



COLORADO
Department of Transportation

REVISED FINAL EXISTING CONDITIONS REPORT

US 6C Clifton Transportation Study





US 6C CLIFTON TRANSPORTATION STUDY

Revised Final Existing Conditions Report

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Submitted to



COLORADO
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LIST OF ACRONYMS AND ABBREVIATIONS

- AADT – Average Annual Daily Traffic
- ACP – Access Control Plan
- CBC – Concrete box culvert
- CDOT – Colorado Department of Transportation
- CIP – Capital Investment Program
- EB – eastbound
- GIS – Geographic Information Systems
- GVMPO – Grand Valley Metropolitan Planning Organization
- GVT – Grand Valley Transit
- HCM – Highway Capacity Manual
- I-70 – Interstate 70
- I-70B – Interstate 70 Business Loop
- LOS – Level of Service
- MPH – miles per hour
- PEL – Planning and Environmental Linkages
- RCP – Reinforced concrete pipe
- SH – State Highway
- TIP - Transportation Improvement Program
- UPRR – Union Pacific Railroad
- US – United States
- US 6C - United States Highway 6C
- vpd – vehicles per day
- WB – westbound



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INTRODUCTION

US 6C Clifton Transportation Study

The Colorado Department of Transportation (CDOT) initiated the US 6C Clifton Transportation Study to provide an understanding of the existing conditions along the United States Highway 6C (US 6C) corridor through Clifton from Interstate 70 Business Loop (I-70B) to 33 Road. The study will evaluate the existing and future operating conditions and features of the corridor with the goal of identifying anticipated problem areas and developing and screening a reasonable range of potential improvements to improve operations and safety of the corridor for all modes of transportation, including non-motorized travel.

This transportation study will be conducted using the Planning and Environmental Linkages (PEL) approach. PEL is a study approach that is used to identify transportation issues and environmental concerns, which can be applied to make planning decisions and for planning analysis. PEL studies link planning to environmental issues and result in useful information that may ultimately be used to prepare a National Environmental Policy Act study and final design. The objective of this study is to work with stakeholders to analyze transportation issues and explore a range of short- and long-term actions to improve operational performance and safety and potentially reduce congestion along the US 6C corridor.

This Existing Conditions Report documents the current and anticipated future transportation conditions along the corridor, developed from readily available data and a windshield survey. The information presented in this report will be used in the development and analysis of improvement alternatives, which will be documented in a subsequent report.

Study Area

The traffic study area and the environmental resource review study area are illustrated in **Figure 1**. The traffic study roadways include US 6C from I-70B to approximately 33½ Road, F Road from 32 Road to I-70B, and I-70B from west of Old 32 Road to the I-70 interchange. US 6C, F Road, and I-70B within the study area lie within unincorporated Mesa County.

The environmental study area is focused around the area of most likely physical impacts of corridor transportation improvements. To take into account the potential for indirect or secondary effects to community or environmental resources as a result of the recommended improvements, the area was extended to the back property line of area parcels. The environmental study area includes the area generally bounded by 32 Road to the west, I-70 to the north, 33 Road to the east, and E½ Road to the south. The evaluation of environmental conditions is documented in the Environmental Scan Report.

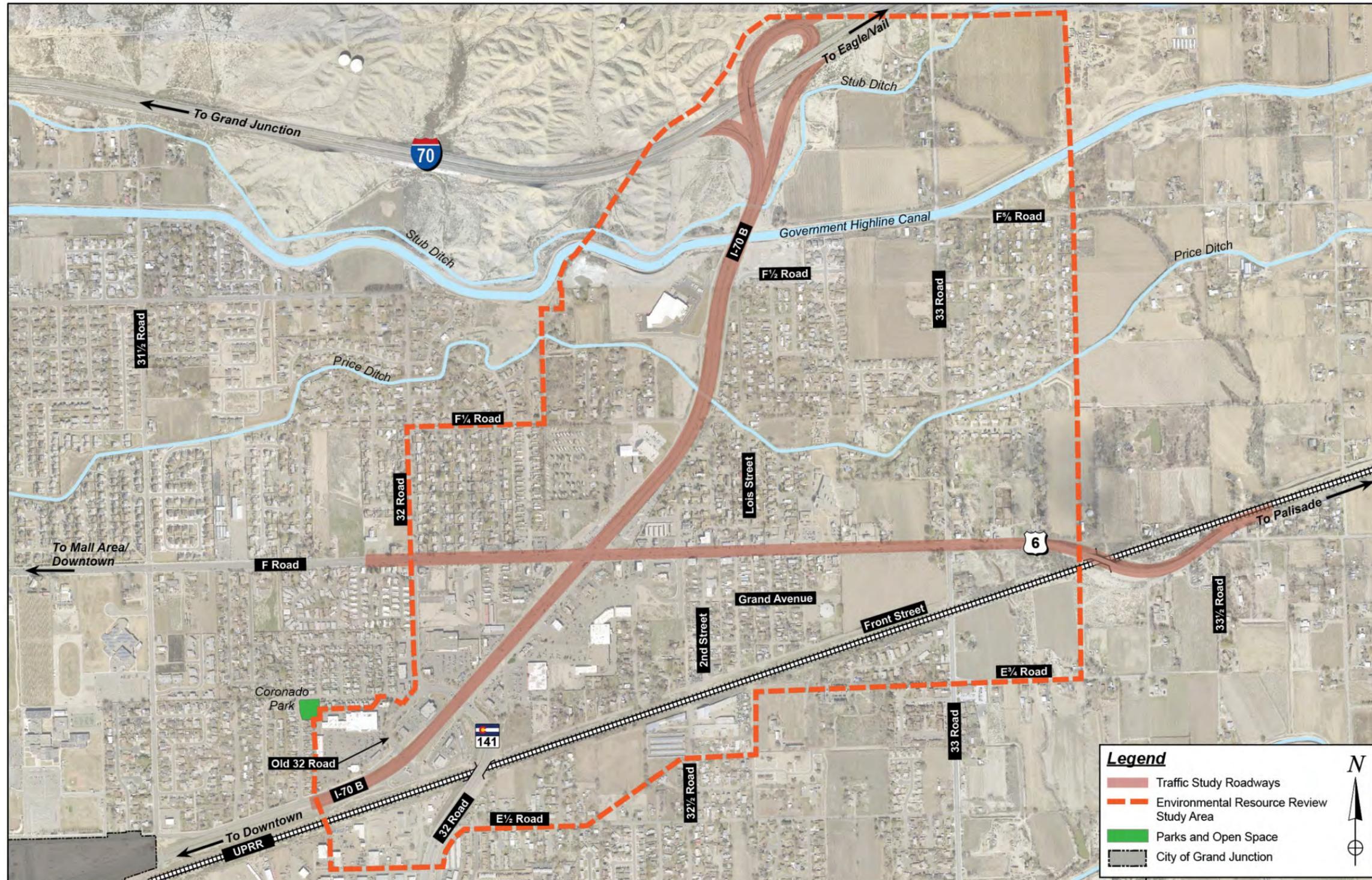
This report documents the current and anticipated future conditions of the study area transportation system. The information presented in this report will be the basis for developing and evaluating possible transportation improvements in the study area.



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Figure 1: Study Area





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Surrounding Land Use

The study area is located in the community of Clifton, within unincorporated Mesa County, with Grand Junction to the west and Palisade to the east. As described in the *Clifton-Fruitvale Community Plan*, the Clifton community has been transitioning from rural to urban for several decades. Over time, the area has developed under a wide variety of land development and infrastructure plans, resulting in a mixed pattern of urban, suburban, and rural environments.

Existing Land Use

The central Clifton neighborhood is the historical center of the Clifton area, also known as “downtown” Clifton. Located south of I-70 and north of the Union Pacific Railroad (UPRR) tracks, central Clifton is bounded on the west by I-70B and 33 Road on the east. The study area, surrounding the central Clifton neighborhood, is characterized by a variety of land uses including residential, commercial, industrial, public, and agricultural or undeveloped lands.

West of I-70B along F Road, land uses consist primarily of single-family residential with health clinics, automotive services, and a mobile home community on the north side of the corridor. South of F Road is a bank, restaurant, convenience store/gas station, and automotive services.



US 6C west of I-70B Clifton – looking east

Along US 6C immediately east of I-70B, land uses include retail and commercial businesses located in the Peach Tree Shopping Center south of the corridor, with multiple banks, restaurants, and convenience store/gas stations. An annex of the Mesa County Clerk and Records Office is also located at the shopping center. Along the north side of US 6C east of I-70B is a car wash, automotive service center, and a storage unit facility.



US 6C in Clifton – north side looking west

Between 1st Street and 5th Street, the land use along US 6C consists of a mixture of public, retail, commercial, and residential land uses. North of US 6C, land uses include the US Post Office, Clifton Fire Station, convenience store/gas station, an industrial equipment shop and the Clifton Plaza which includes a restaurant and small businesses. North of these properties along US 6C, the land uses are primarily single-family homes.

Along the south side of US 6C, land uses include a church, liquor store, and small businesses. South of these properties along

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US 6C, the land uses are primarily single-family homes. Along 2nd Street south of US 6C, there is a small commercial area with a bar and several unoccupied stores, along with single-family residences. The Clifton Community Hall, owned by Mesa County and used for a variety of community and civic events, is located on 2nd Street at Front Street.

Clifton Elementary School is located on the north side of US 6C at 5th Street. Along the south side of US 6C is another small retail center. East of the school and the retail center is approximately a ¼-mile stretch of mostly agricultural and undeveloped land, zoned for residential and commercial development, north and south of US 6C. East of 33 Road, US 6C is bounded primarily by agricultural and undeveloped land with a few low density single-family homes. These properties are zoned for residential and mixed-use development.

