	164	182	115	168	136	123	136
Link Distance (ft)		443	443			182	182				529	529
Upstream Blk Time (%)						0	1	0				
Queuing Penalty (veh)						0	2	0				
Storage Bay Dist (ft)	420			430	85			80	500	500		
Storage Blk Time (%)		0			9	19	27	0				
Queuing Penalty (veh)		0			13	16	30	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	B1	B1	B1	NW	NW	NW	NW	NW	NW
Directions Served	L	R	T	T	T	L	L	R	R	R	>
Maximum Queue (ft)	152	55	2	6	5	139	187	269	246	226	132
Average Queue (ft)	82	10	0	0	0	65	92	155	150	120	52
95th Queue (ft)	138	38	2	6	4	125	155	221	210	189	110
Link Distance (ft)	529		554	554	554			1406	1406	1406	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		430				430	430				425
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	136	8	33	55	87
Average Queue (ft)	92	0	5	17	47
95th Queue (ft)	144	5	23	45	75
Link Distance (ft)	10	154	154		366
Upstream Blk Time (%)	20				
Queuing Penalty (veh)	69				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 8:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	213	194	173	41	35	71	65
Average Queue (ft)	136	113	57	7	4	26	25
95th Queue (ft)	197	184	135	29	21	61	52
Link Distance (ft)	1294	1294	1294	554	554	554	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	38	33
Average Queue (ft)	15	7
95th Queue (ft)	41	28
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	33	37
Average Queue (ft)	6	10
95th Queue (ft)	27	33
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	166	52	106	26	35
Average Queue (ft)	16	80	8	54	5	12
95th Queue (ft)	52	134	37	81	22	35
Link Distance (ft)		354		454	136	99
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		30			
Storage Blk Time (%)	0	33	0			
Queuing Penalty (veh)	0	7	1			

Intersection: 21: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	168	28
Average Queue (ft)	11	2
95th Queue (ft)	109	15
Link Distance (ft)	221	154
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		



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Intersection: 23: Center St

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Movement	EB	EB	WB	WB
Directions Served	TR	R	T	T
Maximum Queue (ft)	139	76	10	81
Average Queue (ft)	24	3	0	28
95th Queue (ft)	93	41	11	78
Link Distance (ft)	182	182	10	10
Upstream Blk Time (%)	0	0		0
Queuing Penalty (veh)	0	0		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Network Summary

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Network wide Queuing Penalty: 139

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**NO BUILD 2030 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	2.2	0.0	0.6	4.1	0.3	1.1	2.9	0.0	0.0	0.5	2.5
Total Del/Veh (s)	45.7	35.5	2.0	45.4	35.4	5.2	39.8	24.1	1.8	3.6	28.9	15.1

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	14.8
Total Del/Veh (s)	9.3	23.8

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.2	0.0	0.4	0.8
Total Del/Veh (s)	5.1	0.6	0.3	14.1		5.5	3.3

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.3	0.3
Total Del/Veh (s)	0.5	2.3	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		4.0	2.6	0.4	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)		0.6	0.1	0.1	13.0	2.9	0.4

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	1.0	0.0	0.0	1.6
Total Del/Veh (s)	6.5	7.7	5.4	8.1	4.5	3.4	7.8

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	1.2	1.7	0.1	2.9
Total Del/Veh (s)	8.3	7.2	3.5	7.5

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3		0.1	0.9	0.2

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.1	0.2
Total Del/Veh (s)	2.4	1.7	0.3	0.9

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	23.1
Total Del/Veh (s)	34.7

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	89	185	136	46	133	200	236	172	79	72	167	146
Average Queue (ft)	26	90	41	6	37	102	113	53	28	29	92	74
95th Queue (ft)	65	153	112	24	83	166	189	140	67	63	150	132
Link Distance (ft)		454	454			173	173				515	515
Upstream Blk Time (%)					0	1	1	0				
Queuing Penalty (veh)					0	2	4	0				
Storage Bay Dist (ft)	420			430	85			80	350	350		
Storage Blk Time (%)					1	17	24	0				
Queuing Penalty (veh)					2	9	47	1				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	108	29	33	60	138	134	103	36
Average Queue (ft)	42	8	3	18	78	72	34	7
95th Queue (ft)	92	26	16	46	124	123	86	26
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	92	2	29	77	120
Average Queue (ft)	36	0	2	27	59
95th Queue (ft)	76	2	15	59	94
Link Distance (ft)	23	213	213		364
Upstream Blk Time (%)	8				
Queuing Penalty (veh)	8				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	28	21
Average Queue (ft)	2	1
95th Queue (ft)	14	9
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	8
95th Queue (ft)	5	28
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	51	103	36	125	23	35
Average Queue (ft)	9	54	3	65	4	10
95th Queue (ft)	34	80	19	101	19	34
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)		5	0	8		
Queuing Penalty (veh)		1	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	200	114	42	157	179	193	59
Average Queue (ft)	100	28	9	60	74	80	25
95th Queue (ft)	173	82	32	128	151	155	52
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	SE
Directions Served	L
Maximum Queue (ft)	30
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	213
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 28: Center St

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Movement	WB
Directions Served	T
Maximum Queue (ft)	21
Average Queue (ft)	0
95th Queue (ft)	10
Link Distance (ft)	23
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Network Summary

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Network wide Queuing Penalty: 73



**NO BUILD 2030 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.4	8.2	0.3	1.5	4.4	0.2	4.0	5.7	0.0	0.0	4.6	9.3
Total Del/Veh (s)	46.0	56.5	7.9	58.1	53.4	7.2	46.1	22.5	0.8	3.3	72.0	35.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.8	40.5
Total Del/Veh (s)	30.0	37.9

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	0.1	0.0	0.2	0.0	0.3	1.4
Total Del/Veh (s)	6.8	0.9	0.6	25.2	0.2	4.5	4.9

8: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	3.2	0.5	0.1	3.7
Total Del/Veh (s)	9.5	1.5	4.4	5.6

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.2	0.3
Total Del/Veh (s)	1.0	2.2	1.5

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	11.2	4.1	3.2	0.8	0.3	0.2	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.6	1.2	0.1	0.1	18.4	3.3	1.0

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.5	0.0	0.6	0.0	0.0	2.1
Total Del/Veh (s)	7.5	10.7	7.3	7.0	4.9	2.8	9.1

21: Center St Performance by movement

Movement	EBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.8	0.1	1.8	0.6

23: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.6	0.3	0.0	0.9
Total Del/Veh (s)	5.0	2.4	0.2	2.4

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	54.8
Total Del/Veh (s)	48.6

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 2: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	153
Average Queue (ft)	5
95th Queue (ft)	156
Link Distance (ft)	1406
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	225	360	326	87	150	183	218	179	226	193	202	203
Average Queue (ft)	72	242	187	20	72	103	116	39	119	84	86	100
95th Queue (ft)	157	342	308	63	132	166	185	109	201	161	152	161
Link Distance (ft)		443	443			182	182					529
Upstream Blk Time (%)						0	1	0				
Queuing Penalty (veh)						1	2	0				
Storage Bay Dist (ft)	420			430	85			80	500	500		
Storage Blk Time (%)		0			12	19	29	0				
Queuing Penalty (veh)		0			17	17	36	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	B1	B1	B1	NW	NW	NW	NW	NW	NW
Directions Served	L	R	T	T	T	L	L	R	R	R	>
Maximum Queue (ft)	203	47	4	9	9	164	232	290	286	259	143
Average Queue (ft)	100	9	0	0	0	82	109	188	182	154	58
95th Queue (ft)	164	33	4	7	6	147	182	264	253	227	115
Link Distance (ft)	529		554	554	554			1406	1406	1406	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		430				430	430				425
Storage Blk Time (%)	0							0			
Queuing Penalty (veh)	0							0			

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	141	9	38	64	102
Average Queue (ft)	98	0	5	22	53
95th Queue (ft)	154	5	22	55	83
Link Distance (ft)	10	154	154		366
Upstream Blk Time (%)	19				
Queuing Penalty (veh)	79				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	236	226	191	39	46	74	72
Average Queue (ft)	148	130	74	6	6	28	30
95th Queue (ft)	209	206	159	26	28	65	60
Link Distance (ft)	1294	1294	1294	554	554	554	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	35	36
Average Queue (ft)	16	9
95th Queue (ft)	42	32
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	38	39
Average Queue (ft)	7	12
95th Queue (ft)	29	35
Link Distance (ft)	442	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	68	218	54	90	26	35
Average Queue (ft)	12	92	9	51	7	12
95th Queue (ft)	44	166	38	78	25	35
Link Distance (ft)	354			454	136	99
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		30			
Storage Blk Time (%)	0	38	0			
Queuing Penalty (veh)	0	8	1			

## Queuing and Blocking Report Baseline

07/13/2023

### Intersection: 21: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	194	32
Average Queue (ft)	9	3
95th Queue (ft)	98	17
Link Distance (ft)	221	154
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 23: Center St

Movement	EB	EB	WB	WB
Directions Served	TR	R	T	T
Maximum Queue (ft)	154	48	21	83
Average Queue (ft)	36	2	1	34
95th Queue (ft)	114	27	15	83
Link Distance (ft)	182	182	10	10
Upstream Blk Time (%)	0	0		0
Queuing Penalty (veh)	0	0		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

### Network Summary

Network wide Queuing Penalty: 162

**NO BUILD 2050 AM**



3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.3	9.5	0.3	1.3	5.7	0.2	4.4	4.7	0.0	0.1	4.1	4.7
Total Del/Veh (s)	49.2	58.0	6.5	57.6	52.4	6.9	47.6	21.6	0.8	4.1	69.3	31.7

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.6	36.9
Total Del/Veh (s)	28.1	38.9

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	0.1	0.0	0.3	0.0	0.4	1.6
Total Del/Veh (s)	7.2	0.9	0.7	27.6	0.3	5.1	5.3

8: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	2.8	0.2	0.1	3.1
Total Del/Veh (s)	9.0	1.2	4.5	5.9

12: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.2	0.4
Total Del/Veh (s)	1.2	0.1	2.2	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	11.2	4.2	3.5	0.8	0.3	0.2	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	5.1	1.4	0.1	0.1	25.3	3.8	1.2

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.8	0.0	0.6	0.0	0.0	2.5
Total Del/Veh (s)	9.5	11.5	7.6	7.2	4.7	2.8	9.7

21: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	0.9	0.0	0.1	2.0	0.6

23: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.6	0.4	0.0	1.1
Total Del/Veh (s)	5.4	2.7	0.3	2.5

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	50.1
Total Del/Veh (s)	49.5

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	B5	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	R	T	L	T	T	R	<	<	L
Maximum Queue (ft)	254	419	371	75	16	159	221	292	182	241	212	171
Average Queue (ft)	69	264	217	16	0	72	131	158	52	123	91	75
95th Queue (ft)	162	379	342	52	9	141	201	258	157	209	174	131
Link Distance (ft)		443	443		353		182	182				529
Upstream Blk Time (%)	0	0	0				2	5	0			
Queuing Penalty (veh)	0	0	0				5	15	0			
Storage Bay Dist (ft)	420			430		85			80	500	500	
Storage Blk Time (%)		0	0			10	30	41	0			
Queuing Penalty (veh)		0	0			19	25	41	0			

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	SB	B1	B1	B1	NW	NW	NW	NW	NW	NW
Directions Served	L	L	R	T	T	T	L	L	R	R	R	>
Maximum Queue (ft)	148	147	59	8	8	7	154	187	205	193	160	124
Average Queue (ft)	88	85	12	0	0	0	73	95	119	112	82	45
95th Queue (ft)	135	137	42	5	6	5	133	152	177	172	147	97
Link Distance (ft)	529	529		554	554	554			1406	1406	1406	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			430				430	430				425
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	143	22	39	68	116
Average Queue (ft)	101	1	6	25	60
95th Queue (ft)	153	11	27	57	96
Link Distance (ft)	10	154	154		366
Upstream Blk Time (%)	21				
Queuing Penalty (veh)	85				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 8:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	221	214	173	30	35	66	71
Average Queue (ft)	133	114	59	2	3	22	30
95th Queue (ft)	195	185	138	16	20	54	59
Link Distance (ft)	1294	1294	1294	554	554	554	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	48	37
Average Queue (ft)	19	10
95th Queue (ft)	45	34
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	39	41
Average Queue (ft)	8	12
95th Queue (ft)	31	36
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	223	54	96	28	31
Average Queue (ft)	19	102	7	51	6	11
95th Queue (ft)	60	182	36	80	24	33
Link Distance (ft)		354		454	136	99
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		30			
Storage Blk Time (%)	0	43	0			
Queuing Penalty (veh)	0	9	1			

Intersection: 21: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	202	37
Average Queue (ft)	11	4
95th Queue (ft)	107	21
Link Distance (ft)	221	154
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 23: Center St

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Movement	EB	EB	WB	WB
Directions Served	TR	R	T	T
Maximum Queue (ft)	174	108	10	98
Average Queue (ft)	38	4	0	36
95th Queue (ft)	123	44	11	87
Link Distance (ft)	182	182	10	10
Upstream Blk Time (%)	0	0		0
Queuing Penalty (veh)	1	0		1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Network Summary

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Network wide Queuing Penalty: 201

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**NO BUILD 2050 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.3	9.5	0.3	1.3	5.7	0.2	4.4	4.7	0.0	0.1	4.1	4.7
Total Del/Veh (s)	49.2	58.0	6.5	57.6	52.4	6.9	47.6	21.6	0.8	4.1	69.3	31.7

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.6	36.9
Total Del/Veh (s)	28.1	38.9

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	0.1	0.0	0.3	0.0	0.4	1.6
Total Del/Veh (s)	7.2	0.9	0.7	27.6	0.3	5.1	5.3

8: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	2.8	0.2	0.1	3.1
Total Del/Veh (s)	9.0	1.2	4.5	5.9

12: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.2	0.4
Total Del/Veh (s)	1.2	0.1	2.2	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	11.2	4.2	3.5	0.8	0.3	0.2	0.8



15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	5.1	1.4	0.1	0.1	25.3	3.8	1.2

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.8	0.0	0.6	0.0	0.0	2.5
Total Del/Veh (s)	9.5	11.5	7.6	7.2	4.7	2.8	9.7

21: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	0.9	0.0	0.1	2.0	0.6

23: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.6	0.4	0.0	1.1
Total Del/Veh (s)	5.4	2.7	0.3	2.5

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	50.1
Total Del/Veh (s)	49.5

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	B5	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	R	T	L	T	T	R	<	<	L
Maximum Queue (ft)	254	419	371	75	16	159	221	292	182	241	212	171
Average Queue (ft)	69	264	217	16	0	72	131	158	52	123	91	75
95th Queue (ft)	162	379	342	52	9	141	201	258	157	209	174	131
Link Distance (ft)		443	443		353		182	182				529
Upstream Blk Time (%)	0	0	0				2	5	0			
Queuing Penalty (veh)	0	0	0				5	15	0			
Storage Bay Dist (ft)	420			430		85			80	500	500	
Storage Blk Time (%)		0	0			10	30	41	0			
Queuing Penalty (veh)		0	0			19	25	41	0			