Along the east side of I-70B north of US 6C, land uses consist of primarily single-family neighborhoods with undeveloped land just south of the I-70 interchange to the Government Highline Canal. Land uses along the west side of I-70B include a campground, church, the Budweiser Distribution Center, and undeveloped land, zoned for commercial development.



South of US 6C, I-70B is lined with commercial and retail land uses. East of the I-70B corridor is the Peach Tree Shopping Center. The area accessed from I-70B includes retail stores, restaurants, banks, and convenience stores/gas stations. The Clifton Transfer Center for Grand Valley Transit (GVT) is located south of the 32 Road intersection. Along the west side of I-70B is a hotel, an automotive dealership, restaurants, a pharmacy, and the Coronado Plaza southwest of Old 32 Road. The Coronado Plaza development includes restaurants, retail stores, and a City Market grocery store. West

of the Coronado Plaza are single-family homes.

33 Road within the study area is lined with single-family homes, agricultural land, or undeveloped land uses from F $\frac{3}{4}$ Road on the north to E $\frac{3}{4}$ Road. North of F $\frac{3}{4}$ Road, land uses consist primarily of agricultural and undeveloped land.

The UPRR runs along the south side of Front Street from the 32 Road overpass to 33 Road. Single-family homes line much of Front Street across from the railroad tracks with an undeveloped parcel east of 32 Road, an automotive salvage yard west of 2nd Street, Clifton Community Hall east of 2nd Street, and a relatively large undeveloped parcel west of 33 Road.



Front Street at 2nd Street – looking east



Future Land Use

Future land uses are depicted in **Figure 2**. The land use represented on this map reflects Mesa County’s land use vision for the study area, as shown in the *Mesa County Comprehensive Land Use Plan*. Commercial development is planned along the I-70B corridor through the study area. Mixed use development is planned west of the Budweiser Distribution Center and southeast of the I-70/I-70B interchange. The area surrounding the Peach Tree Shopping Center and the properties adjacent to the US 6C corridor through downtown Clifton to 5th Street are also planned for mixed use development. Residential land use is planned to be scattered throughout the study area and a park is shown within the undeveloped parcel northwest of Front Street and 33 Road.

Socioeconomic data from the Grand Valley Metropolitan Planning Organization (GVMPO) 2010 and 2040 regional travel demand models were compiled for the traffic analysis zones partially or fully located within the study area boundaries. The household and employment totals for year 2010 and forecasted year 2040 are shown in **Table 1**. As shown, employment in the area is forecasted to increase by over 2,200 jobs by year 2040, an increase of 162% over existing year 2010 totals. This equates to an annual increase of 3.3%. Population in the area is forecasted to increase by over 1,500 households, an increase of 118% over existing year 2010 totals. This equates to an annual increase of 2.6%.

Table 1: Travel Demand Forecasting Land Use Growth

YEAR	LAND USE	
	EMPLOYMENT	HOUSEHOLDS
2010	1,390	1,311
2040	3,646	2,864
Absolute Growth	+ 2,256	+ 1,553
Percent Growth	162%	118%

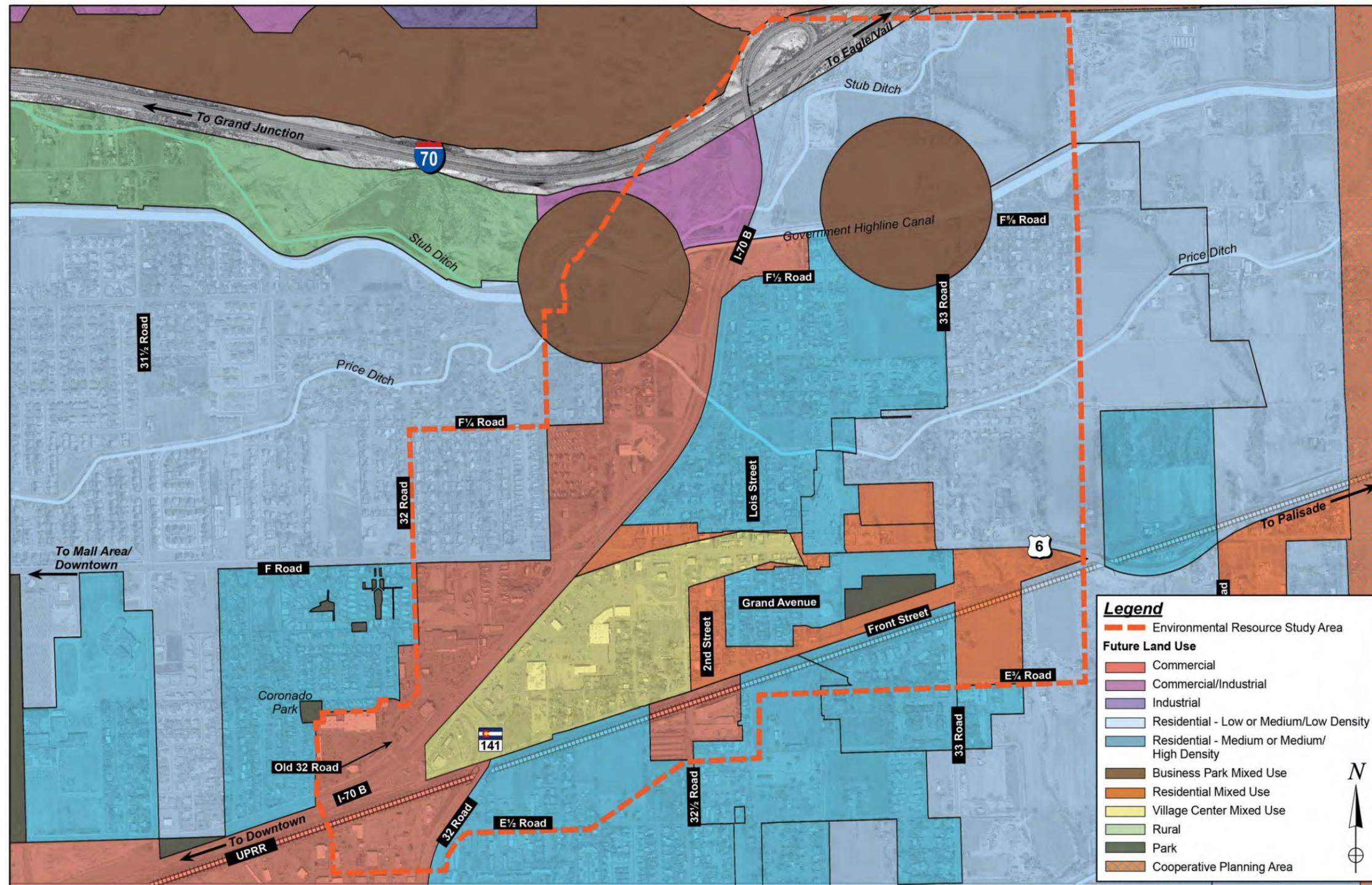
Source: GVMPO 2010 and 2040 regional travel demand models



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Figure 2: Future Land Use



Source: Mesa County, 2012



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Regional Planning Context

The US 6C corridor within the study area serves as an important east-west travel route connecting Grand Junction and Palisade, as well as surrounding areas of Mesa County. The roadway is a vital part of the regional transportation system as a whole. The corridor and the surrounding Clifton area has been included in past studies with substantial transportation components. Relevant past planning studies were reviewed to identify issues and recommended improvements to the transportation system within or in close proximity to the US 6C Clifton Transportation Study area. The reviewed planning studies are:

- *2003 Clifton Transportation Study* (2003)
- *Clifton-Fruitvale Community Plan* (October 19, 2006 - Amended July 14, 2011)
- *Clifton Pedestrian Circulation Study* (October 30, 2006)
- *Old Town Clifton Plan* (November 2007)
- *United States Highway 6 - Clifton Access Control Plan* (November 2008)
- *Grand Valley Circulation Plan* (2010)
- *GVMPO Transportation Improvement Program (TIP) 2011 - 2017* (Amended August 18, 2014)
- *Grand Valley 2040 Regional Transportation Plan* (in process – draft December 2014)

Graphics illustrating relevant information from these plans and studies are included in **Appendix A**.

2003 Clifton Transportation Study

The *2003 Clifton Transportation Study* was completed to identify projects to be implemented through the Mesa County Capital Investment Program (CIP). The study recommended the widening of US 6C through downtown Clifton to five lanes, using a combination of federal, state, and local funding. The study also recommended adding a raised median along F Road between 32 Road and I-70B, using local funding. Neither of these recommendations has been implemented.

Clifton-Fruitvale Community Plan

The *Clifton-Fruitvale Community Plan* was adopted by the Mesa County Planning Commission and the City of Grand Junction Planning Commission to provide specific management direction in the areas of public safety, human services, land use and zoning, transportation, utilities, historical structures, code enforcement, economy, and natural features to prioritize implementation strategies and actions for the Clifton-Fruitvale neighborhoods. The US 6C Clifton Transportation Study area is within the Central Clifton neighborhood as depicted in the community plan.

The School, Parks and Trails section of the plan identified issues regarding unsafe walking conditions for Clifton Elementary School with obstacles (open irrigation ditch, no road shoulder, weeds) forcing students to walk very close to traffic. The Transportation section identified the following key issues relevant to the Central Clifton neighborhood:

- Road infrastructure is lacking basic safety features – sidewalks, curb, and gutters
- Inadequate and unsafe walking routes to schools, bus stops, businesses



- Need sidewalks, uncongested streets, street lights, and traffic signals
- Wheelchairs need sidewalks detached from the curb
- Limited room to expand F Road (US 6C) without urban renewal
- Consider using Front Street as a bypass
- GVT ridership is high and growing
- Lack of bike paths
- Want streetscape improvements

The appendix of the *Clifton-Fruitvale Community Plan* includes graphics to provide visual ideas and demonstrate how some of the improvements could look based on citizen input, safety concerns, and design standards. The sketches from the appendix of the Clifton-Fruitvale Community Plan are included in **Appendix A**.

Clifton Pedestrian Circulation Study

The *Clifton Pedestrian Circulation Study* was conducted for Mesa County concurrently with the *Clifton-Fruitvale Community Plan* process. The study area was about ten square miles and encompassed the more focused area of this study. The primary goal of the Clifton Pedestrian Circulation Study was to assist local decision makers with a prioritized list of pedestrian-related facility improvements to be implemented through the Mesa County and Grand Junction CIPs.

The study included a public process with several public open houses to receive public comment on pedestrian-related facilities vital to the community. An evaluation of alternatives for projects was used to rank projects in order of highest need and importance to the Clifton area, and fiscally-constrained projects were identified for inclusion in the CIP. The following recommended high-priority projects fall within the US 6C Clifton Transportation Study area:

- New sidewalk along both sides of US 6C from I-70B to 33 Road
- New sidewalk along the east side of 32½ Road (1st Street) from US 6C to E½ Road
- New sidewalk along the south side of I-70B between the Clifton Transfer Station and 32 Road (completed)
- Bike facility along US 6C from I-70B to west of 33 Road

Graphics from the study report illustrating the prioritized project recommendations are included in **Appendix A**.

Old Town Clifton Plan

The *Old Town Clifton Plan* was conducted by Mesa County to study the prospects of redevelopment within the downtown Clifton area, including both sides of US 6C from I-70B to 33 Road and from Front Street north to the Price Ditch. The study focused on economic and transportation issues with public meetings and workshops.



Regarding the transportation issues within the area, it was noted that Clifton residents do not want US 6C to be widened from the current three-lane configuration to a five-lane facility. Planners recommended improvements to Front Street with connections to US 6C and I-70B so that Front Street could be used as a bypass for regional commuter traffic between Grand Junction and Palisade. The *Old Town Clifton Plan* also noted the desire for improvements along US 6C, such as curb and gutter, sidewalks, and landscape, to encourage redevelopment along the corridor.

United States Highway 6 (US 6) – Clifton Access Control Plan

The *US 6 – Clifton Access Control Plan (ACP)* was completed in 2008 for CDOT and Mesa County to provide a binding document guiding the agencies decisions regarding the future access conditions of US 6C through downtown Clifton. Traffic volume forecasts showed issues with increased delay, higher levels of congestion, and an increase in the severity and number of accidents. The purpose of the ACP was to identify the location, type, and basic design elements of access points along the corridor to provide reasonable access to adjacent properties while maintaining safe and efficient traffic flow on US 6C. The ACP process included three public open houses as well as individual property owner meetings to gain input and inform the Clifton property owners and residents of the plan recommendations.

Based on future operational analysis results, the ACP assumed a five-lane cross-section for the US 6C corridor between I-70B and 33 Road with a raised median to restrict turning movements at some intersections. Key highlights of the ACP include:

- Emergency traffic signal at Clifton Fire Station (completed)
- Traffic signal at 1st Street, when warranted (completed)
- Traffic signal at 5th Street, when warranted
- Interim right-in, right-out restrictions with ultimate closure at 2nd Street, 3rd Street, and 4th Street
- Closure of most individual property accesses
- Closure of Smallwood Lane and all alley accesses
- Conversion of Lois Street and Holland Street to ¾-movement intersections

The closures of many individual property driveways and local street access to US 6C were consistent with the redevelopment expectations of Mesa County and plans for new alternate/shared access from new roadway connections. Graphics illustrating the recommendations from the ACP are included in **Appendix A**.

Grand Valley Circulation Plan

The *Grand Valley Circulation Plan* is a document adopted by the City of Grand Junction City Council and the Mesa County Board of County Commissioners that depicts existing and potential traffic circulation and road locations for the Grand Valley. It also depicts the road functional classification standard for the City and County based on traffic volumes and needs.



The current amendment (adopted in 2010) shows the following functional classifications for the study area roadways:

- US 6C east of I-70B – Minor Arterial
- I-70B – Principal Arterial
- 1st Street – Minor Collector (with connection to 32½ Road to the south)
- 33 Road – Major Collector

Functional classifications for 2nd Street and Front Street are not depicted in the circulation plan. The plan also shows a “Village Center” at the location of the Peach Tree Shopping Center.

GVMPO TIP 2011 – 2017

The GVMPO TIP is a six-year capital improvement program for the urbanized area of the Grand Valley. It is developed by the Grand Valley Regional Transportation Committee, acting as the GVMPO. The TIP contains all federally funded transportation projects in the urbanized area initiated by Mesa County, Grand Junction, Palisade, and Fruita or CDOT.

This corridor transportation study for US 6C through Clifton is included in the TIP. The TIP also includes bridge maintenance along I-70B within the study area and asphalt overlay for I-70 along the northern edge of the study area. No other projects within the study area are included in the 2012 – 2017 TIP (Amendment 20).

Grand Valley 2040 Regional Transportation Plan

The *Grand Valley 2040 Regional Transportation Plan* (RTP) is the most recent update to the region’s overall vision for future transportation infrastructure and investment. The plan report was finalized and adopted by the Grand Valley Regional Transportation Committee in December, 2014. An extensive public outreach process took place over the summer of 2014. The 2040 RTP looks out 25 years into the future and identifies the types of investments and strategies needed to address transportation mobility needs in the region. The planning process examines current and future anticipated transportation issues and needs for travelers, workers, visitors, and residents of the region, which includes all of the Grand Valley, including the communities of Clifton, Collbran, DeBeque, Fruita, Gateway, Glade Park, Grand Junction, Loma, Mesa, Mack, Palisade, Whitewater, and the rest of Mesa County. The RTP includes a list of critical regional priority projects anticipated to be implemented by 2040.

The vision identified in the 2040 RTP for the US 6C corridor between I-70B and 33 Road is primarily to increase mobility as well as to improve safety and maintain system quality. The plan recognizes that this corridor PEL study will determine the actions needed to improve safety and capacity. Capacity improvements along US 6C from I-70B to 33 Road are included in the 2040 fiscally constrained plan. Improvement strategies shown for the corridor include:

- Improve hotspots
- Construct/improve intersections
- Add turn lanes



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- Preserve right-of-way
- Expand transit services
- Consolidate and manage access and develop access management plans
- Provide bicycle/pedestrian facilities
- Add surface treatment/overlays
- Construct improvements recommended in the PEL study
- Add/improve shoulders

East of 33 Road, the 2040 RTP identifies no major improvements for the US 6C corridor to Palisade, but includes strategies similar to those identified for the study corridor through Clifton. The 2040 RTP identifies no major improvements for the F Road corridor west of I-70B.

The plan recognizes that I-70B should continue to be heavily impacted by energy development activity, including heavy truck traffic. Improvement strategies shown for the I-70B corridor include:

- Reconstruct roadways
- Consolidate and limit access and develop access management plans
- Synchronize/interconnect traffic signals
- Add signage
- Construct intersection/interchange improvements
- Add medians
- Provide public transportation improvements
- Provide bicycle/pedestrian facilities
- Preserve right-of-way
- Improve landscaping
- Develop an access management plan for the corridor

CORRIDOR CONDITIONS

This report summarizes data collected as part of this study effort and data already available from CDOT, Mesa County, and other agencies, to describe the physical condition of the transportation corridors in the study area. The US 6C and I-70B highways provide both local and regional mobility within the study area.

US 6C

US 6C is a section of the US 6 highway beginning at the I-70B intersection on the west. The US 6C corridor travels through downtown Clifton and crosses over the UPRR tracks before turning to the northeast and traveling through Palisade and ending at an interchange with I-70 northeast of Palisade at Exit 44. West of the I-70B intersection, the US 6 highway follows the I-70B alignment to the southwest toward Grand Junction.

This section of US 6C is an urban corridor serving as the main street through the unincorporated neighborhood of Clifton. CDOT defines the functional classification of the US 6C corridor through the study area as a Minor Arterial. For access control, CDOT classifies the corridor as a Non-Rural Arterial. The US 6C corridor serves as a multimodal facility, providing commuter access, and access to the US Post Office, Clifton Fire Station, Clifton Elementary School, and other local businesses.

From I-70B to 1st Street (32½ Road), US 6C is a four lane section with left turn lanes and little or no median. East of 1st Street to 33 Road, US 6C consists of two through lanes and a striped two-way left-turn lane. There are a high number of access points along US 6C from 1st Street to 5th Street, including streets, alleyways, and unrestricted property driveways.

East of 33 Road to 33½ Road east of the UPRR overpass, US 6C is a two-lane facility with no median and eight-foot wide shoulders. East of the study area, US 6C is generally a two-lane facility with no median and little or no shoulders. The speed limit along US 6C is primarily 30 miles per hour (MPH) within the study area, from I-70B to 33 Road. West of the I-70B and US 6C intersection, F Road consists of a four-lane cross-section with a striped two-way left-turn lane. West of I-70B, the speed limit increases to 40 MPH along F Road and east of 33 Road it increases to 40 MPH and eventually increases to 50 MPH east of 33½ Road.

This section documents the roadway characteristics of the existing transportation corridors in the study area. This information will be used for the development and analysis of alternatives.



US 6C in Clifton – looking west



Surrounding Roadways

I-70B

CDOT defines the functional classification of I-70B as a Principal Arterial – Other. For access control, CDOT classifies the corridor as an Expressway, Major Bypass. The roadway is generally an east-west facility providing interstate business access to Grand Junction, extending from I-70 Exit 26, west of Grand Junction, and traveling south of downtown Grand Junction and through the west side of the study area before reconnecting with I-70 at Exit 37, north of the Clifton community. North of the US 6C intersection, I-70B is a divided four-lane highway with a depressed median, relatively wide shoulders, and a 55 MPH speed limit. South of US 6C, I-70B is a divided four-lane highway with a raised median, narrow or non-existent shoulders, and a 45 MPH speed limit.