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	SB	B1	B1	B1	NW	NW	NW	NW	NW	NW
Directions Served	L	L	R	T	T	T	L	L	R	R	R	>
Maximum Queue (ft)	148	147	59	8	8	7	154	187	205	193	160	124
Average Queue (ft)	88	85	12	0	0	0	73	95	119	112	82	45
95th Queue (ft)	135	137	42	5	6	5	133	152	177	172	147	97
Link Distance (ft)	529	529		554	554	554			1406	1406	1406	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			430				430	430				425
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	143	22	39	68	116
Average Queue (ft)	101	1	6	25	60
95th Queue (ft)	153	11	27	57	96
Link Distance (ft)	10	154	154		366
Upstream Blk Time (%)	21				
Queuing Penalty (veh)	85				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 8:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	221	214	173	30	35	66	71
Average Queue (ft)	133	114	59	2	3	22	30
95th Queue (ft)	195	185	138	16	20	54	59
Link Distance (ft)	1294	1294	1294	554	554	554	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	48	37
Average Queue (ft)	19	10
95th Queue (ft)	45	34
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	39	41
Average Queue (ft)	8	12
95th Queue (ft)	31	36
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	223	54	96	28	31
Average Queue (ft)	19	102	7	51	6	11
95th Queue (ft)	60	182	36	80	24	33
Link Distance (ft)		354		454	136	99
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		30			
Storage Blk Time (%)	0	43	0			
Queuing Penalty (veh)	0	9	1			

Intersection: 21: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	202	37
Average Queue (ft)	11	4
95th Queue (ft)	107	21
Link Distance (ft)	221	154
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 23: Center St

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Movement	EB	EB	WB	WB
Directions Served	TR	R	T	T
Maximum Queue (ft)	174	108	10	98
Average Queue (ft)	38	4	0	36
95th Queue (ft)	123	44	11	87
Link Distance (ft)	182	182	10	10
Upstream Blk Time (%)	0	0		0
Queuing Penalty (veh)	1	0		1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Network Summary

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Network wide Queuing Penalty: 201

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**HIGH-T SIGNAL 2022 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.3	2.0	0.1	0.8	2.6	0.2	1.7	3.2	0.0	0.0	0.5	2.5
Total Del/Veh (s)	45.4	37.4	2.2	45.5	22.7	4.6	49.8	20.3	1.4	2.9	27.0	15.3

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	14.1
Total Del/Veh (s)	11.5	21.5

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	3.0	0.2	0.2	0.0	0.4	4.4
Total Del/Veh (s)	17.8	25.1	19.3	24.2	0.3	6.7	18.7

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.3	0.3
Total Del/Veh (s)	0.7	2.3	1.7

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		3.5	2.8	0.6	0.2	0.4

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)		0.8	0.2	0.1	16.1	3.6	0.5

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	1.0	0.0	0.0	1.7
Total Del/Veh (s)	7.3	8.5	6.2	8.1	4.7	3.1	8.1

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Delay (hr)	1.8	2.3	0.1	4.1
Total Del/Veh (s)	9.9	10.5	2.9	9.9

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4		0.1	3.5	0.4

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.3	0.4
Total Del/Veh (s)	1.8	1.6	1.4	1.5

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	28.0
Total Del/Veh (s)	40.5



Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	71	146	118	36	128	196	231	135	85	102	167	150
Average Queue (ft)	18	76	41	6	42	84	102	55	26	50	100	87
95th Queue (ft)	48	128	104	22	91	163	190	139	63	88	147	136
Link Distance (ft)		454	454		135	135	135				515	515
Upstream Blk Time (%)					0	2	2	0				
Queuing Penalty (veh)					0	4	5	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							10	0				
Queuing Penalty (veh)							19	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	127	34	29	56	146	148	121	65
Average Queue (ft)	55	8	4	17	80	71	32	11
95th Queue (ft)	107	28	16	44	131	129	90	40
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	149	183	208	71	136
Average Queue (ft)	61	109	121	22	61
95th Queue (ft)	122	165	184	57	104
Link Distance (ft)	61	198	198		363
Upstream Blk Time (%)	7	0	0		
Queuing Penalty (veh)	7	0	1		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	30
Average Queue (ft)	2	2
95th Queue (ft)	15	14
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	6	34
Average Queue (ft)	0	9
95th Queue (ft)	4	30
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	60	118	62	125	23	35
Average Queue (ft)	12	58	4	64	6	11
95th Queue (ft)	42	91	27	99	22	35
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	7	0	8		
Queuing Penalty (veh)	0	1	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	198	99	46	144	177	175	59
Average Queue (ft)	110	34	13	71	87	84	25
95th Queue (ft)	170	74	40	124	152	140	53
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	87	62
Average Queue (ft)	3	9
95th Queue (ft)	64	39
Link Distance (ft)	319	198
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement	EB	EB	WB	WB
Directions Served	TR	R	T	T
Maximum Queue (ft)	22	2	4	29
Average Queue (ft)	1	0	0	1
95th Queue (ft)	12	2	4	19
Link Distance (ft)	135	135	61	61
Upstream Blk Time (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

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Network wide Queuing Penalty: 38

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**HIGH-T SIGNAL 2022 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	4.2	0.1	0.9	2.4	0.2	3.3	5.8	0.1	1.9	5.0	0.5
Total Del/Veh (s)	40.5	34.4	3.9	39.5	30.6	6.1	40.0	25.3	5.3	32.8	23.2	20.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	25.3
Total Del/Veh (s)	27.1

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	0.3	0.1	0.3	0.0	0.3	1.8
Total Del/Veh (s)	7.7	4.5	3.2	40.7	0.3	6.0	7.0

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3
Total Del/Veh (s)	0.9	2.2	1.5

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	9.4	3.7	2.5	0.7	0.2	0.2	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.3	1.1	0.1	0.1	13.3	3.3	0.9

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.3	0.0	0.7	0.0	0.0	2.0
Total Del/Veh (s)	8.3	9.8	5.4	7.3	4.9	3.2	8.6

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Delay (hr)	4.8	2.9	0.1	7.7
Total Del/Veh (s)	15.5	10.7	3.5	13.0

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.8	0.1	0.1	2.6	0.6

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.3	0.3	0.1	0.7
Total Del/Veh (s)	2.9	2.3	0.6	1.8

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	43.2
Total Del/Veh (s)	43.4

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	113	205	178	56	125	127	150	125	134	152	195	211
Average Queue (ft)	53	133	95	12	57	63	73	31	69	86	128	131
95th Queue (ft)	101	194	160	37	110	111	127	82	117	134	177	184
Link Distance (ft)		454	454		136	136	136				515	515
Upstream Blk Time (%)					0	0	0	0				
Queuing Penalty (veh)					1	0	1	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							8	0				
Queuing Penalty (veh)							9	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	186	67	108	123	181	180	159	110
Average Queue (ft)	107	19	36	60	112	111	82	42
95th Queue (ft)	165	51	86	108	163	161	142	87
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	176	94	112	69	116
Average Queue (ft)	90	24	35	23	55
95th Queue (ft)	158	72	85	60	88
Link Distance (ft)	60	191	191		362
Upstream Blk Time (%)	13		0		
Queuing Penalty (veh)	45		0		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					



# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	42	33
Average Queue (ft)	16	8
95th Queue (ft)	43	30
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	35	34
Average Queue (ft)	6	10
95th Queue (ft)	26	33
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	71	150	58	94	26	37
Average Queue (ft)	15	79	8	54	5	9
95th Queue (ft)	52	123	38	82	20	32
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	17	0	4		
Queuing Penalty (veh)	0	4	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	B1	NB
Directions Served	T	T	T	T	T	T	T	LR
Maximum Queue (ft)	241	206	95	170	194	194	5	62
Average Queue (ft)	197	94	37	80	101	106	0	22
95th Queue (ft)	257	184	75	140	170	172	5	52
Link Distance (ft)	209	209	209	576	576	576	515	212
Upstream Blk Time (%)	8	0						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	129	54
Average Queue (ft)	5	5
95th Queue (ft)	78	28
Link Distance (ft)	311	191
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement	EB	EB
Directions Served	TR	R
Maximum Queue (ft)	98	94
Average Queue (ft)	18	10
95th Queue (ft)	66	52
Link Distance (ft)	136	136
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Network Summary

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Network wide Queuing Penalty: 61

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**HIGH-T SIGNAL 2030 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	2.1	0.0	0.6	3.7	0.3	1.1	2.2	0.0	0.0	0.4	2.6
Total Del/Veh (s)	41.7	33.5	2.0	42.6	32.5	5.6	38.4	17.8	1.1	2.9	24.1	15.2

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	13.5
Total Del/Veh (s)	13.9	21.6

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.2	0.2	0.0	0.4	0.0	0.5	1.3
Total Del/Veh (s)	6.4	2.0	1.2	39.5		7.2	5.8

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.3	0.3
Total Del/Veh (s)	0.4	2.3	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		3.8	2.0	0.4	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)		0.6	0.1	0.1	16.5	4.0	0.4

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	0.9	0.0	0.0	1.5
Total Del/Veh (s)	6.1	7.5	3.3	7.9	5.0	3.3	7.6

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	1.4	2.3	0.0	3.8
Total Del/Veh (s)	10.2	9.9	2.7	9.8

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3		0.1	0.6	0.2

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.1	0.3
Total Del/Veh (s)	2.2	1.6	0.6	1.0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	23.5
Total Del/Veh (s)	35.6

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	74	161	125	36	95	158	217	136	74	88	129	115
Average Queue (ft)	26	80	42	7	35	94	114	64	19	38	71	58
95th Queue (ft)	62	138	105	22	74	150	190	144	52	75	112	104
Link Distance (ft)		454	454		136	136	136				515	515
Upstream Blk Time (%)					0	1	3	0				
Queuing Penalty (veh)					0	2	6	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							22	0				
Queuing Penalty (veh)							41	1				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	92	35	35	52	138	140	116	43
Average Queue (ft)	34	8	3	14	78	72	38	9
95th Queue (ft)	75	28	18	38	127	124	94	31
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	124	72	85	84	127
Average Queue (ft)	40	18	30	30	63
95th Queue (ft)	88	53	72	67	104
Link Distance (ft)	60	191	191		362
Upstream Blk Time (%)	2				
Queuing Penalty (veh)	2				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	24	18
Average Queue (ft)	2	1
95th Queue (ft)	16	10
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	6	36
Average Queue (ft)	0	8
95th Queue (ft)	4	29
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		



# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	56	94	31	104	26	33
Average Queue (ft)	9	52	3	61	5	10
95th Queue (ft)	35	80	21	90	21	33
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	4		7		
Queuing Penalty (veh)	0	1		0		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	176	75	44	140	169	170	59
Average Queue (ft)	90	27	13	77	97	93	21
95th Queue (ft)	140	60	38	124	152	149	51
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Intersection: 26: Center St

Movement	SE
Directions Served	L
Maximum Queue (ft)	8
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	191
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	20	12	26
Average Queue (ft)	1	1	1
95th Queue (ft)	15	9	15
Link Distance (ft)	136	136	60
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 54

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**HIGH-T SIGNAL 2030 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.4	5.1	0.2	0.9	2.5	0.2	3.1	5.7	0.0	0.1	2.2	7.3
Total Del/Veh (s)	43.5	34.8	5.5	38.6	30.9	7.2	35.8	22.2	1.1	4.7	36.6	27.8

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.7	29.4
Total Del/Veh (s)	23.4	27.6

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	0.4	0.1	0.3	0.0	0.4	2.2
Total Del/Veh (s)	8.7	5.4	3.4	40.5	0.3	6.4	7.8

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3
Total Del/Veh (s)	1.0	2.2	1.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	11.7	3.5	2.9	0.8	0.2	0.2	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.5	1.2	0.1	0.1	18.9	3.0	1.0

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.4	0.0	0.6	0.0	0.0	2.1
Total Del/Veh (s)	8.3	10.4	7.0	7.0	4.8	3.2	9.0

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.6	0.0	0.2	0.3
Total Delay (hr)	5.7	2.4	0.1	8.2
Total Del/Veh (s)	16.9	7.5	3.9	12.0

26: Center St Performance by movement

Movement	EBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.1	0.1	2.0	0.7

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	0.4	0.1	0.9
Total Del/Veh (s)	3.7	3.0	0.7	2.4

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	49.5
Total Del/Veh (s)	44.0

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	149	255	221	72	130	133	168	128	156	167	170	193
Average Queue (ft)	72	153	114	20	58	65	75	37	71	90	116	125
95th Queue (ft)	130	222	187	54	106	114	133	95	128	143	162	175
Link Distance (ft)		454	454		136	136	136				515	515
Upstream Blk Time (%)					0	0	0	0				
Queuing Penalty (veh)					1	0	1	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							9	0				
Queuing Penalty (veh)							11	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	177	61	115	132	212	209	191	124
Average Queue (ft)	108	17	42	64	142	138	114	53
95th Queue (ft)	163	45	92	109	197	196	176	104
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	188	106	106	74	117
Average Queue (ft)	116	29	35	24	60
95th Queue (ft)	193	78	82	59	96
Link Distance (ft)	60	191	191		362
Upstream Blk Time (%)	18				
Queuing Penalty (veh)	73				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	48	40
Average Queue (ft)	19	10
95th Queue (ft)	45	35
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	38	37
Average Queue (ft)	9	11
95th Queue (ft)	32	35
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	180	74	88	28	37
Average Queue (ft)	15	89	8	52	7	12
95th Queue (ft)	52	145	44	79	25	37
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	21	0	3		
Queuing Penalty (veh)	0	4	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	238	212	106	129	157	172	75
Average Queue (ft)	209	114	42	61	77	88	27
95th Queue (ft)	257	201	81	111	134	146	58
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	14	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	130	47
Average Queue (ft)	6	3
95th Queue (ft)	90	22
Link Distance (ft)	311	191
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		



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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	156	152	3
Average Queue (ft)	39	28	0
95th Queue (ft)	112	99	3
Link Distance (ft)	136	136	60
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	2	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 94

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**HIGH-T SIGNAL 2050 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	2.1	0.0	0.4	5.3	0.4	1.3	2.1	0.0	1.0	4.3	0.1
Total Del/Veh (s)	41.6	28.8	1.8	44.5	33.3	9.0	41.8	25.9	4.9	29.6	18.7	15.6

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	17.7
Total Del/Veh (s)	24.7

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	0.5	0.0	0.4	0.0	0.7	2.1
Total Del/Veh (s)	9.0	3.9	2.0	37.0	0.3	9.0	7.4

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.4	0.4
Total Del/Veh (s)	0.5	2.4	1.7

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	8.0	3.9	3.3	0.5	0.2	0.5

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.2	0.6	0.2	0.1	20.4	4.8	0.5

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	1.3	0.0	0.0	1.9
Total Del/Veh (s)	6.4	7.4	4.2	8.9	4.3	3.3	8.2

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.0
Total Delay (hr)	1.0	3.8	0.0	4.8
Total Del/Veh (s)	9.5	13.1	2.6	11.7

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4		0.1	0.6	0.2

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.2	0.4
Total Del/Veh (s)	2.1	1.6	1.0	1.3

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	30.8
Total Del/Veh (s)	40.6

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	76	160	126	29	76	212	257	136	85	95	135	116
Average Queue (ft)	25	84	46	4	24	124	164	85	22	42	77	57
95th Queue (ft)	60	143	109	16	58	184	262	171	58	82	120	105
Link Distance (ft)		454	454		136	136	136				515	515
Upstream Blk Time (%)					0	5	12	1				
Queuing Penalty (veh)					0	14	31	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							36	1				
Queuing Penalty (veh)							66	3				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	87	48	69	86	177	172	147	70
Average Queue (ft)	28	14	16	35	108	104	70	15
95th Queue (ft)	68	38	49	71	160	159	134	49
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	132	103	112	84	157
Average Queue (ft)	58	39	45	32	75
95th Queue (ft)	110	89	93	69	124
Link Distance (ft)	60	191	191		362
Upstream Blk Time (%)	6				
Queuing Penalty (veh)	10				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 12: Center St

Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	39	21
Average Queue (ft)	9	2
95th Queue (ft)	32	14
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 15: Center St & 200 West

Movement	EB	WB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	30	5	40
Average Queue (ft)	3	0	10
95th Queue (ft)	18	5	33
Link Distance (ft)		574	442
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	43	104	45	144	23	32
Average Queue (ft)	8	56	5	71	4	11
95th Queue (ft)	32	87	26	111	17	35
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	4	0	13		
Queuing Penalty (veh)	0	1	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	131	52	48	197	219	230	49
Average Queue (ft)	72	16	13	108	136	137	20
95th Queue (ft)	117	46	40	174	212	217	47
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	SE
Directions Served	L
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	191
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	27	17	82
Average Queue (ft)	1	0	9
95th Queue (ft)	9	9	47
Link Distance (ft)	136	136	60
Upstream Blk Time (%)			1
Queuing Penalty (veh)			4
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 129

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**HIGH-T SIGNAL 2050 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	5.6	0.2	0.9	3.2	0.1	3.3	5.1	0.0	0.1	1.8	3.7
Total Del/Veh (s)	42.0	34.4	4.8	40.7	29.0	5.2	36.5	23.2	2.6	5.6	32.9	25.3

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.5	25.7
Total Del/Veh (s)	23.2	27.3

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	0.5	0.1	0.4	0.0	0.6	2.6
Total Del/Veh (s)	8.7	6.6	4.1	36.2	0.5	7.3	8.6

12: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.2	0.4
Total Del/Veh (s)	1.1	0.0	2.2	1.5

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	11.2	4.6	3.2	0.8	0.3	0.2	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	4.3	1.3	0.2	0.1	10.0	2.8	1.0

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.8	0.0	0.6	0.0	0.0	2.5
Total Del/Veh (s)	9.1	11.3	8.5	7.1	4.7	2.9	9.7

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Delay (hr)	4.8	1.0	0.1	5.9
Total Del/Veh (s)	15.8	5.1	3.8	11.3

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.0	0.0	0.2
Total Del/Veh (s)	1.1	0.0	0.1	2.0	0.8

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	0.5	0.1	1.1
Total Del/Veh (s)	4.0	3.1	0.7	2.5

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	43.3
Total Del/Veh (s)	43.1

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	128	260	222	76	126	146	213	136	152	173	162	180
Average Queue (ft)	59	163	127	18	56	86	106	43	77	95	106	112
95th Queue (ft)	111	235	205	53	104	138	175	122	132	150	152	161
Link Distance (ft)		454	454		136	136	136				515	515
Upstream Blk Time (%)					0	1	2	0				
Queuing Penalty (veh)					0	1	5	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							18	0				
Queuing Penalty (veh)							18	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	166	76	106	119	156	150	141	110
Average Queue (ft)	95	22	35	58	91	87	55	41
95th Queue (ft)	150	52	85	105	140	138	117	86
Link Distance (ft)	515				1404	1404	1404	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	186	95	112	86	162
Average Queue (ft)	110	32	39	33	74
95th Queue (ft)	185	80	87	71	122
Link Distance (ft)	60	191	191		362
Upstream Blk Time (%)	16				
Queuing Penalty (veh)	65				
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	44	39
Average Queue (ft)	19	10
95th Queue (ft)	45	35
Link Distance (ft)	228	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	41	32
Average Queue (ft)	7	11
95th Queue (ft)	30	33
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	198	71	97	23	30
Average Queue (ft)	16	101	6	53	6	11
95th Queue (ft)	57	166	37	81	23	35
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	27	0	4		
Queuing Penalty (veh)	0	6	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	244	202	89	95	120	122	67
Average Queue (ft)	198	91	35	43	47	53	28
95th Queue (ft)	258	180	70	78	94	97	58
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	10	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	252	58
Average Queue (ft)	15	4
95th Queue (ft)	144	27
Link Distance (ft)	311	191
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	179	151	17
Average Queue (ft)	41	29	1
95th Queue (ft)	126	107	12
Link Distance (ft)	136	136	60
Upstream Blk Time (%)	1	0	0
Queuing Penalty (veh)	3	1	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 100

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**HIGH-T SIGNAL NEW ALIGNMENT 2022 AM**



3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	2.1	0.1	0.8	2.6	0.2	1.7	3.3	0.0	0.0	0.4	2.4
Total Del/Veh (s)	46.0	37.0	2.4	46.9	23.0	3.7	48.8	20.6	0.6	3.0	26.1	15.0

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	14.0
Total Del/Veh (s)	12.6	21.6

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	2.8	0.2	0.2	0.0	0.5	4.1
Total Del/Veh (s)	14.6	25.0	19.0	25.0	0.4	6.8	18.1

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.3	0.3
Total Del/Veh (s)	0.6	2.3	1.6

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		3.0	2.4	0.6	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.7	0.7	0.1	0.0	15.9	3.4	0.5

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.7	0.0	0.9	0.0	0.0	1.6
Total Del/Veh (s)	6.5	8.4	4.2	8.0	5.0	2.9	8.0

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Delay (hr)	1.8	2.2	0.1	4.1
Total Del/Veh (s)	10.0	10.2	3.0	9.8

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.3		0.3	2.6	0.4

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.2	0.4
Total Del/Veh (s)	1.6	1.6	1.3	1.4

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	27.5
Total Del/Veh (s)	39.9

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	59	141	123	49	96	180	194	108	86	96	158	150
Average Queue (ft)	20	83	46	7	35	76	86	18	22	43	100	87
95th Queue (ft)	49	133	109	27	78	150	160	67	57	82	150	136
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)					0	0	0					
Queuing Penalty (veh)					0	0	0					
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							7	0				
Queuing Penalty (veh)							12	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	125	37	14	45	133	130	106	50
Average Queue (ft)	60	9	1	10	71	67	31	10
95th Queue (ft)	110	29	7	33	120	120	87	33
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	127	161	240	56	144
Average Queue (ft)	50	92	127	20	62
95th Queue (ft)	104	145	207	49	111
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	2	14	24		
Queuing Penalty (veh)	2	30	53		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	28	22
Average Queue (ft)	2	1
95th Queue (ft)	14	12
Link Distance (ft)	295	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	12	37
Average Queue (ft)	0	10
95th Queue (ft)	6	32
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	53	126	41	111	23	30
Average Queue (ft)	11	61	3	63	4	10
95th Queue (ft)	38	97	22	93	18	33
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	7	0	8		
Queuing Penalty (veh)	0	1	0	0		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	199	79	54	155	178	177	64
Average Queue (ft)	112	34	13	68	83	83	25
95th Queue (ft)	174	68	40	122	148	142	53
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Intersection: 26: Center St

Movement	WB	SE
Directions Served	R	L
Maximum Queue (ft)	6	54
Average Queue (ft)	0	8
95th Queue (ft)	4	31
Link Distance (ft)	313	79
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement

- Directions Served
- Maximum Queue (ft)
- Average Queue (ft)
- 95th Queue (ft)
- Link Distance (ft)
- Upstream Blk Time (%)
- Queuing Penalty (veh)
- Storage Bay Dist (ft)
- Storage Blk Time (%)
- Queuing Penalty (veh)

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Network Summary

Network wide Queuing Penalty: 99

**HIGH-T SIGNAL NEW ALIGNMENT 2022 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.2	4.1	0.2	0.8	1.7	0.1	3.3	5.9	0.1	1.8	5.0	0.5
Total Del/Veh (s)	42.3	33.8	4.2	34.4	21.1	4.6	42.0	25.6	5.7	32.7	22.9	20.2

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	24.7
Total Del/Veh (s)	26.2

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	2.0	0.3	0.2	0.0	0.3	3.6
Total Del/Veh (s)	8.5	24.4	15.7	25.7	0.2	5.4	13.8

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3
Total Del/Veh (s)	0.8	2.2	1.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	9.3	3.5	2.7	0.7	0.2	0.1	0.8

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.4	0.8	0.1	0.1	18.6	3.7	0.7



17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.2	0.0	0.7	0.0	0.0	2.0
Total Del/Veh (s)	7.5	9.5	5.2	7.4	4.5	2.8	8.4

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Delay (hr)	4.8	2.9	0.1	7.7
Total Del/Veh (s)	15.7	10.6	3.3	13.0

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5		0.3	1.9	0.5

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.3	0.2	0.7
Total Del/Veh (s)	2.3	2.2	1.3	1.9

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	44.3
Total Del/Veh (s)	44.3

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	138	212	180	66	122	125	127	67	136	158	190	194
Average Queue (ft)	64	133	97	16	43	53	63	13	62	81	126	129
95th Queue (ft)	118	192	164	46	92	106	113	41	116	132	172	179
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							3	0				
Queuing Penalty (veh)							4	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	184	59	91	108	181	180	157	114
Average Queue (ft)	108	20	28	53	110	107	77	40
95th Queue (ft)	166	48	73	96	159	162	140	90
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	199	151	190	63	104
Average Queue (ft)	88	76	98	18	52
95th Queue (ft)	159	124	166	48	85
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	7	8	16		
Queuing Penalty (veh)	23	13	28		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	40	29	2
Average Queue (ft)	17	6	0
95th Queue (ft)	43	27	2
Link Distance (ft)	295		389
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	33	33
Average Queue (ft)	6	8
95th Queue (ft)	27	28
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	69	161	69	100	23	30
Average Queue (ft)	14	77	8	55	4	10
95th Queue (ft)	47	129	37	82	17	33
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	15	0	5		
Queuing Penalty (veh)	0	3	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	B1	NB
Directions Served	T	T	T	T	T	T	T	LR
Maximum Queue (ft)	244	212	93	154	189	191	2	58
Average Queue (ft)	197	100	36	78	99	104	0	21
95th Queue (ft)	257	192	75	130	164	166	2	50
Link Distance (ft)	209	209	209	576	576	576	515	212
Upstream Blk Time (%)	9	0						
Queuing Penalty (veh)	0	0						
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 26: Center St

Movement	EB	WB	SE
Directions Served	T	R	L
Maximum Queue (ft)	75	3	43
Average Queue (ft)	1	0	4
95th Queue (ft)	40	3	24
Link Distance (ft)	231	313	79
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Intersection: 28: Center St

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Movement	EB	EB
Directions Served	TR	R
Maximum Queue (ft)	66	46
Average Queue (ft)	5	2
95th Queue (ft)	33	21
Link Distance (ft)	218	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Network Summary

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Network wide Queuing Penalty: 72

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**HIGH-T SIGNAL NEW ALIGNMENT 2030 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (hr)	0.5	2.3	0.1	0.7	2.9	0.2	1.3	2.4	0.0	0.0	0.5	2.5
Total Del/Veh (s)	45.0	36.6	2.1	50.2	25.1	4.0	48.2	19.6		3.2	29.9	14.8

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	13.4
Total Del/Veh (s)	13.6	21.4

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.5	2.9	0.2	0.2	0.0	0.5	4.2
Total Del/Veh (s)	16.9	25.3	16.4	21.4		6.8	18.3

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.3	0.3
Total Del/Veh (s)	0.6	2.3	1.7

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	2.9	2.1	0.6	0.2	0.4

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	8.7	0.6	0.1	0.1	13.5	3.5	0.4

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	1.0	0.0	0.0	1.6
Total Del/Veh (s)	7.1	8.4	4.7	8.0	4.5	3.3	8.0

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Delay (hr)	1.3	2.4	0.0	3.7
Total Del/Veh (s)	9.5	10.1	2.7	9.6

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.3		0.3	3.7	0.5

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.2	0.4
Total Del/Veh (s)	1.7	1.7	1.3	1.4

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	26.6
Total Del/Veh (s)	39.8



Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	82	156	127	37	88	169	180	130	64	84	142	132
Average Queue (ft)	26	87	49	7	28	82	90	24	16	35	86	69
95th Queue (ft)	64	141	115	24	67	151	157	78	45	72	132	119
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)						0	0	0				
Queuing Penalty (veh)						0	0	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							8	0				
Queuing Penalty (veh)							16	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	102	29	27	51	134	131	111	42
Average Queue (ft)	39	9	1	12	73	73	35	8
95th Queue (ft)	87	29	12	37	123	125	92	28
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	144	168	226	67	138
Average Queue (ft)	57	96	129	21	62
95th Queue (ft)	114	148	204	54	111
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	3	15	24		
Queuing Penalty (veh)	3	34	53		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	30	18
Average Queue (ft)	2	1
95th Queue (ft)	16	10
Link Distance (ft)	295	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	12	30
Average Queue (ft)	1	8
95th Queue (ft)	8	28
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	71	127	41	124	23	34
Average Queue (ft)	13	60	4	63	5	11
95th Queue (ft)	46	98	23	96	20	35
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	6	0	8		
Queuing Penalty (veh)	0	1	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	158	70	42	148	173	164	53
Average Queue (ft)	92	26	10	73	86	84	20
95th Queue (ft)	144	59	35	126	147	138	48
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	WB	SE
Directions Served	R	L
Maximum Queue (ft)	2	72
Average Queue (ft)	0	12
95th Queue (ft)	2	45
Link Distance (ft)	313	79
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

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Network Summary

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Network wide Queuing Penalty: 108

**HIGH-T SIGNAL NEW ALIGNMENT 2030 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	4.9	0.2	0.9	1.8	0.2	2.9	6.2	0.0	0.0	2.3	7.2
Total Del/Veh (s)	37.6	33.2	5.9	40.2	22.2	5.7	34.6	24.3	0.4	2.9	38.3	26.9

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.4	28.3
Total Del/Veh (s)	16.4	26.4

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.3	1.6	0.2	0.2	0.0	0.3	3.6
Total Del/Veh (s)	10.6	21.0	11.8	19.6	0.0	5.4	12.5

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.2	0.3
Total Del/Veh (s)	0.9	2.2	1.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	22.6	2.9	3.8	1.0	0.2	0.1	1.0

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.3	0.9	0.2	0.1	15.8	3.5	0.8

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.4	0.0	0.6	0.0	0.0	2.1
Total Del/Veh (s)	7.9	10.4	6.2	7.3	4.7	2.4	8.9

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.5	0.0	0.1	0.2
Total Delay (hr)	5.4	2.5	0.1	8.0
Total Del/Veh (s)	16.4	7.6	4.3	11.8

26: Center St Performance by movement

Movement	EBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.6	0.2	2.7	0.5

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.3	0.3	0.2	0.8
Total Del/Veh (s)	2.8	2.4	1.1	2.1

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	49.5
Total Del/Veh (s)	44.0

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	148	311	217	90	95	160	113	69	101	168	192	221
Average Queue (ft)	62	156	117	22	45	54	52	20	62	82	121	130
95th Queue (ft)	122	233	181	59	79	118	102	54	112	129	174	195
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							3	0				
Queuing Penalty (veh)							4	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	187	54	101	117	218	216	197	111
Average Queue (ft)	116	19	28	57	145	140	123	50
95th Queue (ft)	176	44	67	93	203	192	178	95
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	233	97	223	71	158
Average Queue (ft)	122	65	80	19	56
95th Queue (ft)	200	104	156	51	106
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	13	5	8		
Queuing Penalty (veh)	55	8	13		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					



# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	67
Average Queue (ft)	15	13
95th Queue (ft)	40	44
Link Distance (ft)	295	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	28
Average Queue (ft)	5	13
95th Queue (ft)	24	35
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	74	178	79	100	23	30
Average Queue (ft)	17	91	11	53	5	16
95th Queue (ft)	51	142	51	80	20	40
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)		21	0	4		
Queuing Penalty (veh)		4	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	243	224	98	125	161	178	94
Average Queue (ft)	207	112	47	54	81	96	32
95th Queue (ft)	261	193	84	103	143	159	67
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	12	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 26: Center St

Movement	SE
Directions Served	L
Maximum Queue (ft)	56
Average Queue (ft)	6
95th Queue (ft)	28
Link Distance (ft)	79
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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Intersection: 28: Center St

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Movement	EB	EB
Directions Served	TR	R
Maximum Queue (ft)	103	97
Average Queue (ft)	15	16
95th Queue (ft)	62	64
Link Distance (ft)	218	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Network Summary

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Network wide Queuing Penalty: 86

**HIGH-T SIGNAL NEW ALIGNMENT 2050 AM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	2.1	0.0	0.5	5.5	0.4	1.3	2.1	0.0	0.9	4.6	0.1
Total Del/Veh (s)	41.0	28.9	1.7	53.0	34.1	7.1	40.5	25.0	5.4	27.5	20.0	16.6

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	18.1
Total Del/Veh (s)	25.1

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.9	3.4	0.3	0.3	0.0	0.7	5.5
Total Del/Veh (s)	18.5	25.3	18.1	23.4	0.2	7.9	18.8

12: Center St Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.4	0.4
Total Del/Veh (s)	0.6	2.4	1.7

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	8.8	4.3	3.7	0.7	0.2	0.5

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	5.3	0.5	0.2	0.0	13.7	3.6	0.5

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.6	0.0	1.3	0.0	0.0	1.9
Total Del/Veh (s)	6.6	7.9	4.0	9.1	4.2	3.2	8.5

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.0
Total Delay (hr)	1.0	3.8	0.0	4.8
Total Del/Veh (s)	9.6	13.1	2.6	11.8

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0		0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1
Total Del/Veh (s)	0.3		0.4	1.5	0.4

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.3	0.5
Total Del/Veh (s)	1.7	1.6	1.4	1.5

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	34.8
Total Del/Veh (s)	45.6

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	83	164	131	29	66	208	265	201	82	92	123	115
Average Queue (ft)	26	89	48	5	19	99	120	34	20	39	70	56
95th Queue (ft)	63	144	115	18	50	178	212	112	57	79	111	101
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)						0	1	0				
Queuing Penalty (veh)						0	2	0				
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							27	1				
Queuing Penalty (veh)							50	1				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	77	52	59	78	172	186	151	68
Average Queue (ft)	25	15	8	26	107	106	74	15
95th Queue (ft)	61	41	33	61	161	165	136	45
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	189	169	236	71	172
Average Queue (ft)	86	104	142	24	76
95th Queue (ft)	151	154	215	60	136
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	7	20	30		
Queuing Penalty (veh)	11	56	82		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 12: Center St

#### Movement

Directions Served  
Maximum Queue (ft)  
Average Queue (ft)  
95th Queue (ft)  
Link Distance (ft)  
Upstream Blk Time (%)  
Queuing Penalty (veh)  
Storage Bay Dist (ft)  
Storage Blk Time (%)  
Queuing Penalty (veh)

### Intersection: 13: 600 West & Garden Drive

#### Movement

	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	35	21
Average Queue (ft)	9	2
95th Queue (ft)	32	13
Link Distance (ft)	295	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

### Intersection: 15: Center St & 200 West

#### Movement

	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	38
Average Queue (ft)	3	11
95th Queue (ft)	19	34
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		



# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	40	113	35	164	23	30
Average Queue (ft)	9	55	4	75	4	11
95th Queue (ft)	32	87	20	122	19	34
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	5	0	14		
Queuing Penalty (veh)	0	1	0	0		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	147	57	54	199	224	228	57
Average Queue (ft)	75	17	13	114	140	140	20
95th Queue (ft)	121	47	41	180	216	222	48
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Intersection: 26: Center St

Movement	WB	SE
Directions Served	R	L
Maximum Queue (ft)	7	53
Average Queue (ft)	0	6
95th Queue (ft)	4	31
Link Distance (ft)	313	79
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 28: Center St

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Movement	EB	EB	WB
Directions Served	TR	R	T
Maximum Queue (ft)	10	3	7
Average Queue (ft)	0	0	0
95th Queue (ft)	7	4	5
Link Distance (ft)	218	218	90
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Network Summary

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Network wide Queuing Penalty: 203

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**HIGH-T SIGNAL NEW ALIGNMENT 2050 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	5.3	0.2	0.8	2.5	0.1	3.2	5.2	0.0	0.1	1.7	3.8
Total Del/Veh (s)	40.2	33.3	4.4	34.3	23.0	4.2	36.3	23.4	1.3	5.2	31.5	25.1

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.4	24.3
Total Del/Veh (s)	20.3	25.9

6: Center St & 600 West Performance by movement

Movement	EBL	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	2.0	0.3	0.3	0.0	0.5	4.1
Total Del/Veh (s)	9.3	26.6	14.7	26.1	0.2	6.1	13.6

12: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.2	0.4
Total Del/Veh (s)	1.0	0.0	2.2	1.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	12.9	4.7	3.4	0.8	0.3	0.1	0.9

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.3	1.0	0.1	0.1	16.0	3.0	0.8

17: Performance by movement

Movement	EBL	EBT	EBR	WBT	NBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	1.7	0.0	0.6	0.0	0.0	2.4
Total Del/Veh (s)	8.8	10.9	5.2	7.2	4.7	2.8	9.4

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Delay (hr)	4.8	1.1	0.1	6.0
Total Del/Veh (s)	15.7	5.5	3.9	11.3

26: Center St Performance by movement

Movement	EBT	WBT	WBR	SEL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.7	0.0	0.2	1.8	0.6

28: Center St Performance by movement

Movement	EBT	EBR	WBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.3	0.4	0.2	0.9
Total Del/Veh (s)	2.8	2.6	1.1	2.1

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	43.0
Total Del/Veh (s)	43.0

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 2: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	1391
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	132	264	226	64	122	146	148	47	146	155	162	173
Average Queue (ft)	56	164	125	16	47	76	84	10	69	86	105	108
95th Queue (ft)	107	239	203	46	97	128	141	33	123	132	144	157
Link Distance (ft)		454	454		218	218	218				515	515
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430				80	350	350		
Storage Blk Time (%)							8	0				
Queuing Penalty (veh)							8	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	166	65	88	102	141	135	125	91
Average Queue (ft)	93	22	26	49	88	83	50	35
95th Queue (ft)	151	52	69	91	132	128	108	74
Link Distance (ft)	515				1391	1391	1391	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
Baseline

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Intersection: 6: Center St & 600 West

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	211	149	181	77	134
Average Queue (ft)	101	78	91	27	67
95th Queue (ft)	175	126	153	65	109
Link Distance (ft)	90	79	79		470
Upstream Blk Time (%)	9	9	13		
Queuing Penalty (veh)	37	16	22		
Storage Bay Dist (ft)				270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 12: Center St

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	51	41
Average Queue (ft)	18	11
95th Queue (ft)	45	36
Link Distance (ft)	295	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Queuing and Blocking Report  
Baseline

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Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	35	36
Average Queue (ft)	7	11
95th Queue (ft)	29	33
Link Distance (ft)		442
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17:

Movement	EB	EB	EB	WB	NB	SB
Directions Served	L	T	R	TR	LTR	LTR
Maximum Queue (ft)	70	200	70	93	26	32
Average Queue (ft)	16	94	6	53	6	12
95th Queue (ft)	57	159	35	79	23	36
Link Distance (ft)		357		457	169	132
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50		60			
Storage Blk Time (%)	0	25	0	3		
Queuing Penalty (veh)	0	5	0	0		

Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	242	215	97	101	125	123	65
Average Queue (ft)	197	89	40	42	52	60	26
95th Queue (ft)	259	176	80	80	102	104	55
Link Distance (ft)	209	209	209	576	576	576	212
Upstream Blk Time (%)	9	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							



# Queuing and Blocking Report Baseline

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## Intersection: 26: Center St

Movement	EB	SE
Directions Served	T	L
Maximum Queue (ft)	35	40
Average Queue (ft)	1	4
95th Queue (ft)	36	21
Link Distance (ft)	231	79
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Intersection: 28: Center St

Movement	EB	EB
Directions Served	TR	R
Maximum Queue (ft)	89	85
Average Queue (ft)	9	6
95th Queue (ft)	46	39
Link Distance (ft)	218	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Network Summary

Network wide Queuing Penalty: 88

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3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	2.3	0.1	0.8	4.1	0.2	1.7	4.3	0.0	0.0	0.5	2.4
Total Del/Veh (s)	47.9	39.1	2.4	43.4	35.9	3.9	49.2	27.1	0.8	3.1	27.7	15.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	16.8
Total Del/Veh (s)	10.3	25.7

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.4	0.5	0.0	0.1	0.0	0.2	1.3
Total Del/Veh (s)	4.8	5.6	4.4	2.2	4.9	0.3	3.3	4.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		4.2	3.1	0.4	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.5	0.3	0.2	0.1	10.8	3.1	0.3

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Delay (hr)	1.8	1.5	0.1	3.4
Total Del/Veh (s)	10.1	6.9	2.9	8.1

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Total Network Performance

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Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	24.3
Total Del/Veh (s)	35.2

Intersection: 2: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	1393
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	66	174	139	36	116	195	211	138	89	101	186	165
Average Queue (ft)	17	85	40	5	44	90	109	23	30	43	119	106
95th Queue (ft)	46	147	109	21	96	155	177	77	71	84	167	151
Link Distance (ft)		454	454			252	252				515	515
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)					0	2	23	0				
Queuing Penalty (veh)					0	1	41	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	130	33	28	55	133	134	96	59
Average Queue (ft)	69	10	2	14	76	70	35	11
95th Queue (ft)	122	31	15	41	124	119	84	37
Link Distance (ft)	515				1393	1393	1393	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	82	54	68	54	59	98
Average Queue (ft)	31	3	26	4	15	39
95th Queue (ft)	76	24	57	26	45	80
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					350	
Storage Blk Time (%)						
Queuing Penalty (veh)						

### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	24	27
Average Queue (ft)	1	1
95th Queue (ft)	12	11
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	6	28
Average Queue (ft)	0	9
95th Queue (ft)	4	29
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

# Queuing and Blocking Report Baseline

07/13/2023

## Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	184	95	55	123	143	148	66
Average Queue (ft)	110	36	15	56	64	68	25
95th Queue (ft)	166	72	43	104	122	126	55
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

## Network Summary

Network wide Queuing Penalty: 43

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3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	4.8	0.2	0.9	2.4	0.2	3.2	4.9	0.1	1.9	5.2	0.5
Total Del/Veh (s)	43.8	39.5	4.4	41.7	30.1	4.8	41.2	21.1	5.3	33.1	24.2	20.0

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	25.3
Total Del/Veh (s)	27.0

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.8	0.8	0.4	0.0	0.0	0.0	0.1	2.2
Total Del/Veh (s)	7.9	6.3	5.7	2.2	3.5	0.3	2.6	5.8

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	12.2	4.1	3.0	1.1	0.2	0.2	1.1

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.2	0.5	0.2	0.2	8.8	2.6	0.5

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Delay (hr)	4.7	1.8	0.0	6.5
Total Del/Veh (s)	15.4	6.6	3.2	11.1

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Total Network Performance

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Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	38.8
Total Del/Veh (s)	39.2

Queuing and Blocking Report  
Baseline

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Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	153	278	246	54	112	131	140	45	165	159	165	178
Average Queue (ft)	57	161	106	14	51	54	68	13	77	72	107	112
95th Queue (ft)	113	243	199	41	99	106	122	35	143	137	149	158
Link Distance (ft)		451	451			252	252				518	518
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)					0	0	7					
Queuing Penalty (veh)					0	0	8					

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	159	71	94	106	184	182	149	109
Average Queue (ft)	91	20	28	52	113	109	80	43
95th Queue (ft)	146	54	74	96	167	161	136	90
Link Distance (ft)	518				1388	1388	1388	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	147	107	79	63	41	84
Average Queue (ft)	83	21	36	12	8	26
95th Queue (ft)	131	76	64	43	32	66
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					350	
Storage Blk Time (%)						
Queuing Penalty (veh)						

# Queuing and Blocking Report

## Baseline

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### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	37	80
Average Queue (ft)	16	10
95th Queue (ft)	42	48
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	33	37
Average Queue (ft)	6	10
95th Queue (ft)	26	33
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	234	201	84	133	155	159	55
Average Queue (ft)	190	91	37	50	64	71	21
95th Queue (ft)	258	172	73	97	123	127	48
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)	7	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Network Summary

Network wide Queuing Penalty: 9

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3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	2.3	0.0	0.7	4.1	0.2	1.4	3.0	0.0	0.0	0.5	2.5
Total Del/Veh (s)	46.7	36.9	2.2	47.4	36.2	4.2	48.1	24.9	0.7	3.4	29.3	15.1

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.1	15.3
Total Del/Veh (s)	11.3	24.7

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.1	0.4	0.5	0.0	0.1	0.0	0.2	1.3
Total Del/Veh (s)	5.1	5.6	4.4	2.2	5.3		3.2	4.4

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9	4.5	3.1	0.5	0.2	0.3

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.4	0.3	0.2	0.1	7.4	2.8	0.3

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.1
Total Delay (hr)	1.3	1.7	0.0	3.0
Total Del/Veh (s)	9.5	7.1	2.7	7.8

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Total Network Performance

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Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	22.2
Total Del/Veh (s)	33.6

Queuing and Blocking Report  
Baseline

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Intersection: 2: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	1393
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	83	177	139	38	89	186	200	88	72	84	180	154
Average Queue (ft)	25	89	39	6	31	92	109	21	23	35	97	80
95th Queue (ft)	59	156	111	21	71	160	177	59	58	75	152	136
Link Distance (ft)		454	454			252	252				515	515
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)					0	2	22	0				
Queuing Penalty (veh)					0	1	42	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	117	37	21	60	139	144	124	38
Average Queue (ft)	47	10	2	14	79	72	37	8
95th Queue (ft)	100	31	12	43	126	125	96	28
Link Distance (ft)	515				1393	1393	1393	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								



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Baseline

07/13/2023

Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	89	66	66	63	59	103
Average Queue (ft)	29	4	27	5	16	37
95th Queue (ft)	76	29	58	30	46	80
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					350	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	38
Average Queue (ft)	3	2
95th Queue (ft)	18	15
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	12	32
Average Queue (ft)	1	8
95th Queue (ft)	7	29
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	179	73	43	153	171	164	51
Average Queue (ft)	92	29	11	64	72	73	21
95th Queue (ft)	147	62	37	115	137	130	47
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Network Summary

Network wide Queuing Penalty: 44

**ROUNDBOUT 2030 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.3	5.8	0.2	1.0	2.4	0.2	4.9	8.5	0.0	0.1	2.3	7.6
Total Del/Veh (s)	42.5	41.9	4.8	40.3	30.0	6.4	55.0	32.6	0.7	5.9	36.8	29.0

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.6	34.9
Total Del/Veh (s)	22.5	33.0

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	0.9	0.5	0.0	0.0	0.0	0.2	2.7
Total Del/Veh (s)	9.3	6.7	6.5	2.1	3.4	0.2	2.5	6.5