I-70B at US 6C – looking south

1st Street

1st Street is a north-south local street between US 6C and Front Street. North of US 6C and south of Front Street the roadway is known as 32½ Road. 1st Street just south of US 6C is a relatively new street



1st Street at US 6C – looking south

with one southbound travel lane, two northbound travel lanes, a raised median and sidewalks. The road is currently used only to access Peach Tree Shopping Center with no direct access to the Clifton residential community south of US 6C. The relatively new section of 1st Street ends approximately 500 feet south of US 6C. Signage and physical barriers prohibit access on 1st Street to the south and to the east along the Grand Avenue alignment. 1st Street south of the barriers is a narrow gravel roadway that intersects with Front Street on the south end, serving as a local access for adjacent properties and as an alley for businesses along 2nd Street.

2nd Street

2nd Street is a north-south local street connecting US 6C and Front Street. The roadway is a two-lane facility with no shoulders or sidewalks. 2nd Street serves businesses, residences, and Clifton Community Hall, as well as local and commuter traffic traveling across the UPRR crossing at 32½ Road. 2nd Street is classified as a local street by Mesa County.



Front Street

Front Street is an east-west two-lane Mesa County roadway with no median or shoulders. The roadway begins east of the 32 Road overpass over the UPRR tracks and travels adjacent to the railroad tracks until the roadway ends at an unsignalized intersection with 33 Road. Front Street is classified as a local facility by Mesa County throughout the study area except between 1st Street and 2nd Street, where it is considered a collector street. This portion of Front Street serves as a connection between 2nd Street and the at-grade railroad crossing at 32½ Road.



Front Street west of 1st Street – looking east

33 Road

33 Road is a north-south two-lane Mesa County roadway extending from the north side of the I-70 freeway, through the project study area, ending 1.5 miles south of F Road at D½ Road. 33 Road general has dirt shoulders and no median through the study area. Private accesses extend along much of the roadway and there is informal parking on the dirt shoulders within the study area. The speed limit along 33 Road is 35 MPH. The roadway is classified as a collector facility by Mesa County.

Roadway Features

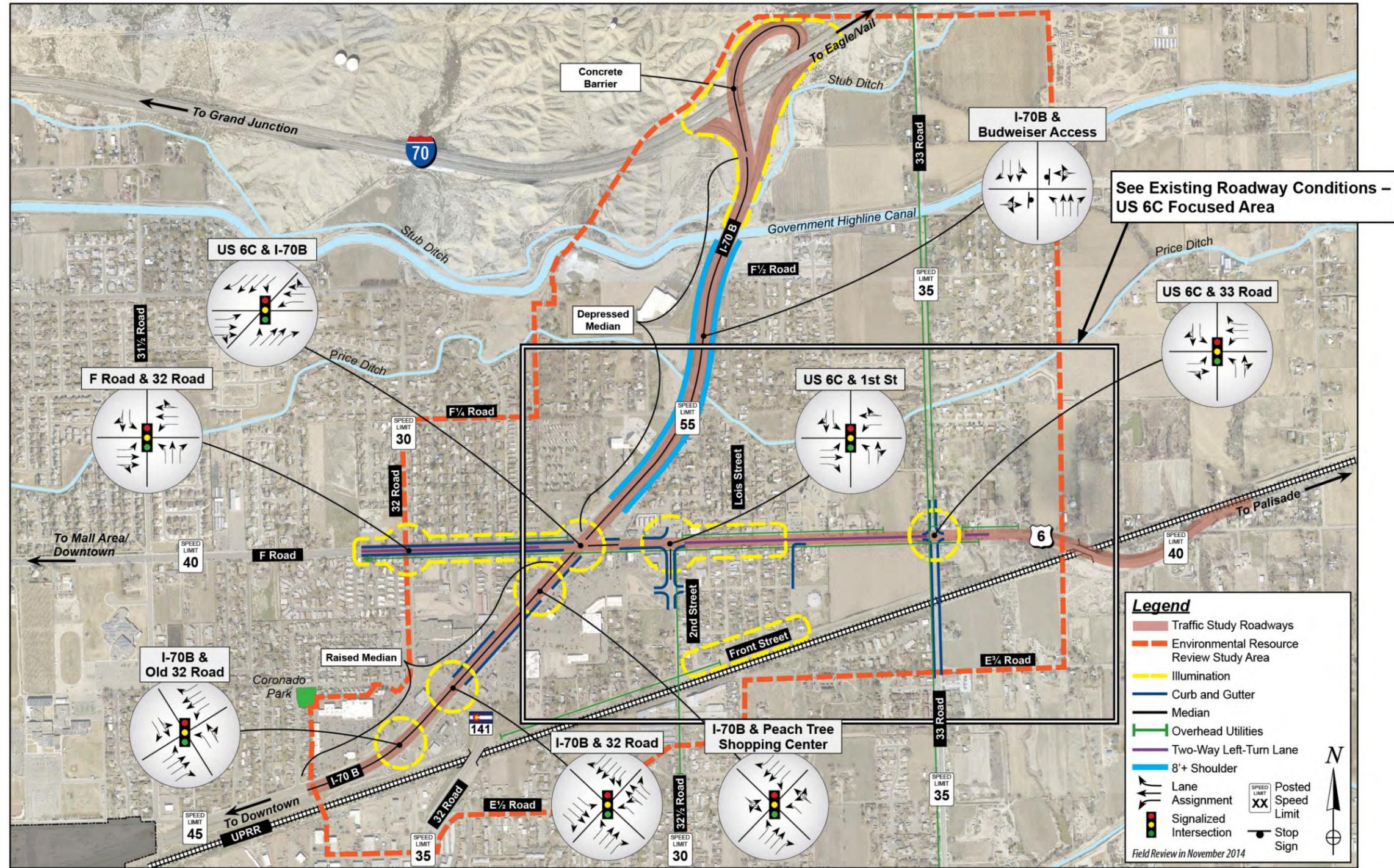
Field visits of the study corridor were conducted in November 2014 to document the conditions of existing relevant roadway features, such as median treatments, curb and gutter, intersection control and land configurations, lighting, and observed design deficiencies. The existing roadway features collected along the corridor are illustrated in **Figures 3 and 4**.

The right-of-way along US 6C is fairly consistent with approximately 60-foot width east of 1st Street, widening out to about 100 feet at the 33 Road intersection. Through downtown Clifton, there is attached sidewalk provided on the north side of the roadway between I-70B and 1st Street, providing access to the park-n-ride lots at the intersection. Sidewalk is also provided on the south side of the roadway between the pedestrian signal at Clifton Elementary School and 5th Street, providing a short section of pedestrian access between the school and the south residential area. Most of the US 6C corridor lacks sidewalk through the study area. The existing multimodal facility conditions are described in the Corridor Multimodal Mobility section later in this report.

There are six signalized intersections along the US 6C and I-70B corridors within the study area, all operated by CDOT. The I-70B intersections with US 6C, Peach Tree Shopping Center Access, 32 Road, and Old 32 Road have 120-second cycle lengths and are coordinated by time-of-day signal coordination. The US 6C and 1st Street signal operates on a 60-second cycle length and is coordinated with the signal at I-70B. The US 6C and 33 Road signal operates on a 60-second cycle length with no coordination with other signals in the area. On the west end of the study area, the F Road and 32 Road signalized intersection is operated by Mesa County and is not coordinated with the other signals in the study area.



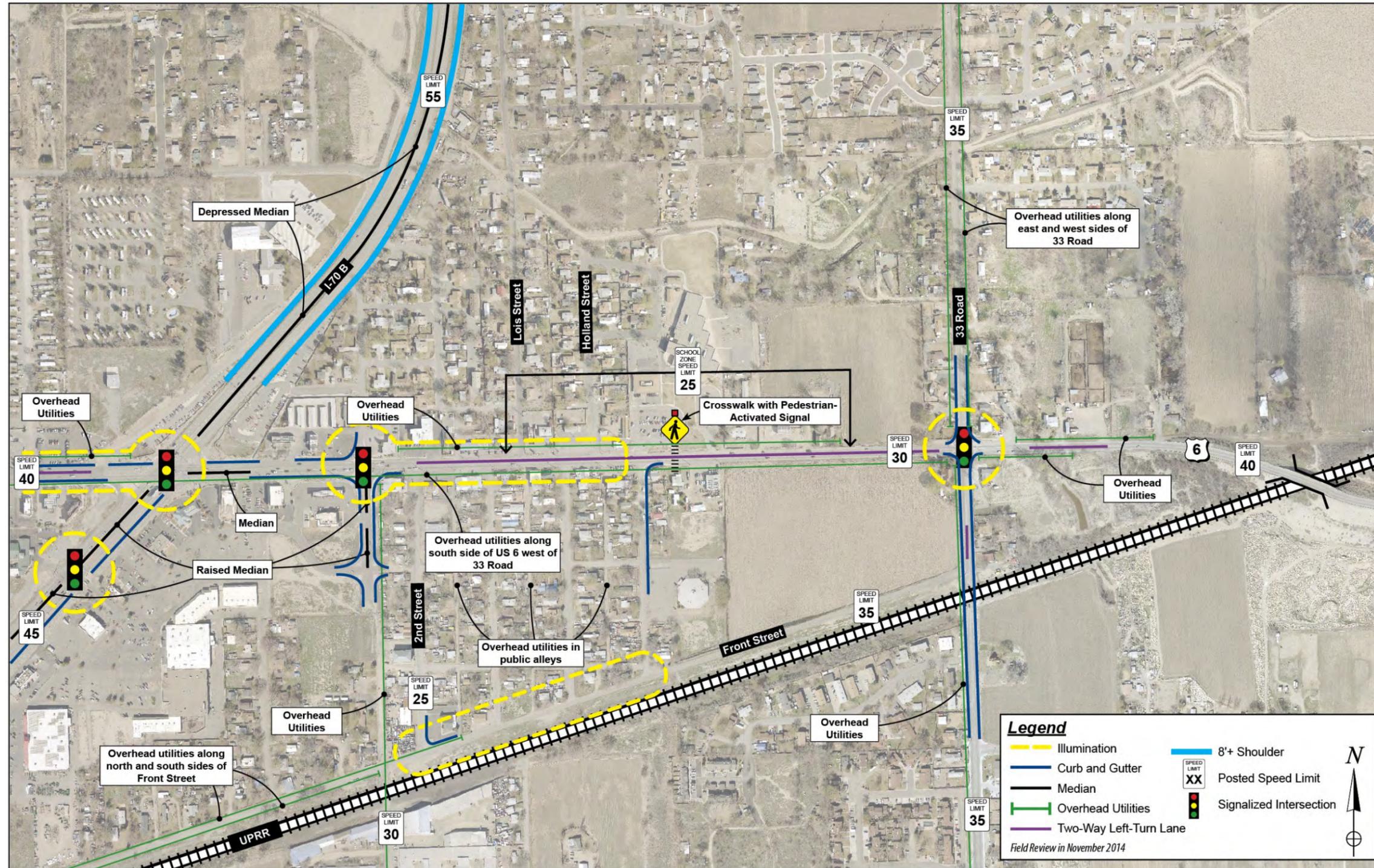
Figure 3: Existing Roadway Conditions – Entire Study Area