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3
Total Del/Veh (s)	11.4	4.0	3.6	1.3	0.2	0.2	1.2

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.7	0.6	0.2	0.2	7.4	2.8	0.6

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.5	0.0	0.1	0.3
Total Delay (hr)	5.6	4.5	0.1	10.1
Total Del/Veh (s)	16.6	13.8	3.8	14.9

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Total Network Performance

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Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	54.1
Total Del/Veh (s)	48.9

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	148	291	268	68	105	114	130	60	223	212	236	244
Average Queue (ft)	69	182	129	16	51	52	68	17	105	86	162	170
95th Queue (ft)	127	268	236	48	95	97	113	46	192	165	218	229
Link Distance (ft)		454	454			252	252				515	515
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)					0	0	7	0				
Queuing Penalty (veh)					0	0	8	0				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	232	65	108	116	221	220	197	122
Average Queue (ft)	144	21	38	60	143	140	117	48
95th Queue (ft)	207	52	88	103	200	198	177	98
Link Distance (ft)	515				1393	1393	1393	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	162	115	76	44	39	91
Average Queue (ft)	96	26	39	9	10	27
95th Queue (ft)	145	85	67	34	34	66
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					350	
Storage Blk Time (%)						
Queuing Penalty (veh)						

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	51	101
Average Queue (ft)	20	15
95th Queue (ft)	47	62
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	37	30
Average Queue (ft)	8	11
95th Queue (ft)	31	33
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	246	220	110	203	233	234	72
Average Queue (ft)	208	112	43	107	132	141	27
95th Queue (ft)	260	204	84	172	198	200	57
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)	13	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Network Summary

Network wide Queuing Penalty: 8

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3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	2.4	0.0	0.4	6.1	0.3	1.5	1.9	0.0	1.1	4.4	0.1
Total Del/Veh (s)	46.0	32.9	1.7	51.5	37.1	6.3	47.2	23.0	4.5	32.7	18.8	14.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	18.9
Total Del/Veh (s)	26.1

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.3	0.4	0.7	0.0	0.1	0.0	0.4	1.8
Total Del/Veh (s)	5.5	5.8	4.9	2.5	7.1		4.4	5.0

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	7.6	3.7	3.7	0.6	0.2	0.5

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.8	0.3	0.3	0.3	10.8	2.8	0.4

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.0
Total Delay (hr)	0.9	3.1	0.0	4.1
Total Del/Veh (s)	8.8	10.5	2.7	9.8

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Total Network Performance

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Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	27.9
Total Del/Veh (s)	36.3

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	87	184	158	37	174	250	291	220	81	79	132	106
Average Queue (ft)	28	101	51	4	26	146	167	55	29	32	67	49
95th Queue (ft)	66	168	129	19	92	231	266	179	67	69	111	93
Link Distance (ft)		454	454			252	252				515	515
Upstream Blk Time (%)						0	1					
Queuing Penalty (veh)						1	5					
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)						10	37	0				
Queuing Penalty (veh)						3	68	1				

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	85	50	68	82	183	186	158	65
Average Queue (ft)	27	14	11	31	109	106	75	14
95th Queue (ft)	66	39	41	67	164	164	141	45
Link Distance (ft)	515				1393	1393	1393	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	110	73	77	77	61	127
Average Queue (ft)	44	5	38	9	18	50
95th Queue (ft)	95	38	67	43	49	98
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					350	
Storage Blk Time (%)						
Queuing Penalty (veh)						

# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	32	45
Average Queue (ft)	9	3
95th Queue (ft)	31	22
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	30	32
Average Queue (ft)	2	13
95th Queue (ft)	14	35
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	128	56	52	196	241	242	58
Average Queue (ft)	69	16	13	105	125	125	22
95th Queue (ft)	110	45	41	183	216	215	50
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Network Summary

Network wide Queuing Penalty: 78

**ROUNDBOUT 2050 PM**

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBT	SBR	NWL	NWR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	6.7	0.2	0.9	3.0	0.1	8.3	4.8	0.0	0.1	2.1	3.6
Total Del/Veh (s)	41.6	42.0	4.9	40.1	28.2	3.9	87.9	21.5	2.3	5.5	37.4	24.4

3: State St & Pleasant Grove Blvd/Center St Performance by movement

Movement	NWR2	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.5	31.5
Total Del/Veh (s)	23.3	33.3

6: Center St & 600 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.2	1.2	0.5	0.0	0.0	0.0	0.2	3.1
Total Del/Veh (s)	10.1	7.2	6.3	2.1	3.7	0.5	2.7	6.7

13: 600 West & Garden Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3
Total Del/Veh (s)	18.1	4.6	4.4	1.4	0.3	0.2	1.2

15: Center St & 200 West Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.3	0.6	0.2	0.2	10.6	3.1	0.6

18: Performance by movement

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	0.5	0.0	0.1	0.3
Total Delay (hr)	5.1	0.9	0.1	6.1
Total Del/Veh (s)	16.3	4.6	3.6	11.4

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Total Network Performance

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Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	45.3
Total Del/Veh (s)	45.1

Queuing and Blocking Report  
Baseline

07/13/2023

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	<	<	L	L
Maximum Queue (ft)	139	326	298	71	112	150	173	58	294	293	198	197
Average Queue (ft)	55	204	153	17	46	69	89	10	151	143	108	112
95th Queue (ft)	107	290	252	49	92	121	143	33	287	287	184	171
Link Distance (ft)		451	451			252	252				518	518
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	420			430	130			80	350	350		
Storage Blk Time (%)					0	0	13	0	1	1	0	
Queuing Penalty (veh)					1	0	13	0	4	3	0	

Intersection: 3: State St & Pleasant Grove Blvd/Center St

Movement	SB	SB	NW	NW	NW	NW	NW	NW
Directions Served	L	R	L	L	R	R	R	>
Maximum Queue (ft)	164	68	96	126	148	154	118	98
Average Queue (ft)	91	22	33	56	86	82	50	40
95th Queue (ft)	144	54	80	103	129	130	106	86
Link Distance (ft)	518				1388	1388	1388	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		430	430	430			425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: Center St & 600 West

Movement	EB	EB	WB	WB	SB	SB
Directions Served	LT	T	T	TR	L	R
Maximum Queue (ft)	183	132	87	59	50	97
Average Queue (ft)	107	36	38	12	12	31
95th Queue (ft)	159	105	68	43	40	73
Link Distance (ft)	252	252	559	559		326
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350					
Storage Blk Time (%)						
Queuing Penalty (veh)						



# Queuing and Blocking Report

## Baseline

07/13/2023

### Intersection: 13: 600 West & Garden Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	52	106
Average Queue (ft)	18	18
95th Queue (ft)	46	69
Link Distance (ft)	228	326
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 15: Center St & 200 West

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	35	34
Average Queue (ft)	8	11
95th Queue (ft)	30	34
Link Distance (ft)		441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 18:

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	T	LR
Maximum Queue (ft)	240	210	80	78	95	100	68
Average Queue (ft)	202	98	38	34	38	48	27
95th Queue (ft)	255	185	71	62	71	83	57
Link Distance (ft)	210	210	210	575	575	575	200
Upstream Blk Time (%)	11	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

### Network Summary

Network wide Queuing Penalty: 22
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## Appendix E: Cost Estimates

**PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements  
Cost Estimate - Concept Level**

**Prepared By:** Britton - Pleasant Grove City      **Date:** 9/26/2023

**Proposed Project Scope:**      Install a high T intersection in the Existgin Location

Approximate Route Reference Mile Post (BEGIN) =	0.000	(END) =	0.160
Project Length =	0.160	miles	845 ft
Current Year =	2023		
Assumed Construction Year =	2026		
Construction Items Inflation Factor =	1.30	3 yrs for inflation	
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.75%		
Assumed Yearly Inflation for Right of Way (%/yr) =	4.0%		
Items not Estimated (% of Construction) =	20.0%		
Preliminary Engineering (% of Construction + Incentives) =	16.0%		
Construction Engineering (% of Construction + Incentives) =	16.0%		

Construction Items	Cost	Remarks
Public Information Services	\$5,000	
Roadway and Drainage	\$630,233	
Traffic and Safety	\$784,480	
Structures	\$0	
Environmental Mitigation	\$42,350	
ITS	\$112,015	
	Subtotal	\$1,574,078
	Items not Estimated (20%)	\$314,816
	<b>Construction Subtotal</b>	<b>\$1,888,894</b>
P.E. Cost	P.E. Subtotal	\$302,229 16%
C.E. Cost	C.E. Subtotal	\$302,229 16%
Right of Way	Right of Way Subtotal	\$19,688
Utilities	Utilities Subtotal	\$100,000
Incentives	Incentives Subtotal	\$40
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2023	2026
P.E.	\$302,000	\$337,000
Right of Way	\$20,000	\$22,000
Utilities	\$100,000	\$130,000
Construction	\$1,889,000	\$2,453,000
C.E.	\$302,000	\$337,000
Incentives	\$0	\$0
Aesthetics	0.75% \$14,000	\$18,000
Change Order Contingency	9.00% \$171,000	\$222,000
UDOT Oversight	5.00% \$115,000	\$149,000
Miscellaneous	\$0	\$0
<b>TOTAL</b>	<b>\$2,913,000</b>	<b>\$3,668,000</b>

<b>PROPOSED COMMISSION REQUEST</b>	<b>TOTAL \$2,913,000</b>	<b>TOTAL \$3,668,000</b>
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**Project Assumptions/Risks**

1	600 West & Center Street Signal and RR Crossing to be connected to State Street Signal for coordination.	8
2	Equipment for RR Crossing assumed to be \$300,000 on top of traditional signal materials.	9
3	The pavement section on Center Street is assumed is the same as pleasant Grove BLVD	10
4	600 W pavement section obtained from pipe plant geotech report	11
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7		14

# Inflation

CT 2022-10      PROJECT NAME: 600 West, Center St, and State St Intersector

Year	Rate	Recommended Rate	Cumulative Inflation Factor
2022	0.0%	0.0%	1.00
2023	8.0%	8.0%	1.08
2024	7.0%	7.0%	1.16
2025	6.0%	6.0%	1.22
2026	6.0%	6.0%	1.30
2027	6.0%	6.0%	1.38
2028	6.0%	6.0%	1.46
2029	6.0%	6.0%	1.55
2030	6.0%	6.0%	1.64
2031	6.0%	6.0%	1.74
2032	6.0%	6.0%	1.84
2033	6.0%	6.0%	1.95
2034	6.0%	6.0%	2.07
2035	6.0%	6.0%	2.19
2036	6.0%	6.0%	2.33
2037	6.0%	6.0%	2.46
2038	6.0%	6.0%	2.61
2039	6.0%	6.0%	2.77
2040	6.0%	6.0%	2.94
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2043	6.0%	6.0%	3.50
2044	6.0%	6.0%	3.71
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2046	6.0%	6.0%	4.16
2047	6.0%	6.0%	4.41
2048	6.0%	6.0%	4.68

Please contact UDOT Estimate Support with any questions (801-360-0580).

# Roadway and Drainage

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Roadway</b>						
015017010	Mobilization	1	Lump	\$200,000.00	\$200,000.00	Usually 7-10% of construction
015547005	Traffic Control	1	Lump	\$65,000.00	\$65,000.00	Usually 3-5% of construction
	survey	1	lump	\$20,000.00	\$20,000.00	
015727020	Dust Control and Watering	21	1000 gal	\$5.00	\$105.00	
020567005	Borrow (Plan Quantity)	14	cu yd	\$40.00	\$560.00	
020567015	Granular Borrow (Plan Quantity)	363	cu yd	\$45.00	\$16,335.00	
020567025	Granular Backfill Borrow (Plan Quantity)	0	cu yd	\$45.00	\$0.00	
	Remove concrete curb and gutter	50	sq ft	\$5.00	\$250.00	
	Remove concrete flatwork	250	sq ft	\$4.50	\$1,125.00	
022317010	Clearing and Grubbing	1	Lump	\$5,000.00	\$5,000.00	
	Demo and remove building	0	lump	\$50,000.00	\$0.00	
023167020	Roadway Excavation (Plan Quantity)	1,057	cu yd	\$28.00	\$29,596.00	
027217020	Untreated Base Course (Plan Quantity)	95	cu yd	\$55.00	\$5,225.00	
027357010	Micro-Surfacing	425	sq yd	\$2.00	\$850.00	
027377001	Asphalt Pavement Soft Spot Repair	0	cu yd	\$95.00	\$0.00	
027417050	HMA - 1/2 Inch	142	Ton	\$130.00	\$18,460.00	
027487010	Liquid Asphalt MC-70 or MC-250	1	Ton	\$500.00	\$500.00	Prime Coat
027487040	Emulsified Asphalt CSS-1	1	Ton	\$600.00	\$600.00	Tack Coat
027767025	Concrete Curb and Gutter Type B1	405	ft	\$31.00	\$12,555.00	
	Drive Approach	642	sq ft	\$16.00	\$10,272.00	
	Pedestrian access ramp	4	each	\$7,500.00	\$30,000.00	
027767010	Concrete Sidewalk	2,040	sq ft	\$11.25	\$22,950.00	
	Concrete trail 10 ft	1,840	sq ft	\$10.00	\$18,400.00	
	Concrete Type B5 curb	360	ft	\$45.00	\$16,200.00	
	Plowable end section	2	each	\$2,500.00	\$5,000.00	
	Reconstruct valve box		each	\$750.00		
	Reconstruct manhole		each	\$850.00		
028227030	Right-of-Way Fence, Type D (Metal Post)	450	ft	\$25.00	\$11,250.00	
	Railroad crossing upgrades	1	lump	\$140,000.00	\$140,000.00	\$500,000 total with Traffic Tab
<b>Roadway Subtotal</b>					<b>\$630,233</b>	
<b>Drainage</b>						
023737010	Loose Riprap		cu yd			
026107386	Drainage Pipe - 18 inch, Smooth, Leak-Resistant		ft	\$130.00		
026107388	Drainage Pipe - 24 inch, Smooth, Leak-Resistant		ft			
026107391	Drainage Pipe - 36 inch, Smooth, Leak-Resistant		ft			
022217095	Remove Pipe		ft	\$45.00		
	SD manhole		Each	\$8,500.00		
026337130	Concrete Drainage Structure 5 ft to 7 ft deep - CB 9		Each	\$6,500.00		
<b>Drainage Subtotal</b>					<b>\$0</b>	
<b>PI</b>						
015407010	Public Information Services	1	Lump	\$5,000.00	\$5,000	Usually 0.25% of construction

# Traffic, Safety & ITS

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Traffic</b>						
027657050	Pavement Marking Paint	42	gal	\$55.00	\$2,310.00	
027687105	Pavement Message (Preformed Thermoplastic)	32	Each	\$215.00	\$6,880.00	
027687110	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)	6	Each	\$215.00	\$1,290.00	
028417094	Midwest 31 Inch W-Beam Guardrail 7 ft Steel Post		ft			
028437035	End Treatment Type G (MASH)		Each			
028447111	Precast Concrete Barrier – 32 inch F-Shape, No Stabilization Pins		ft			
#N/A	Sign Type A-1,	19		\$700.00	\$13,300.00	
028917270	Remove Sign Less Than 20 Square Feet	4	Each	\$175.00	\$700.00	
028917285	Relocate Sign Less Than 20 Square Feet		Each	\$200.00		
<b>Signals</b>						
02892701D	Traffic Signal System _____	1	Lump	\$350,000.00	\$350,000.00	
	Railroad integration with arms	1	Lump	\$360,000.00	\$360,000.00	\$500,000 total with Roadway
<b>Lighting</b>						
16525701D	Highway Lighting System _____	1	Lump	\$50,000.00	\$50,000.00	Lighting surrounding signal
<b>Traffic and Safety Subtotal</b>					<b>\$784,480</b>	
<b>ITS</b>						
135537035	1D Conduit	1,259	ft	\$85.00	\$107,015.00	Length of Center x6
135567010	Closed Circuit Television (CCTV) Assembly System	1	Lump	\$5,000.00	\$5,000.00	
<b>ITS Subtotal</b>					<b>\$112,015</b>	