Source: DEA field observations, 2014



Figure 4: Existing Roadway Conditions – US 6C Focused Area



Source: DEA field observations, 2014



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The unsignalized intersections and accesses along the US 6C corridor through downtown Clifton operate with no movement restrictions. The following is a list of the public roadway accesses along US 6C from I-70B to 33 Road:

- I-70B
- 1st Street (32½ Road)
- 2nd Street
- Smallwood Lane
- 3rd Street
- Lois Street
- 4th Street
- Holland Street
- 5th Street
- 33 Road
- Four alleyways between 1st Street and 5th Street



US 6C at 4th Street – looking west

All other access points along US 6C through downtown Clifton are property driveways and accesses.

Lighting along the US 6C corridor is limited to street lights on traffic signal poles and a short segment of continuous roadway lighting between 1st Street and 5th Street. There is also continuous roadway lighting along Front Street between 2nd Street and 5th Street and along F Road west of I-70B.

Roadway Deficiencies

The US 6C study corridor from I-70B to 33 Road was reviewed for potential roadway deficiencies, including clear zone/obstructions, side slope (i.e., too steep without guardrail), sight distance (vertical and horizontal), lane taper lengths, and sidewalk gaps. Potential deficiencies along US 6C as well as the other main corridors in the study area are identified in **Figures 3 and 4**. The existing sidewalk conditions are described in the Corridor Multimodal Mobility section of this report.



US 6C at Lois Street – looking west

There are a variety of obstacles within a few feet of the through lanes on each side of US 6C through downtown Clifton, including utility poles and business signage. These obstacles are likely within the roadway clear zone and evaluation of these elements will occur as part of the alternatives analysis phase of the study. The roadway grades are relatively flat and the area roadways generally have minimal to no horizontal curvature, so sight distance does not appear to be an issue.



Upon visual inspection, the pavement throughout the study area appears to be in fairly decent condition. Portions of the Front Street pavement appear to have degraded and shoulders along Front Street are minimal to nonexistent. Pavements along US 6C, 33 Road, and I-70B are in good condition, and much of the curb, gutter, and sidewalk (or monolithic curb, gutter, and sidewalk) in the project area appears to be relatively new and in good condition.

Major Drainage Features

There are two watersheds that cover the project area, the Lewis Wash and Douglas Wash. The west portion of the study area is in Lewis Wash sub-basins. The major stem of Lewis Wash is west of the study area. The east portion of the study area is in the Douglas Wash basin. There are two large washes through the study area, Douglas Wash West and Douglas Wash East. There is inadvertent detention on the Douglas Wash West at the UPRR south of US 6C. The Douglas Wash West crosses the I-70 ramp via a 10-foot by 5-foot concrete box culvert (CBC). **Table 2** lists locations of larger drainage structures and their capacity for passing runoff per the existing master plans.

Table 2: Major Drainage Structures in Study Area

LOCATION	STRUCTURE	FLOW RATE CAPACITY
Douglas West Wash at UPRR	2 – 30” Reinforced Concrete Pipe (RCP)	71 cfs
Douglas West Wash at US 6C	48” pipe	114 cfs
Douglas West Wash at 33 Road	24” RCP	20 cfs
Douglas West Wash at I-70	10’ x 6’ CBC	606 cfs
Douglas West Wash at I-70 Ramp	10’ x 5’ CBC	518 cfs
Douglas East Wash at F Road	5’ x 6’ CBC	247 cfs
Douglas East Wash at US C6	10’ x 5’ CBC	392 cfs
Douglas East Wash at UPRR	108” CMP	851 cfs
Douglas East Wash at Price Ditch	11’ x 3.5’ x 5’ Weir Structure	292 cfs
Douglas East Wash at F½ Road	3.5’ x 3.5’ CBC	36 cfs
Douglas East Wash at Government Highline Canal	60” RCP	235 cfs
Douglas East Wash at 33 Road	8’ x 4.5’ CBC	271 cfs
Douglas East Wash at I-70	10’ x 6’ CBC	637 cfs

Source: Douglas Wash Drainage Basin Master Plan

There is no FEMA regulated floodplain within the study area as shown on FIRM Panel 08077C0830F and FIRM Panel 08077C0835F. The Colorado River 100-year Floodplain is to the south of the study area.

The study area is within the 5-2-1 Drainage Authority Boundary. The 5-2-1 Drainage Authority is an outgrowth of the partnerships between the City of Grand Junction, the City of Fruita, the Town of Palisade, Mesa County and the Grand Valley Drainage District.



Area Master Plans

There are two master plans that cover the study area, both prepared for the 5-2-1 Drainage Authority. The *Lewis Wash Drainage Basin Master Plan* covers the Lewis Wash watershed and sub-basins. The *Douglas Wash Drainage Basin Master Plan* contains information for Douglas Wash West and Douglas Wash East. Both master plans were completed in 2008 by URS and they include larger crossings for streets in and near the study area.

Utilities

Utility information along the US 6C corridor within the study area was obtained from on-site field investigations, Mesa County Geographic Information Systems (GIS) data, and information collected from the utility companies in the area. Known utility providers in the area include:

- Xcel Energy
- CenturyLink
- Clifton Water District
- Clifton Sanitation District
- Charter Communications

Existing stormwater facilities are discussed in the Major Drainage Features section of this report. Other utilities within the area are summarized in **Table 3**.

Utilities within areas of recommended improvements will be documented in the final corridor study report for avoidance and consideration during future design efforts. Further utility contacts and investigation will be required prior to preliminary design of any improvements along the corridor.

Table 3: Utilities in Study Area

LOCATION	DESCRIPTION	COMMENTS
US 6C: I-70B to 33 Road	Overhead electric line – south side	Major feeder line to Clifton and points east
US 6C: I-70B to near 33 Road	Overhead communication lines – north side	
US 6C: I-70B to 33 Road	Overhead communication line – south side	Communication lines on shared poles with electric
US 6C: north/south alleys	Overhead electric and communication lines	Overhead power and communication lines on shared poles in alleys feed neighborhoods north and south of US 6C.
US 6C: I-70B to 33½ Road	Buried high-pressure gas line	Within roadway prism
US 6C: I-70B to 33½ Road	Buried distribution gas lines	Lines vary from 2” to 8”. Generally one line only, except between Lois Street and Holland Street, where there are 3 lines in US 6C.
US 6C: I-70B to 33½ Road	Water line	
US 6C: north/south cross streets	Buried distribution gas lines	Generally 2” lines to south. Lines vary (2” min to 8” max) to north. These lines feed neighborhoods north and south of US 6C.
US 6C: north/south cross streets	Water line	
US 6C: I-70B to 2 nd Street	Sanitary Sewer	
US 6C: 4 th Street to 5 th Street	Sanitary Sewer	
US 6C: north/south cross streets	Sanitary Sewer	Buried in roadways, generally along west side of each road
33 Road	Overhead electric line	Along west side of road
33 Road	Overhead communication lines	On shared poles with electric
33 Road	Buried distribution gas line	2” north of US 6C; 4” south of US 6C
33 Road	Sanitary Sewer	Buried in southbound lane
Front Street: 32 Road to 3 rd Street	Overhead electric line – north side	
Front Street	Overhead communication line – north side	On shared poles with electric
Front Street	Overhead communication line – south side	
Front Street	Water line	
Front Street	Sanitary Sewer	Between 32 Road and Laura Avenue, south side of road
Railroad right-of-way paralleling Front Street	Railroad communication lines	

Source: Utility company key maps and GIS, DEA field observations



Irrigation

During the field review in November 2014, many properties were observed to be served by underground irrigation. Throughout the Grand Valley, these subsurface irrigation systems serve individual properties. The water is used to irrigate lawns, landscaping, and crops. Headgates, pipes, valves, and other appurtenances are frequently placed at or near to the property and/or right-of-way lines. Most of the study area falls within the Palisade Irrigation District. The northern limits of the study area are within Mesa County Irrigation District, and the Grand Valley Irrigation District borders the study area to the south.

There are a number of irrigation ditches in the vicinity: three within the study area, including Stub Ditch, Government Highline Canal, and Price Ditch and one just to the south of the site, the Grand Valley Canal. The Government Highline Canal and its laterals are operated by the Grand Valley Water Users' Association.

The irrigation facilities within areas of recommended improvements will be documented in the corridor study report for avoidance and consideration during future design efforts. Further discussions with the irrigation companies and additional investigation will be required prior to preliminary design of any improvements along the corridor. These future discussions will coincide with any other utility coordination.