# Structures

PIN: PROJECT 2022-10      PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Bridges</b>						
	New Structure		sq ft			Assumed LxW (deck area)
<b>Walls</b>						
	Retaining Wall		sq ft			Assumed LxH (wall area)
<b>Sign Structures</b>						
	Overhead Sign Structure	1	Lump			
028917265	Remove Overhead Sign	1	Each			
	Remove Existing Overhead Sign Structure	1	Lump			
<b>Hydraulics</b>						
	Extend Box Culvert		ft			
	New Box Culvert	1	Lump			
<b>Geotech</b>						
	Geotech Report	1	Lump			
	Drilling	1	Lump			
<b>Structures Subtotal</b>					<b>\$0</b>	

# Environmental and Landscaping

PIN: PROJECT 2022-10      PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Environmental</b>						
	Wetland Mitigation	1	Lump			
	Noise Wall		ft			
	Environmental study	1	Lump	\$25,000.00	\$25,000.00	
	SWPPP	1	Lump	\$6,500.00	\$6,500.00	
<b>Temporary Erosion Control</b>						
015717030	Silt Fence	1,900	ft	\$4.00	\$7,600.00	
015717025	Check Dam - Fiber Roll		ft			
<b>Landscaping</b>						
029117010	HECP Type 1		Acre			
	rock mulch and fabric	500	sq ft	\$6.50	\$3,250.00	
029127010	Contractor Furnished Topsoil		sq yd			
029127050	Strip, Stockpile, and Spread Topsoil (Plan Quantity)		sq yd			
029227010	Drill Seed		Acre			
029227030	Broadcast Seed		Acre			
<b>Environmental Mitigation Subtotal</b>					<b>\$42,350</b>	



# Utilities, Right of Way, and Incentives

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Utilities</b>						
	Relocate Water/Irrigation/Sewer Lines	1	Lump			
	Sub surfacve Utiltiy investigation	1	Lump			
	Relocate Water	542	Feet			
	Relocate Irrigation	1	Feet			
	Relocate Sewer Lines	1	Feet			
	Relocate Gas Line	1	Lump	\$20,000.00	\$20,000.00	assumed 50%
	Relocate Power Line	1	Lump	\$60,000.00	\$60,000.00	assumed 50%
	Relocate Fiber Optic	1	Lump	\$20,000.00	\$20,000.00	assumed 50%
	Relocate Gas Line	1	Lump			
	Relocate Power Line	1	Lump			
	Relocate Fiber Optic	1	Lump			
	Relocate Phone	1	Lump			
<b>Utilities Subtotal</b>					<b>\$100,000</b>	
<b>Right-of-way</b>						
	parcel 14:025:0183		Lump			2024 tax value is \$578,700
	parcel 14:025:0182		Lump			2024 tax value is \$515,300
	parcel 14:025:0194		Lump			2024 tax value is \$537,200
	parcel 14:025:0045	1,250	sq ft	\$15.00	\$18,750.00	roadway ROW
	Agent fee	1	Lump	\$937.50	\$937.50	5%
	Sellable property		sq ft			
<b>Right-of-Way Subtotal</b>					<b>\$19,688</b>	
<b>Incentives</b>						
00007601*	Pavement Smoothness Incentive	1	Lump			
00007602*	Hot Mix Asphalt (HMA) Incentive	1	Lump			
00007603*	Stone Matrix Asphalt (SMA) Incentive	1	Lump			
00007604*	Open Graded Surface Course Incentive	1	Lump			
00007605*	Bonded Wearing Course Incentive	1	Lump	\$39.74	\$39.74	
00007606*	Early Completion - Time	0	Cal d			
#N/A	Lane Rental Incentive	0	#N/A			
#N/A	Miscellaneous Incentive	1	#N/A			
<b>Incentives Subtotal</b>					<b>\$40</b>	



## Incentives Calculator

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

2017 Specification	Incentive	Quantity	Unit	Max Unit Incentive	Max Incentive	Adjustment Factor	Assumed Incentive	Remarks
02701 - Smoothness	See below - Section 1.8	1	Lump	\$0.00 /Lump	\$0.00	0.75	\$0.00	Use the Calculations below
00221S - Bidding Contract Time	Early Completion Incentive - Section 1.7.D.4		Cal'd	/Cal'd	\$0.00	1	\$0.00	
00222S - Lane Rental	Lane Rental Incentive - Section 1.8.B.1		Hours	/Hour	\$0.00	1	\$0.00	
02741 - HMA	In Place Mat Density - Section 1.6.D.1	142	Ton	\$2.00 /Ton	\$0.00	0.85	\$0.00	
	Gradation/Asphalt Content - Section 1.6.D.1	142	Ton	\$2.00 /Ton	\$0.00	0.85	\$0.00	
	Joint Density - Section 1.6.D.6	142	Ton	\$2.00 /Ton	\$0.00	0.85	\$0.00	
02744 - SMA	Asphalt Binder Content & Density - Section 1.6.D.1	0	Ton	\$2.50 /Ton	\$0.00	0.50	\$0.00	
	Gradation - Section 1.6.D.1	0	Ton	\$2.50 /Ton	\$0.00	0.50	\$0.00	
02786 - OGSC	Binder Content - Section 1.6.B.2	0	Ton	\$1.00 /Ton	\$0.00	0.85	\$0.00	
	Gradation - Section 1.6.B.3	0	Ton	\$1.50 /Ton	\$0.00	0.85	\$0.00	
02787 - Bonded Wearing Course	Binder Content - Section 1.6.C.3	425	/SQ YD	\$0.05 /Sq yd	\$21.25	0.85	\$18.06	
	Gradation - Section 1.6.C.4	425	/SQ YD	\$0.06 /Sq yd	\$25.50	0.85	\$21.68	
Miscellaneous	Community Coordination Incentive	1	Lump	\$0.00 /Lump	\$0.00	1	\$0.00	
Total:							\$39.74	

Smoothness Calculations (2017 Specification - 2701 and 02742S)																													
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<b>Definitions</b>																													
*Incentive applied to HMA, PCCP, OGSC, BWC, SMA																													
Category 1	1) Pavement surfaces having two or more opportunities for improving the ride.+ 2) Portland cement concrete paving.																												
Category 2	Newly constructed pavement surfaces without two or more opportunities for improving ride.																												
+ Opportunity to improve ride:																													
1) Placing Granular Borrow, Untreated Base Course, Treated Base Course, Open-Graded Surface Course (OGSC), Bonded Wearing Course (BWC), Stone Matrix Asphalt (SMA), Cold-In-Place Recycling, Hot-In-Place Recycling, and each lift of paving.																													
2) Rotomilling greater than 1.5 inches in depth.																													
3) Lane leveling is not considered an opportunity to improve the ride.																													
Pavement Section - Each travel lane or median, 0.1 mile long.																													
Incentive does not apply to the HMA surfaces on projects that include an OGSC, BWC, or SMA placed over the HMA surface.																													
Apply Incentive to Category 1 and 2 pavements longer than 1,000 ft in length, including:																													
1 All traffic lanes																													
2 Ramps																													
3 Medians 8 ft and wider																													
4 Turn lanes																													
5 Bridges and approach slabs with final riding surfaces placed as part of the contract																													
Do not apply Incentive to:																													
1 Pavements shorter than 1,000 ft																													
2 Shoulders																													
3 Bike Lanes																													
4 Medians narrower than 8 ft																													
5 Horizontal curves with a centerline curvature radius less than 900 ft and areas within the superelevation transitions to these short radius curves																													
6 Tapers																													
7 Surfaces within 15 ft of bridge decks and approach slabs not paved as part of the contract																													

**PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements  
Cost Estimate - Concept Level**

**Prepared By:** Britton - Pleasant Grove City      **Date:** 9/26/2023

**Proposed Project Scope:**      Install a new high T intersection with new roadway alignment

Approximate Route Reference Mile Post (BEGIN) =	0.000	(END) =	0.160
Project Length =	0.160	miles	845 ft
Current Year =	2023		
Assumed Construction Year =	2026		
Construction Items Inflation Factor =	1.30	3 yrs for inflation	
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.75%		
Assumed Yearly Inflation for Right of Way (%/yr) =	4.0%		
Items not Estimated (% of Construction) =	20.0%		
Preliminary Engineering (% of Construction + Incentives) =	16.0%		
Construction Engineering (% of Construction + Incentives) =	16.0%		

Construction Items	Cost	Remarks
Public Information Services	\$12,000	
Roadway and Drainage	\$2,576,690	
Traffic and Safety	\$1,085,955	
Structures	\$15,000	
Environmental Mitigation	\$137,428	
ITS	\$112,015	
	Subtotal	\$3,939,088
	Items not Estimated (20%)	\$787,818
	<b>Construction Subtotal</b>	<b>\$4,726,906</b>
P.E. Cost	P.E. Subtotal	\$758,673 16%
C.E. Cost	C.E. Subtotal	\$758,673 16%
Right of Way	Right of Way Subtotal	\$1,183,377
Utilities	Utilities Subtotal	\$332,742
Incentives	Incentives Subtotal	\$14,799
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2023	2026
P.E.	\$759,000	\$848,000
Right of Way	\$1,183,000	\$1,331,000
Utilities	\$333,000	\$432,000
Construction	\$4,727,000	\$6,138,000
C.E.	\$759,000	\$848,000
Incentives	\$15,000	\$19,000
Aesthetics	0.75% \$35,000	\$45,000
Change Order Contingency	9.00% \$429,000	\$557,000
UDOT Oversight	5.00% \$293,000	\$380,000
Miscellaneous	\$0	\$0
<b>TOTAL</b>	<b>\$8,533,000</b>	<b>\$10,598,000</b>

<b>PROPOSED COMMISSION REQUEST</b>	<b>TOTAL \$8,533,000</b>	<b>TOTAL \$10,598,000</b>
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**Project Assumptions/Risks**

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2	Equipment for RR Crossing assumed to be \$300,000 on top of traditional signal materials.	9
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2030	6.0%	6.0%	1.64
2031	6.0%	6.0%	1.74
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2033	6.0%	6.0%	1.95
2034	6.0%	6.0%	2.07
2035	6.0%	6.0%	2.19
2036	6.0%	6.0%	2.33
2037	6.0%	6.0%	2.46
2038	6.0%	6.0%	2.61
2039	6.0%	6.0%	2.77
2040	6.0%	6.0%	2.94
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# Roadway and Drainage

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015547005	Traffic Control	1	Lump	\$115,000.00	\$175,000.00	Usually 3-5% of construction
	survey	1	lump	\$20,000.00	\$20,000.00	
015727020	Dust Control and Watering	439	1000 gal	\$5.00	\$2,195.00	
020567005	Borrow (Plan Quantity)	0	cu yd	\$40.00	\$0.00	
020567015	Granular Borrow (Plan Quantity)	6,781	cu yd	\$45.00	\$305,145.00	
020567025	Granular Backfill Borrow (Plan Quantity)	1,215	cu yd	\$45.00	\$54,675.00	
	Remove concrete curb and gutter	1,571	sq ft	\$5.00	\$7,855.00	
	Remove concrete flatwork	1,475	sq ft	\$4.50	\$6,637.50	
022317010	Clearing and Grubbing	1	Lump	\$10,000.00	\$10,000.00	
	Demo and remove building	3	lump	\$50,000.00	\$150,000.00	
023167020	Roadway Excavation (Plan Quantity)	12,568	cu yd	\$28.00	\$351,904.00	
027217020	Untreated Base Course (Plan Quantity)	1,950	cu yd	\$55.00	\$107,250.00	
027357010	Micro-Surfacing	8,774	sq yd	\$0.50	\$4,387.00	
027377001	Asphalt Pavement Soft Spot Repair	0	cu yd	\$95.00	\$0.00	
027417050	HMA - 1/2 Inch	2,741	Ton	\$130.00	\$356,330.00	
027487010	Liquid Asphalt MC-70 or MC-250	18	Ton	\$500.00	\$9,000.00	Prime Coat
027487040	Emulsified Asphalt CSS-1	15	Ton	\$600.00	\$9,000.00	Tack Coat
027767025	Concrete Curb and Gutter Type B1	2,002	ft	\$31.00	\$62,062.00	
	Drive Approach	642	sq ft	\$16.00	\$10,272.00	
	Pedestrian access ramp	4	each	\$5,000.00	\$20,000.00	
027767010	Concrete Sidewalk	7,902	sq ft	\$11.25	\$88,897.50	
	Concrete trail 10 ft	5,980	sq ft	\$10.00	\$59,800.00	
	Concrete Type B5 curb	704	ft	\$45.00	\$31,680.00	
	Plowable end section	4	each	\$2,500.00	\$10,000.00	
	Reconstruct valve box	4	each	\$750.00	\$3,000.00	
	Reconstruct manhole	5	each	\$850.00	\$4,250.00	
028227030	Right-of-Way Fence, Type D (Metal Post)	450	ft	\$25.00	\$11,250.00	
	Railroad crossing upgrades	1	lump	\$500,000.00	\$250,000.00	
<b>Roadway Subtotal</b>					<b>\$2,420,590</b>	
<b>Drainage</b>						
023737010	Loose Riprap		cu yd			
026107386	Drainage Pipe - 18 inch, Smooth, Leak-Resistant	620	ft	\$130.00	\$80,600.00	
026107388	Drainage Pipe - 24 inch, Smooth, Leak-Resistant		ft			
026107391	Drainage Pipe - 36 inch, Smooth, Leak-Resistant		ft			
022217095	Remove Pipe		ft	\$45.00		
	SD manhole	2	Each	\$8,500.00	\$17,000.00	
026337130	Concrete Drainage Structure 5 ft to 7 ft deep - CB 9	9	Each	\$6,500.00	\$58,500.00	
<b>Drainage Subtotal</b>					<b>\$156,100</b>	
<b>PI</b>						
015407010	Public Information Services	1	Lump	\$10,000.00	\$12,000	Usually 0.25% of construction

# Traffic, Safety & ITS

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Traffic</b>						
027657050	Pavement Marking Paint	104	gal	\$55.00	\$5,720.00	
027687105	Pavement Message (Preformed Thermoplastic)	22	Each	\$215.00	\$4,730.00	
027687110	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)	7	Each	\$215.00	\$1,505.00	
028417094	Midwest 31 Inch W-Beam Guardrail 7 ft Steel Post		ft			
028437035	End Treatment Type G (MASH)		Each			
028447111	Precast Concrete Barrier – 32 inch F-Shape, No Stabilization Pins		ft			
#N/A	Sign Type A-1,	19		\$700.00	\$13,300.00	
028917270	Remove Sign Less Than 20 Square Feet	4	Each	\$175.00	\$700.00	
028917285	Relocate Sign Less Than 20 Square Feet		Each	\$200.00		
<b>Signals</b>						
02892701D	Traffic Signal System _____	1	Lump	\$650,000.00	\$650,000.00	
	Railroad integration with arms	1	Lump	\$360,000.00	\$360,000.00	
<b>Lighting</b>						
16525701D	Highway Lighting System _____	1	Lump	\$50,000.00	\$50,000.00	Lighting surrounding signal
<b>Traffic and Safety Subtotal</b>					<b>\$1,085,955</b>	
<b>ITS</b>						
135537035	1D Conduit	1,259	ft	\$85.00	\$107,015.00	Length of Center x6
135567010	Closed Circuit Television (CCTV) Assembly System	1	Lump	\$5,000.00	\$5,000.00	
<b>ITS Subtotal</b>					<b>\$112,015</b>	