VEHICULAR TRAFFIC OPERATIONS

Due to vehicular interactions between closely-spaced intersections, the capacity and operations of an urban arterial corridor, such as US 6C through downtown Clifton, is typically defined by the operations of the intersections. Intersection and corridor operational analyses were completed for the US 6C Clifton Transportation Study utilizing methods outlined in the latest *Highway Capacity Manual* (HCM 2010) and using Synchro and SimTraffic (Version 8, build 805, revision 881) traffic analysis software. The existing intersection and corridor lane configurations and balanced peak hour traffic volumes for existing and the horizon year (2040) were used to analyze the Levels of Service (LOS) and control delay at each study intersection for the AM and PM peak hours for each of the analysis years.

LOS is directly related to control delay and is a measure of traffic flow and level of congestion at an intersection measured on a scale of A to F. LOS A describes conditions with essentially uninterrupted flow and minimal delay. LOS F describes a breakdown of traffic flow where there exists excessive congestion delay. Signalized capacity analysis results in an overall LOS representative of all movements through the intersection. Unsignalized capacity analysis produces LOS results for each vehicle movement that yields the right-of-way to conflicting traffic. **Table 4** summarizes the signalized and unsignalized LOS thresholds used in this analysis.

This section describes the existing and expected future intersection and roadway traffic operations to identify locations with operational problems and recurring congestion issues. This information will be used for the determination of the project needs and development of alternatives.

Table 4: Intersection LOS Criteria

INTERSECTION LOS CRITERIA		
LOS	SIGNALIZED DELAY RANGE ¹ (SEC)	TWO-WAY STOP CONTROL DELAY RANGE ² (SEC)
A	0 – 10	0 – 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	80 and above	50 and above

Source: ¹HCM 2010 Exhibit 18-4, page 18-6

²HCM 2010 Exhibit 19-1, page 19-2



The LOS of an urban street facility can also be measured based on the travel speed of vehicles traveling through a segment of the corridor. Travel speed is a reflection of the influence of intersection control, traffic flow, and congestion along a corridor, measured on a scale of A to F. LOS A describes primarily free-flow operation with travel speeds exceeding 85% of the base free-flow speed. LOS F is characterized by heavy congestion, high delay, and extensive queuing with travel speeds at 30% or less of the base free-flow speed. **Table 5** summarizes the LOS thresholds for vehicles on urban streets.

Table 5: Urban Streets LOS Criteria

URBAN STREET LOS CRITERIA	
LOS	TRAVEL SPEED AS A PERCENTAGE OF BASE FREE-FLOW SPEED
A	> 85%
B	> 67 – 85%
C	> 50 – 67%
D	> 40 – 50%
E	> 30 – 40%
F	<= 30%

Note: LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections exceeds a 1.0 volume-to-capacity ratio.

Source: HCM 2010 Exhibit 16-4, page 16-8

Existing Traffic Conditions

Traffic count data were collected within the study area in November 2014. Current and historical traffic count data were also compiled as available from Mesa County and CDOT. The traffic count data are included in **Appendix B**.

Daily Traffic Volumes

Daily traffic provides a perspective on how traffic levels compare for the intended facility type. Daily traffic volumes were collected for the study at the following 16 locations:

- I-70 and I-70B interchange (all four ramps)
- I-70B north of US 6C
- I-70B southwest of 32 Road
- F Road west of 32 Road
- US 6C east of I-70B
- US 6C west of 33 Road
- US 6C east of 33 Road
- 33 Road north of US 6C
- 33 Road south of US 6C
- F½ Road east of Lois Street



- Lois Street north of US 6C
- 2nd Street south of US 6C
- Front Street west of 33 Road

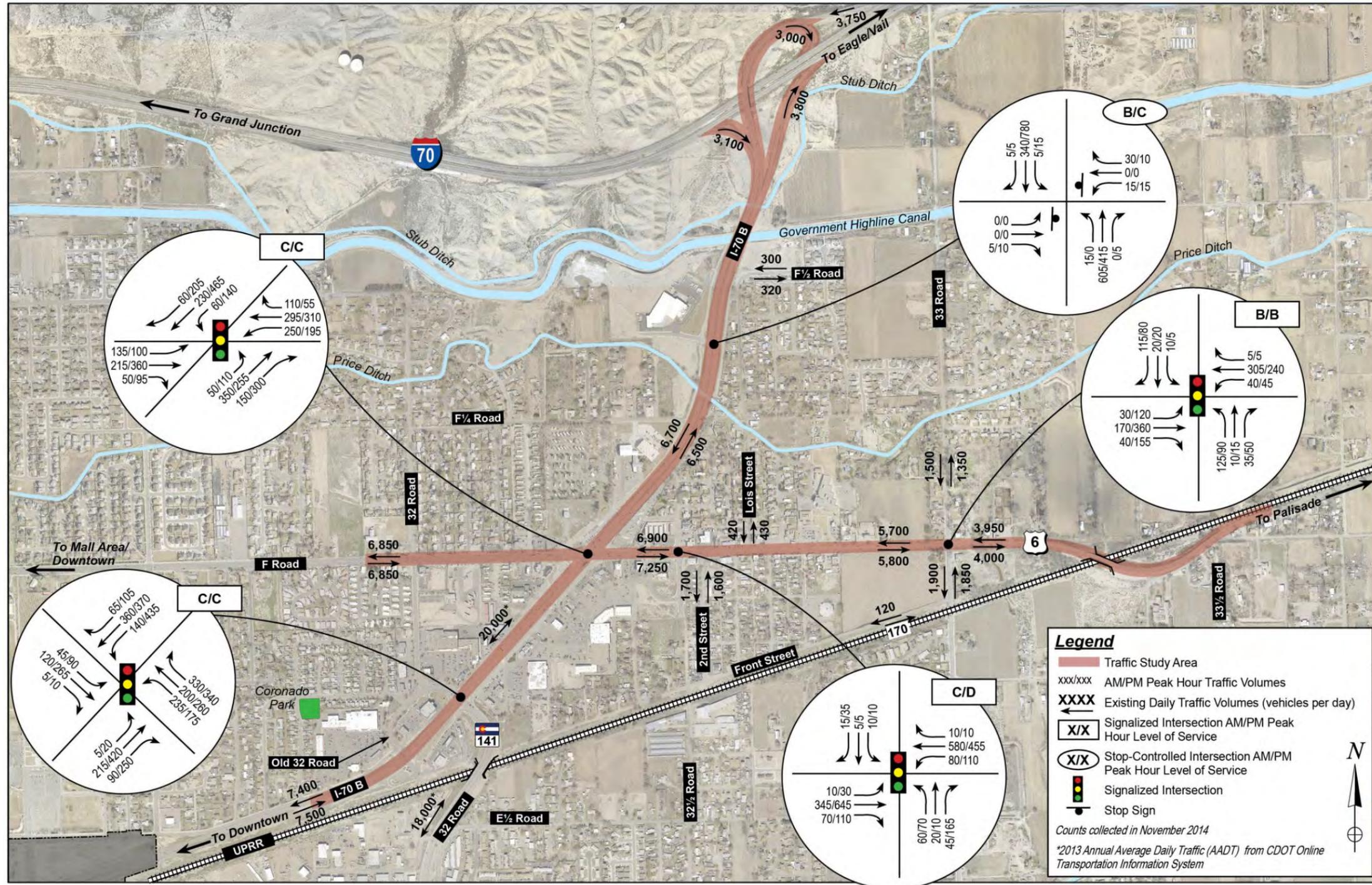
The daily traffic counts collected for the project are shown in **Figure 5**. The daily traffic volumes are the average for two days of data collection. The highest traffic volumes along US 6C within the study area occur just east of the I-70B intersection with approximately 14,150 vehicles per day (vpd). The traffic volumes along US 6C west of 33 Road are approximately 11,500 vpd, while just east of 33 Road volumes drop to approximately 7,950 vpd. The traffic volumes along US 6C, particularly at the west end of the study corridor, are near the planning-level capacity limits for a three-lane minor arterial with closely-spaced intersections and no access control restrictions.

West of 32 Road, F Road carries approximately 13,650 vpd, which is well within the capacity of a four-lane minor arterial. The highest traffic volumes along I-70B through the study area were collected southwest of 32 Road with approximately 14,900 vpd. North of US 6C, I-70B carries approximately 12,150 vpd, while south of the I-70 interchange, I-70B carries approximately 12,700 vpd.

Vehicle classification count data were also collected at select locations in order to measure truck traffic. Heavy trucks (vehicles with 3 or more axles) accounted for almost 5% of daily vehicles on I-70B north of US 6C. The westbound off-ramp and eastbound on-ramp accounted for the highest percentage of heavy trucks at about 7% and 6%, respectively. Heavy trucks accounted for about 1% of daily traffic on US 6C west of 33 Road while almost 2% of traffic along 33 Road south of US 6C were heavy trucks.



Figure 5: Existing Traffic Volumes and Levels of Service



Source: All Traffic Data, November 2014



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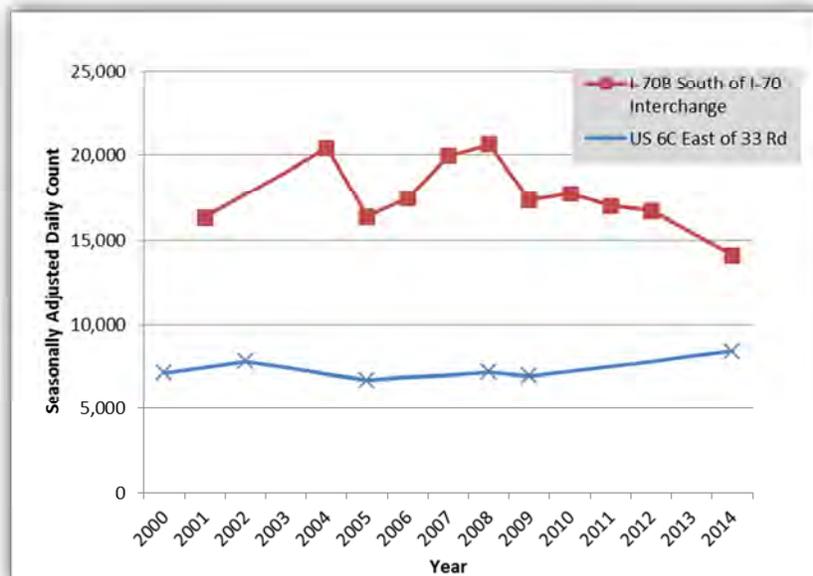
Historical Traffic Data

Traffic volumes throughout the year may fluctuate daily throughout the week and seasonally throughout the year. The daily traffic counts for this study were collected during November 2014. Based on historical seasonal factors provided by CDOT for each of the state highway corridors, the counts along US 6C may be lower than the average annual daily traffic (AADT) volumes by approximately 6%. Also, the counts along I-70B may be lower than the AADT volumes by approximately 3%.

Historical CDOT traffic count data were compiled for locations along US 6C and I-70B. Of the locations along US 6C and I-70B where daily traffic counts were collected for this study, CDOT has collected traffic counts over the past ten years at US 6C west of 33 Road and at I-70B south of the I-70 interchange. The traffic count data at these two locations are shown on **Figure 6**. The historical counts, almost exclusively taken during June, July, and August, were adjusted by CDOT seasonal factors to compare with the seasonally-adjusted traffic count data collected for this study.

As shown, traffic along US 6C east of 33 Road has remained fairly steady with slight growth based on the 2014 traffic counts collected for this study. Traffic counts along I-70B between US 6C and the I-70 interchange have fluctuated greatly over the years and the 2014 traffic counts collected for this study are the lowest traffic collected since 2001, despite seasonal adjustments. The economic conditions over the past few years may be a contributing factor to low traffic volume growth in the area. However, given the historical fluctuation in traffic counts along I-70B, the relatively low traffic volume collected for this study is not believed to be an indication of a continuing downward trend in traffic along I-70B.

Figure 6: I-70B and US 6C Traffic Data (2000-2014)



Note: Traffic counts adjusted for monthly variation using CDOT seasonal factors
 Source: CDOT (2000-2012 Counts), All Traffic Data (2014 Counts)



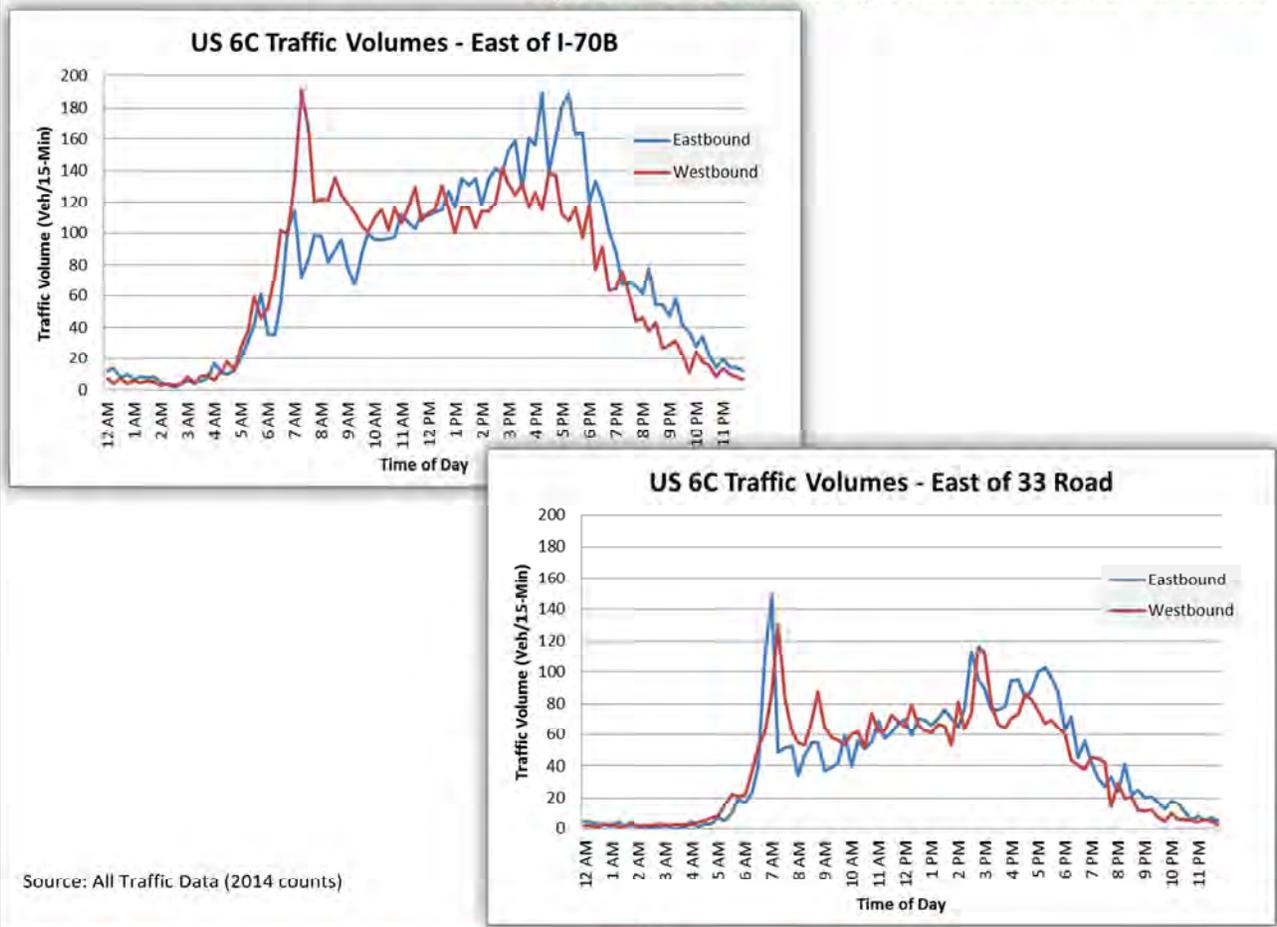
Hourly Traffic Variation

Figure 7 shows the 15-minute variation of the daily counts collected at two locations along US 6C; east of I-70B (at the west end of downtown Clifton) and east of 33 Road (at the east end of the study area). The counts at both locations show distinct increases in traffic volumes during the AM and PM commuting peak periods, although the overall duration of peak traffic conditions lasts less than an hour.

US 6C traffic east of I-70B is characterized by peak directionality with heavy traffic flow in the westbound direction, towards Grand Junction, in the morning and in the eastbound direction, toward Palisade, in the evening. This traffic pattern is a reflection of the high use of the corridor by commuters living in Palisade and the east Grand Valley destined for Grand Junction.

US 6C traffic east of 33 Road is characterized by a well-defined spike in the morning and less pronounced peak traffic flows in the evening. Unlike traffic along the west end of the study area, traffic along US 6C east of 33 Road does not display distinct directionality with the eastbound traffic volume higher than the westbound traffic volume during both the morning and evening commute periods. However, there is a traffic peak in the late afternoon with the westbound traffic slightly higher than the eastbound direction. This may be due to the afternoon release of area schools in Clifton and Palisade.

Figure 7: US 6C Weekday 15-Minute Traffic Variations

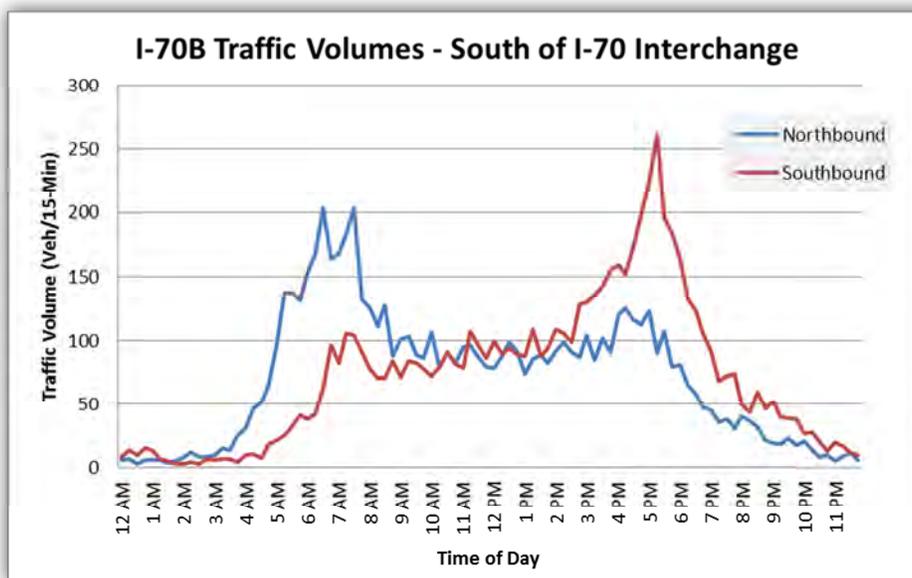


Source: All Traffic Data (2014 counts)



Figure 8 shows the 15-minute variation of the daily counts collected along I-70B south of the I-70 interchange. I-70B traffic at this location is characterized by peak directionality with heavy traffic flow in the northbound direction, toward the I-70 interchange, in the morning and in the southbound direction, toward Grand Junction and the Clifton area, in the evening. Reviewing traffic volumes on the entrance ramps at the interchange, the northbound morning traffic includes two distinct peaks: a 5:30 to 6:30 am peak of traffic destined for eastbound I-70 followed by a 7:15 to 7:45 am peak of traffic destined for westbound I-70. The southbound evening traffic is one large peak period that includes a distinct 5:00 to 5:30 pm peak for traffic from the I-70 eastbound off ramp and a flatter peak from 4:30 to 6:00 pm from the I-70 westbound off ramp.