# Structures

PIN: PROJECT 2022-10      PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Bridges</b>						
	New Structure		sq ft			Assumed LxW (deck area)
<b>Walls</b>						
	Retaining Wall		sq ft			Assumed LxH (wall area)
<b>Sign Structures</b>						
	Overhead Sign Structure	1	Lump			
028917265	Remove Overhead Sign	1	Each			
	Remove Existing Overhead Sign Structure	1	Lump			
<b>Hydraulics</b>						
	Extend Box Culvert		ft			
	New Box Culvert	1	Lump			
<b>Geotech</b>						
	Geotech Report	1	Lump	\$15,000.00	\$15,000.00	
	Drilling	1	Lump			
<b>Structures Subtotal</b>					<b>\$15,000</b>	



# Environmental and Landscaping

PIN: PROJECT 2022-10      PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Environmental</b>						
	Wetland Mitigation	1	Lump			
	Noise Wall		ft			
	Environmental study	1	Lump	\$75,000.00	\$75,000.00	
	SWPPP	1	Lump	\$6,500.00	\$6,500.00	
<b>Temporary Erosion Control</b>						
015717030	Silt Fence	1,900	ft	\$4.00	\$7,600.00	
015717025	Check Dam - Fiber Roll		ft			
<b>Landscaping</b>						
029117010	HECP Type 1		Acre			
	rock mulch and fabric	7,435	sq ft	\$6.50	\$48,327.50	
029127010	Contractor Furnished Topsoil		sq yd			
029127050	Strip, Stockpile, and Spread Topsoil (Plan Quantity)		sq yd			
029227010	Drill Seed		Acre			
029227030	Broadcast Seed		Acre			
<b>Environmental Mitigation Subtotal</b>					<b>\$137,428</b>	

# Utilities, Right of Way, and Incentives

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Utilities</b>						
	Relocate Water/Irrigation/Sewer Lines	1	Lump			
	Sub surfacve Utiltiy investigation	1	Lump	\$60,000.00	\$60,000.00	
	Relocate Water	542	Feet	\$120.00	\$65,040.00	
	Relocate Irrigation	1	Feet			
	Relocate Sewer Lines	1	Feet	\$202.00	\$202.00	
	Relocate Gas Line	1	Lump	\$50,000.00	\$50,000.00	assumed 50%
	Relocate Power Line	1	Lump	\$82,500.00	\$82,500.00	assumed 50%
	Relocate Fiber Optic	1	Lump	\$75,000.00	\$75,000.00	assumed 50%
	Relocate Gas Line	1	Lump			
	Relocate Power Line	1	Lump			
	Relocate Fiber Optic	1	Lump			
	Relocate Phone	1	Lump			
<b>Utilities Subtotal</b>					<b>\$332,742</b>	
<b>Right-of-way</b>						
	parcel 14:025:0183	1	Lump	\$636,570.00	\$636,570.00	2024 tax value is \$578,700
	parcel 14:025:0182	1	Lump	\$566,500.00	\$566,500.00	2024 tax value is \$515,300
	parcel 14:025:0194	1	Lump	\$590,920.00	\$590,920.00	2024 tax value is \$537,200
	parcel 14:025:0045	1,250	sq ft	\$15.00	\$18,750.00	roadway ROW
	Agent fee	1	Lump	\$90,637.00	\$90,637.00	5%
	Sellable property	60,000	sq ft	-\$12.00	-\$720,000.00	
<b>Right-of-Way Subtotal</b>					<b>\$1,183,377</b>	
<b>Incentives</b>						
00007601*	Pavement Smoothness Incentive	1	Lump			
00007602*	Hot Mix Asphalt (HMA) Incentive	1	Lump	\$13,979.10	\$13,979.10	
00007603*	Stone Matrix Asphalt (SMA) Incentive	1	Lump			
00007604*	Open Graded Surface Course Incentive	1	Lump			
00007605*	Bonded Wearing Course Incentive	1	Lump	\$820.37	\$820.37	
00007606*	Early Completion - Time	0	Cal d			
#N/A	Lane Rental Incentive	0	#N/A			
#N/A	Miscellaneous Incentive	1	#N/A			
<b>Incentives Subtotal</b>					<b>\$14,799</b>	

**Cost Estimate Summary of Assumptions**  
 PN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

Material Assumptions		
Material	Unit Weights	Application Rates
Borrow	130 t/cy	
Granular Backfill Borrow	130 t/cy	
Granular Borrow	142 t/cy	
UTFC	138 t/cy	
HTC	181 t/cy	
OGSC	135 t/cy	
Asphalt Binder	8.796 t/cy	
Prime Coat	249 gal/ton	0.50 gal/ton
Seal Coat	249 gal/ton	0.07 gal/ton
Emulsified Asphalt LAM-RS-2	290 gal/ton	0.40 gal/ton
Blank Coat	249 gal/ton	0.11 gal/ton
Water	42 gal/cy	0.05 gal/cy
	42 gal/cy	0.05 gal/cy
	45 gal/cy	Borrow/Embankment

Roadway	Prime Coat		Seal Coat		OGSC Tack Coat		Chip Seal Emission		Flurry Coat		
	Area sy	Tons	Area sy	Tons	Area sy	Tons	Area sy	Tons	Area sy	Tons	
Center Street	5,150.00	10.26	1	5	5,150.00	8.94	3,090.00	4.54	8.18	5,150.00	2.39
600 West	3,090.00	6.20	1	5	3,090.00	4.51				3,090.00	1.38
Private Access Road	112.00	0.22	1	4	112.00	0.13				112.00	0.06
Garden Drive	481.11	0.95	1	4	481.11	0.54				481.11	0.21
roadside excavation											
<b>TOTALS</b>		<b>18</b>				<b>13</b>				<b>13</b>	<b>4</b>

Prints on 11x17 - adjust print layout after column/row adjustments are completed.

Choose Either Ton or Vol  
 Manually Input  
 Linked to Roadway Item

This section calculates the extra area per foot of the side slope material due to the 2% cross-slope

Roadway	Length ft	Top Width ft	No. of Sides with Wedge Payment	Side Slope	Granular Borrow			Unreated Base Course			HMA			SMA			OGSC		Asphalt Binder Tons	Chip Seal, Micro Surfacing, or Bonded Wearing Course sq	PCDP		Forming			
					Depth ft	Width ft	Vol cu yd	Depth ft	Width ft	Vol cu yd	Depth ft	# of Joints	Width ft	Tons	Depth ft	Width ft	Tons	Depth ft			Tons	Depth ft	Area sq	Depth ft	Area sq	
Center Street	750	63.0	0	0	30.00	63.00	4,542.22	8,707.44	8.00	63.00	1,135.56	2,115.54	6.00		63.00	1,726.12				5,150.00						
600 West	678	45.0	0	0	22.00	45.00	1,898.33	3,819.66	8.00	45.00	685.07	1,272.56	5.00		45.00	874.86				3,090.00						
Private Access Road	42	24.0	0	0	22.00	24.00	68.44	131.27	8.00	24.00	24.89	46.37	4.00		24.00	25.37				112.00						
Garden Drive	85	30.0	0	0	22.00	30.00	281.75	545.19	8.00	30.00	102.47	190.90	4.00		30.00	104.44				481.11						
roadside excavation																										
<b>TOTALS</b>							<b>6,781</b>	<b>12,969</b>				<b>1,950</b>	<b>3,433</b>			<b>2,741</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Roadway	Roadway Excavation			Borrow			Granular Backfill Borrow/Embankment		
	Length ft	Depth ft	Vol cu yd	Length ft	Depth ft	Vol cu yd	Length ft	Depth ft	Vol cu yd
Center Street	60,000.00	45.00	1.00	8,557.54					
600 West	37,400.00	35.00	1.00	4,045.62					
Private Access Road									
Garden Drive									
roadside excavation									
<b>TOTALS</b>				<b>12,568</b>		<b>0</b>	<b>0</b>		<b>12,515</b>

Water			
Material	Vol cu yd	gal	1,000 gal
Granular Borrow	0	384,802	385
Unreated Base Course	0	1,950	99
Borrow	0	0	0
Granular Backfill Borrow/Embankment	0	0	0
<b>TOTALS</b>		<b>384,802</b>	<b>385</b>

Pavement Marking Paint						
Roadway	Length ft	Edges to be Striped	No. Travel Lane Separation Lines	Inert Section Adjustment	Length ft	Pavement Marking Paint gal
Center Street	750	2	4	2	60	3000
600 West	678	2	4	2	60	4908
Private Access Road						
Garden Drive						
roadside excavation						
<b>TOTALS</b>					<b>10,884</b>	<b>7908</b>

Pavement Marking Application Rates		
Striping Type	ft	gal
Side	100	100
Median	300	300
Intersection	150	150

Misc. Area Calculator				
Area Location	Length	Width	Total Area	Notes

Misc. Volume Calculator					
Volume Location	Length	Width	Depth	Total Volume	Notes

- 600 West & Center Street Signal and RR Crossing to be connected to State Street Signal for coordination.
- Equipment for RR Crossing assumed to be \$300,000 on top of traditional signal materials.
- The pavement section on Center Street is assumed to be the same as pleasant Grove BLVD
- 600 W pavement section obtained from pipe plant geotech report
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- Project Assumptions/Risks**
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## Incentives Calculator

PIN: PROJECT 2022-10 PROJECT NAME: 600 West, Center St, and State St Intersection Improvements

2017 Specification	Incentive	Quantity	Unit	Max Unit Incentive	Max Incentive	Adjustment Factor	Assumed Incentive	Remarks
02701 - Smoothness	See below - Section 1.8	1	Lump	\$0.00 /Lump	\$0.00	0.75	\$0.00	Use the Calculations below
00221S - Bidding Contract Time	Early Completion Incentive - Section 1.7.D.4		Cal'd	/Cal'd	\$0.00	1	\$0.00	
00222S - Lane Rental	Lane Rental Incentive - Section 1.8.B.1		Hours	/Hour	\$0.00	1	\$0.00	
02741 - HMA	In Place Mat Density - Section 1.6.D.1	2,741	Ton	\$2.00 /Ton	\$5,482.00	0.85	\$4,659.70	
	Gradation/Asphalt Content - Section 1.6.D.1	2,741	Ton	\$2.00 /Ton	\$5,482.00	0.85	\$4,659.70	
	Joint Density - Section 1.6.D.6	2,741	Ton	\$2.00 /Ton	\$5,482.00	0.85	\$4,659.70	
02744 - SMA	Asphalt Binder Content & Density - Section 1.6.D.1	0	Ton	\$2.50 /Ton	\$0.00	0.50	\$0.00	
	Gradation - Section 1.6.D.1	0	Ton	\$2.50 /Ton	\$0.00	0.50	\$0.00	
02786 - OGSC	Binder Content - Section 1.6.B.2	0	Ton	\$1.00 /Ton	\$0.00	0.85	\$0.00	
	Gradation - Section 1.6.B.3	0	Ton	\$1.50 /Ton	\$0.00	0.85	\$0.00	
02787 - Bonded Wearing Course	Binder Content - Section 1.6.C.3	8,774	/SQ YD	\$0.05 /Sq yd	\$438.70	0.85	\$372.90	
	Gradation - Section 1.6.C.4	8,774	/SQ YD	\$0.06 /Sq yd	\$526.44	0.85	\$447.47	
Miscellaneous	Community Coordination Incentive	1	Lump	\$0.00 /Lump	\$0.00	1	\$0.00	
<b>Total:</b>							<b>\$14,799.47</b>	

Smoothness Calculations (2017 Specification - 2701 and 02742S)																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Table 1 HMA, OGSC, BWC, &amp; SMA Incentive</th> </tr> <tr> <th style="text-align: left;">Category*</th> <th style="text-align: left;">Max Incentive per Pavement Section</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">\$500</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Table 2 PCCP Incentive</th> </tr> <tr> <th style="text-align: left;">Category*</th> <th style="text-align: left;">Max Incentive per Pavement Section</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">\$1,000</td> </tr> </tbody> </table>	Table 1 HMA, OGSC, BWC, & SMA Incentive		Category*	Max Incentive per Pavement Section	1 and 2	\$500	Table 2 PCCP Incentive		Category*	Max Incentive per Pavement Section	1	\$1,000	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">HMA, OGSC, BWC, &amp; SMA Incentive</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Length</td> <td style="text-align: right;">0.16 miles</td> </tr> <tr> <td style="text-align: left;">Lanes</td> <td></td> </tr> <tr> <td style="text-align: left;">Incentive</td> <td style="text-align: right;">\$0</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">PCCP Incentive</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Length</td> <td style="text-align: right;">0.16 miles</td> </tr> <tr> <td style="text-align: left;">Lanes</td> <td></td> </tr> <tr> <td style="text-align: left;">Incentive</td> <td style="text-align: right;">\$0</td> </tr> </tbody> </table>	HMA, OGSC, BWC, & SMA Incentive		Length	0.16 miles	Lanes		Incentive	\$0	PCCP Incentive		Length	0.16 miles	Lanes		Incentive	\$0
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<b>Definitions</b>																													
*Incentive applied to HMA, PCCP, OGSC, BWC, SMA																													
Category 1	1) Pavement surfaces having two or more opportunities for improving the ride.+ 2) Portland cement concrete paving.																												
Category 2	Newly constructed pavement surfaces without two or more opportunities for improving ride.																												
+ Opportunity to improve ride:																													
1) Placing Granular Borrow, Untreated Base Course, Treated Base Course, Open-Graded Surface Course (OGSC), Bonded Wearing Course (BWC), Stone Matrix Asphalt (SMA), Cold-In-Place Recycling, Hot-In-Place Recycling, and each lift of paving.																													
2) Rotomilling greater than 1.5 inches in depth.																													
3) Lane leveling is not considered an opportunity to improve the ride.																													
Pavement Section - Each travel lane or median, 0.1 mile long.																													
Incentive does not apply to the HMA surfaces on projects that include an OGSC, BWC, or SMA placed over the HMA surface.																													
Apply Incentive to Category 1 and 2 pavements longer than 1,000 ft in length, including:																													
1 All traffic lanes																													
2 Ramps																													
3 Medians 8 ft and wider																													
4 Turn lanes																													
5 Bridges and approach slabs with final riding surfaces placed as part of the contract																													
Do not apply Incentive to:																													
1 Pavements shorter than 1,000 ft																													
2 Shoulders																													
3 Bike Lanes																													
4 Medians narrower than 8 ft																													
5 Horizontal curves with a centerline curvature radius less than 900 ft and areas within the superelevation transitions to these short radius curves																													
6 Tapers																													
7 Surfaces within 15 ft of bridge decks and approach slabs not paved as part of the contract																													

**PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West  
Cost Estimate - Concept Level**

**Prepared By:** Britton - Pleasant Grove City      **Date** 9/26/2023

**Proposed Project Scope:** Roundabout option

Approximate Route Reference Mile Post (BEGIN) =	0.000	(END) =	0.160
Project Length =	0.160	miles	845 ft
Current Year =	2023		
Assumed Construction Year =	2026		
Construction Items Inflation Factor =	1.30	3 yrs for inflation	
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.75%		
Assumed Yearly Inflation for Right of Way (%/yr) =	4.0%		
Items not Estimated (% of Construction) =	20.0%		
Preliminary Engineering (% of Construction + Incentives) =	16.0%		
Construction Engineering (% of Construction + Incentives) =	16.0%		

Construction Items	Cost	Remarks
Public Information Services	\$13,000	
Roadway and Drainage	\$2,954,723	
Traffic and Safety	\$1,355,000	
Structures	\$22,000	
Environmental Mitigation	\$129,252	
ITS	\$115,825	
	Subtotal	\$4,589,800
	Items not Estimated (20%)	\$917,960
	<b>Construction Subtotal</b>	<b>\$5,507,760</b>
P.E. Cost	P.E. Subtotal	\$883,598 16%
C.E. Cost	C.E. Subtotal	\$883,598 16%
Right of Way	Right of Way Subtotal	\$1,009,430
Utilities	Utilities Subtotal	\$332,742
Incentives	Incentives Subtotal	\$14,727
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2023	2026
P.E.	\$884,000	\$987,000
Right of Way	\$1,009,000	\$1,135,000
Utilities	\$333,000	\$432,000
Construction	\$5,508,000	\$7,152,000
C.E.	\$884,000	\$987,000
Incentives	\$15,000	\$19,000
Aesthetics	0.75% \$41,000	\$53,000
Change Order Contingency	9.00% \$499,000	\$648,000
UDOT Oversight	5.00% \$339,000	\$440,000
Miscellaneous	\$0	\$0
<b>TOTAL</b>	<b>\$9,512,000</b>	<b>\$11,853,000</b>

<b>PROPOSED COMMISSION REQUEST</b>	<b>TOTAL</b>	<b>\$9,512,000</b>	<b>TOTAL</b>	<b>\$11,853,000</b>
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**Project Assumptions/Risks**

1	600 West & Center Street RR Crossing to be connected to State Street Signal for coordination.	8
2	Equipment for RR Crossing assumed to be \$500,000 on top of traditional signal materials.	9
3	The pavement section assumed the same as pleasant Grove BLVD	10
4		11
5		12
6		13
7		14

# Inflation

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Year	Rate	Recommended Rate	Cumulative Inflation Factor
2022	0.0%	0.0%	1.00
2023	8.0%	8.0%	1.08
2024	7.0%	7.0%	1.16
2025	6.0%	6.0%	1.22
2026	6.0%	6.0%	1.30
2027	6.0%	6.0%	1.38
2028	6.0%	6.0%	1.46
2029	6.0%	6.0%	1.55
2030	6.0%	6.0%	1.64
2031	6.0%	6.0%	1.74
2032	6.0%	6.0%	1.84
2033	6.0%	6.0%	1.95
2034	6.0%	6.0%	2.07
2035	6.0%	6.0%	2.19
2036	6.0%	6.0%	2.33
2037	6.0%	6.0%	2.46
2038	6.0%	6.0%	2.61
2039	6.0%	6.0%	2.77
2040	6.0%	6.0%	2.94
2041	6.0%	6.0%	3.11
2042	6.0%	6.0%	3.30
2043	6.0%	6.0%	3.50
2044	6.0%	6.0%	3.71
2045	6.0%	6.0%	3.93
2046	6.0%	6.0%	4.16
2047	6.0%	6.0%	4.41
2048	6.0%	6.0%	4.68

Please contact UDOT Estimate Support with any questions (801-360-0580).



# Traffic, Safety & ITS

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Traffic</b>						
027657050	Pavement Marking Paint	0	gal	\$55.00	\$0.00	
027687105	Pavement Message (Preformed Thermoplastic)		Each	\$215.00		
027687110	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)		Each	\$215.00		
028417094	Midwest 31 Inch W-Beam Guardrail 7 ft Steel Post		ft			
028437035	End Treatment Type G (MASH)		Each			
028447111	Precast Concrete Barrier – 32 inch F-Shape, No Stabilization Pins		ft			
028917028	Sign Type A-1, 12 Inch X 36 Inch		Each			
028917270	Remove Sign Less Than 20 Square Feet		Each	\$175.00		
028917285	Relocate Sign Less Than 20 Square Feet		Each	\$200.00		
	Lump sum striping and signing	1	Lump	\$20,000.00	\$25,000.00	
<b>Signals</b>						
#N/A	State street integration	1	Lump	\$80,000.00	\$80,000.00	
	Railroad integration with arms	1	Lump	\$1,200,000.00	\$1,200,000.00	
<b>Lighting</b>						
16525701D	Highway Lighting System _____	1	Lump	\$50,000.00	\$50,000.00	Lighting surrounding signal
<b>Traffic and Safety Subtotal</b>					<b>\$1,355,000</b>	
<b>ITS</b>						
135537035	1D Conduit	1,245	ft	\$85.00	\$105,825.00	Length of Center x6
135567010	Closed Circuit Television (CCTV) Assembly System	1	Lump	\$10,000.00	\$10,000.00	
<b>ITS Subtotal</b>					<b>\$115,825</b>	



# Structures

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Bridges</b>						
	New Structure		sq ft			Assumed LxW (deck area)
<b>Walls</b>						
	Retaining Wall		sq ft			Assumed LxH (wall area)
<b>Sign Structures</b>						
	Overhead Sign Structure	1	Lump			
028917265	Remove Overhead Sign	1	Each			
	Remove Existing Overhead Sign Structure	1	Lump			
<b>Hydraulics</b>						
	Extend Box Culvert		ft			
	New Box Culvert	1	Lump			
<b>Geotech</b>						
	Geotech Report	1	Lump	\$22,000.00	\$22,000.00	
	Drilling	1	Lump			
<b>Structures Subtotal</b>					<b>\$22,000</b>	

# Environmental and Landscaping

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Environmental</b>						
	Wetland Mitigation	1	Lump			
	Noise Wall		ft			
	Environmental study	1	Lump	\$75,000.00	\$75,000.00	
	SWPPP	1	Lump	\$6,500.00	\$6,500.00	
<b>Temporary Erosion Control</b>						
015717030	Silt Fence	1,130	ft	\$4.00	\$4,520.00	
015717025	Check Dam - Fiber Roll		ft			
<b>Landscaping</b>						
029117010	HECP Type 1		Acre			
	rock mulch and fabric	6,651	sq ft	\$6.50	\$43,231.50	
029127010	Contractor Furnished Topsoil		sq yd			
029127050	Strip, Stockpile, and Spread Topsoil (Plan Quantity)		sq yd			
029227010	Drill Seed		Acre			
029227030	Broadcast Seed		Acre			
<b>Environmental Mitigation Subtotal</b>					<b>\$129,252</b>	

# Utilities, Right of Way, and Incentives

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Item #	Item	Quantity	Units	Price	Cost	Remarks
<b>Utilities</b>						
	Sub surfacve Utiltiy investigation	1	Lump	\$60,000.00	\$60,000.00	
	Relocate Water	542	Feet	\$120.00	\$65,040.00	
	Relocate Irrigation	1	Feet			
	Relocate Sewer Lines	1	Feet	\$202.00	\$202.00	
	Relocate Gas Line	1	Lump	\$50,000.00	\$50,000.00	assumed 50%
	Relocate Power Line	1	Lump	\$82,500.00	\$82,500.00	assumed 50%
	Relocate Fiber Optic	1	Lump	\$75,000.00	\$75,000.00	assumed 50%
	Relocate Phone	1	Lump			
<b>Utilities Subtotal</b>					<b>\$332,742</b>	
<b>Right-of-way</b>						
	parcel 14:025:0167	1	Lump	\$923,120.00	\$923,120.00	2023 tax value is \$839,200
	parcel 14:025:0194	1	Lump	\$590,920.00	\$590,920.00	2024 tax value is \$537,200
	parcel 14:025:0045	1,250	sq ft	\$15.00	\$18,750.00	roadway ROW
	Agent fee	1	Lump	\$76,639.50	\$76,639.50	5%
	Sellable property	50,000	sq ft	-\$12.00	-\$600,000.00	lower value to 50 SF
<b>Right-of-Way Subtotal</b>					<b>\$1,009,430</b>	
<b>Incentives</b>						
00007601*	Pavement Smoothness Incentive	1	Lump	\$1,800.00	\$1,800.00	
00007602*	Hot Mix Asphalt (HMA) Incentive	1	Lump	\$12,265.50	\$12,265.50	
00007603*	Stone Matrix Asphalt (SMA) Incentive	1	Lump			
00007604*	Open Graded Surface Course Incentive	1	Lump			
00007605*	Bonded Wearing Course Incentive	1	Lump	\$661.70	\$661.70	
00007606*	Early Completion - Time	0	Cal d			
#N/A	Lane Rental Incentive	0	#N/A			
#N/A	Miscellaneous Incentive	1	#N/A			
<b>Incentives Subtotal</b>					<b>\$14,727</b>	

**Cost Estimate Summary of Assumptions**  
 PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

Material Assumptions		
Material	Unit Weights	Application Rates
Borrow	120 bcf	
Granular Backfill Borrow	130 bcf	
Granular Borrow	140 bcf	
LFBC	138 bcf	
HMA	151 bcf	
OSSC	130 bcf	
Asphalt Binder	8.79% (pcf)	
Prime Coat	249 gal/ton	0.60 gal/sy
Tack Coat	250 gal/ton	0.67 gal/sy
Emulsified Asphalt LMR-BS-2	290 gal/ton	0.40 gal/sy
Chalk Coat	200 gal/ton	0.11 gal/sy
Water	42 gal/cy CR	
	51 gal/cy LFBC	
	45 gal/cy Borrow/Embankment	

Roadway	Prime Coat		Tack Coat		OSSC Tack Coat		Chip Seal Emission		Flush Coat	
	Area sy	Tons	Lit in	# of apps	Area sy	Tons	Area sy	Tons	Area sy	Tons
Center Street										
600 West			1							
Private Access Road			1							
Outside of asphalt				8	7,076.69	12.38				
Roundabout	7,076.69	14.21					7,076.69	11.32	7,076.69	3.18
perimeter										
<b>TOTALS</b>		15			13		8		12	4

Prints on 11x17 - adjust print layout after column/row adjustments are completed.

Choose Either Ton or Vol  
 Manually Input  
 Linked to Roadway Item

This section calculates the extra area per foot of the side slope material due to the 2% cross-slope

Roadway	Length ft	Top Width ft	No. of Sides with Single Pavement	Side Slope	Granular Borrow			Untreated Base Course			HMA			SMA			OSSC		Alphalt Binder Tons	Oils Seal, Micro Surfacing, or Bonded Wearing Course sq	PCCP		Reinforcing		
					Depth in	Width ft	Vol cy	Depth in	Width ft	Vol cy	Depth in	Width ft	Vol cy	Depth in	Width ft	Vol cy	Depth in	Width ft			Vol cy	Depth in	Width ft	Vol cy	Depth in
Center Street	840	77.0	0	0																					
600 West	560	45.0	0	0																					
Private Access Road	21,467	1.0	0	0	4.00	1.00	264.90	507.60																	
Outside of asphalt	63,692	1.0	0	0	32.00	1.00	6,269.57	12,095.02	8.00	1.00	1,472.64	2,829.83	6.00	3	1.00	2,404.37									
Roundabout																									
perimeter																									
<b>TOTALS</b>							6,556	12,567				1,873	2,930				0		0		7,077				

Roadway	Roadway Excavation				Borrow				Granular Backfill Borrow/Embankment			
	Length ft	Depth ft	Width ft	Vol cy	Length ft	Depth ft	Width ft	Vol cy	Length ft	Depth ft	Width ft	Vol cy
Center Street												
600 West												
Private Access Road	21,467	12.00	1.00	794.70								
Outside of asphalt	70,948.00	46.00	1.00	1,010,000								
Roundabout												
perimeter												
<b>TOTALS</b>				10,845				164				288

Water			
Material	Vol cy	gal	1,000 gal
Granular Borrow	6,556	276,263	276
Untreated Base Course	1,873	80,263	80
Borrow	164	7,380	7
Granular Backfill Borrow/Embankment	0	0	0
<b>TOTALS</b>			363

Roadway	Length ft	Edges to be Striped	No. Travel Lane Separation Lines	Median Stripping	Inert section Adjustment ft	Length ft	Pavement Marking Paint gal
Center Street							
600 West							
Private Access Road							
Outside of asphalt							
Roundabout							
perimeter							
<b>TOTALS</b>					0	0	

Pavement Marking Application Rates	
Striping Type	Signal
Edge	190
Median	790
Intersection	95
	190

Misc. Area Calculator				
Area Location	Length	Width	Total Area	Notes

Misc. Volume Calculator					
Volume Location	Length	Width	Depth	Total Volume	Notes

- 600 West & Center Street RR Crossing to be connected to State Street Signal for coordination.
- Equipment for RR Crossing assumed to be \$500,000 on top of traditional signal materials.
- The pavement section assumed the same as pleasant Grove BLVD
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- Project Assumptions/Risks**
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## Incentives Calculator

PIN: PROJECT 2022-10 PROJECT NAME: PG Center Street at 600 West

2017 Specification	Incentive	Quantity	Unit	Max Unit Incentive	Max Incentive	Adjustment Factor	Assumed Incentive	Remarks	
02701 - Smoothness	See below - Section 1.8	1	Lump	\$2,400.00	/Lump	\$2,400.00	0.75	\$1,800.00	Use the Calculations below
00221S - Bidding Contract Time	Early Completion Incentive - Section 1.7.D.4		Cal'd		/Cal'd	\$0.00	1	\$0.00	
00222S - Lane Rental	Lane Rental Incentive - Section 1.8.B.1		Hours		/Hour	\$0.00	1	\$0.00	
02741 - HMA	In Place Mat Density - Section 1.6.D.1	2,405	Ton	\$2.00	/Ton	\$4,810.00	0.85	\$4,088.50	
	Gradation/Asphalt Content - Section 1.6.D.1	2,405	Ton	\$2.00	/Ton	\$4,810.00	0.85	\$4,088.50	
	Joint Density - Section 1.6.D.6	2,405	Ton	\$2.00	/Ton	\$4,810.00	0.85	\$4,088.50	
02744 - SMA	Asphalt Binder Content & Density - Section 1.6.D.1	0	Ton	\$2.50	/Ton	\$0.00	0.50	\$0.00	
	Gradation - Section 1.6.D.1	0	Ton	\$2.50	/Ton	\$0.00	0.50	\$0.00	
02786 - OGSC	Binder Content - Section 1.6.B.2	0	Ton	\$1.00	/Ton	\$0.00	0.85	\$0.00	
	Gradation - Section 1.6.B.3	0	Ton	\$1.50	/Ton	\$0.00	0.85	\$0.00	
02787 - Bonded Wearing Course	Binder Content - Section 1.6.C.3	7,077	/SQ YD	\$0.05	/Sq yd	\$353.85	0.85	\$300.77	
	Gradation - Section 1.6.C.4	7,077	/SQ YD	\$0.06	/Sq yd	\$424.62	0.85	\$360.93	
Miscellaneous	Community Coordination Incentive	1	Lump	\$0.00	/Lump	\$0.00	1	\$0.00	
Total:								\$14,727.20	

Smoothness Calculations (2017 Specification - 2701 and 02742S)																																																	
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