Figure 8: I-70B Weekday 15-Minute Traffic Variations



Source: All Traffic Data (2014 counts)

Peak Hour Traffic Volumes

Peak hour intersection traffic volumes are used to evaluate and quantify traffic operations and capacity of an urban arterial roadway system. Peak hour intersection counts were collected for this study at the following five locations.

- I-70B at Budweiser Access (Unsignalized)
- I-70B and US 6C (F Road) (Signalized)
- I-70B and 32 Road (SH 141) (Signalized)
- US 6C (F Road) and 1st Street (Signalized)
- US 6C (F Road) and 33 Road (Signalized)



Peak hour intersection counts were available at the same intersections along US 6C and I-70B for 2007 and 2008. Comparing the 2014 data collected for this study to the earlier data reveals that peak hour traffic along US 6C has not substantially changed over the last seven years. In addition to the recent economic conditions, the lack of traffic growth may also be a reflection of the delays experienced at the intersections during the morning and afternoon peak periods and commuters using alternate routes to avoid the congestion.

In order to analyze and simulate traffic operations along the US 6C corridor with Synchro traffic analysis software, a network of AM and PM peak hour traffic with volumes balanced between major intersections was created. The counts collected for this study were utilized in conjunction with other available traffic volume data to balance peak hour traffic volumes through the corridor.

Existing Traffic Operational Analysis

Existing intersection traffic operations are illustrated in **Figure 5** and summarized in **Table 6**. As shown, all intersections operate at LOS C or better during both peak hours except the US 6C and 1st Street intersection, which operates at LOS D during the PM peak hour. Existing intersection operation reports are included in **Appendix C**.

Table 6: Existing Intersection Performance

INTERSECTION	CONTROL	EXISTING AM / PM PEAK HOUR	
		DELAY (SEC)	LOS
I-70B & Budweiser Access	Stop	14.9 / 17.7	B / C
I-70B & US 6C (F Road)	Signal	20.0 / 25.3	C / C
I-70B & 32 Road (SH 141)	Signal	26.7 / 34.8	C / C
US 6C (F Road) & 1 st Street	Signal	23.6 / 43.8	C / D
US 6C (F Road) & 33 Road	Signal	11.3 / 11.6	B / B

Note: Signalized intersection reported with delay and LOS

Stop-controlled intersection reported with worst movement delay and LOS

Source: DEA analysis with HCM 2010 methods

In addition to intersection LOS, corridor LOS was determined for segments of US 6C to indicate overall performance of the roadway through the study area. Average travel speeds along US 6C between I-70B and 33 Road were measured using traffic simulation software SimTraffic. Corridor LOS was determined based on the average speeds and is summarized by direction during the peak hours in **Table 7**. Existing corridor operation reports are included in **Appendix C**.

In the eastbound direction, the US 6C corridor between I-70B and 1st Street performs at LOS D and E during the AM and PM peak hours, respectively. East of 1st Street, the roadway performs at LOS C or better during the peak hours. In the westbound direction, the US 6C corridor between I-70B and 2nd Street performs at LOS E or worse during both peak hours. East of 2nd Street the corridor performs at LOS A during the AM and PM peak hours.



Table 7: Existing US 6C Corridor Performance

US 6C		EXISTING AM / PM PEAK HOUR	
DIRECTION	SEGMENT EXTENTS	SPEED (MPH)	LOS
Eastbound	I-70B to 1 st Street	13 / 10	D / E
	1 st Street to 2 nd Street	20 / 17	C / C
	2 nd Street to 33 Road	25 / 25	B / B
	Overall	20 / 18	C / C
Westbound	33 Road to 2 nd Street	28 / 29	A / A
	2 nd Street to 1 st Street	8 / 9	F / F
	1 st Street to I-70B	9 / 11	F / E
	Overall	17 / 18	C / C

Source: DEA analysis with HCM 2010 methods

During the AM peak hour, congestion at the I-70B and 1st Street intersections results in the longest vehicle queues generally occurring in the westbound direction. At 1st Street, 95th percentile westbound vehicle queues extend beyond the 2nd Street intersection due to the tight intersection spacing. During the PM peak hour, congestion is greatest in the eastbound direction between I-70B and 1st Street and results in 95th percentile vehicle queues that extend over halfway to the I-70B intersection.

General Operational Issues

There are numerous traffic operations issues along the US 6C corridor through downtown Clifton that do not lend themselves to a simple LOS description.

I-70B Intersection

The I-70B and US 6C intersection has a relatively large footprint with I-70B crossing US 6C at about a 45-degree angle. The skew of the intersection creates geometric challenges as several movements must make sharp turns at lower speeds. The flexibility of the signal timing is limited due to the clearance requirements for each movement through the relatively large intersection. The large intersection is also intimidating for pedestrians to cross, even with the large corner island refuges.

The signal at I-70B and US 6C is 700 feet west of the 1st Street and US 6C signalized intersection. There are five lanes on US 6C west of 1st Street and a three-lane section east of 1st Street, with the outside lanes adding and dropping at the 1st Street signal. The lane changes and merging conditions that occur between the signals creates recurring operational issues, particularly in the eastbound direction with the additional merge from the northbound I-70B right turn acceleration lane.

Queuing problems along US 6C generally occur at I-70B in the westbound direction during the AM peak period and in the eastbound direction at 1st Street during the PM peak period, consistent with the peak hour commuting travel direction of the corridor. The congestion at the 1st Street intersection affects the capacity of the I-70B intersection and queuing along the I-70B approaches.



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US 6C Access Control

The lack of access control along US 6C east of 1st Street creates numerous unmanaged left turns and crossing movements of traffic, which contributes to congestion and creates a safety issue. The *US 6 – Clifton Access Control Plan* was completed for the study corridor in 2008 and the recommendations for access restrictions have been implemented between I-70B and 1st Street. However, all of the existing access points between 1st Street and 33 Road remain as full movement intersections. There is a continuous two-way left-turn lane and no curb and gutter along the highway and several properties have pavement across the entire frontage length of the property, which allows unlimited maneuvers for turning traffic on and off the highway.



Property frontage along US 6C at 4th Street

In addition to being a safety issue for drivers, this condition is a safety concern for pedestrians and bicyclists along the corridor. Without a defined access, it is more difficult for pedestrians and bicyclists to anticipate driver movements to avoid conflicts.

The ACP outlines specific recommendations for the location of existing and future access points along the US 6C corridor, as well as the type of traffic control at each intersection. The recommendations from the ACP will be considered as part of the base alternative and may be modified, if needed, with project recommendations from this study.

Parking

Many of the local business properties along US 6C through downtown Clifton are relatively shallow and utilize the entire paved frontage for undefined parking space. This parking situation contributes to congestion and operational issues along the corridor as drivers access the properties at various turning angles and speeds, sometimes backing up into the highway through traffic.



Property parking along US 6C at 2nd Street undergoes redevelopment.

The condition of adjacent local business parking also affects the implementation of access control along the corridor, since simply defining a single driveway for a property would not be easily accomplished unless a property

Clifton Elementary School

Clifton Elementary School has students from Preschool through 5th grade. Mesa County School District 51 does not provide bus service for students living within two miles of an elementary school. Therefore,



adequate pedestrian and bicyclist access, suitable for young children, is a primary concern for Clifton residents with children attending the elementary school. There is a crosswalk with a pedestrian-activated traffic signal east of 5th Street to provide access across the highway at the school. However, there is no sidewalk along the north side of US 6C at the school and only a short segment of sidewalk along the south side of US 6C, leading from the pedestrian signal to 5th Street.

School begins at 8:25 am each day and ends at 3:50 pm every day except Wednesday, when there is early dismissal at 1:50 pm. There is a dedicated drop off/pick up area around the perimeter of the



Pedestrian signal at Clifton Elementary School

parking lot and a bus area with a separate access to US 6C east of the pedestrian signal. There are signs on the local streets on the northwest edge of the school property to discourage parent drop off/pick up traffic in the residential area. During school drop off/pick up periods, congestion along the highway increases with the slower (25 MPH) school speed zone, additional pedestrian activity, and traffic accessing the school parking lot.

Future Traffic Conditions

The horizon year for this study is 2040, consistent with the horizon year for the current GVMPO regional travel demand model. The 2040 travel demand model was developed for the *2040 Grand Valley Regional Transportation Plan*, currently being finalized.

Travel Demand Model

The GVMPO 2040 regional travel demand model was used to develop 2040 traffic forecasts for the study area roadways. In coordination with GVMPO planning staff, the GVMPO model was reviewed for the purposes of this study. The roadway network, traffic analysis zone structure, and socioeconomic data were reviewed and determined to adequately represent the study area and surrounding region.

Due to the complexity of real-world travel behavior, the GVMPO travel demand model is not expected to provide precise traffic volume forecasts. To improve the reliability of forecasts, a post-processing adjustment of the 2040 traffic volumes was performed in coordination with GVMPO staff. The adjustment methodology compared the existing year model traffic volumes to actual traffic counts in the study area. The 2040 traffic forecasts were adjusted based on this factor for model versus actual traffic volumes. **Appendix D** provides further detail regarding the travel demand forecasting methodology and the 2040 traffic forecast volume adjustments.

2040 Traffic Conditions

Traffic forecasts for year 2040 within the study area are illustrated in **Figure 9**, along with the projected intersection levels of service. Traffic along US 6C within the study area is projected to increase between approximately 3,000 and 7,000 daily vehicles by 2040 with the greatest increases occurring along the



west end of the corridor. Immediately east of the I-70B intersection, US 6C traffic is projected to increase by just fewer than 7,000 vehicles, to 21,000 daily. This equates to a 1.3% annual increase in daily traffic volumes from the existing year. This traffic volume may be accommodated adequately by a three-lane minor arterial with limited peak hour congestion, if there are comprehensive access control restrictions and adequate spacing between full movement intersections.

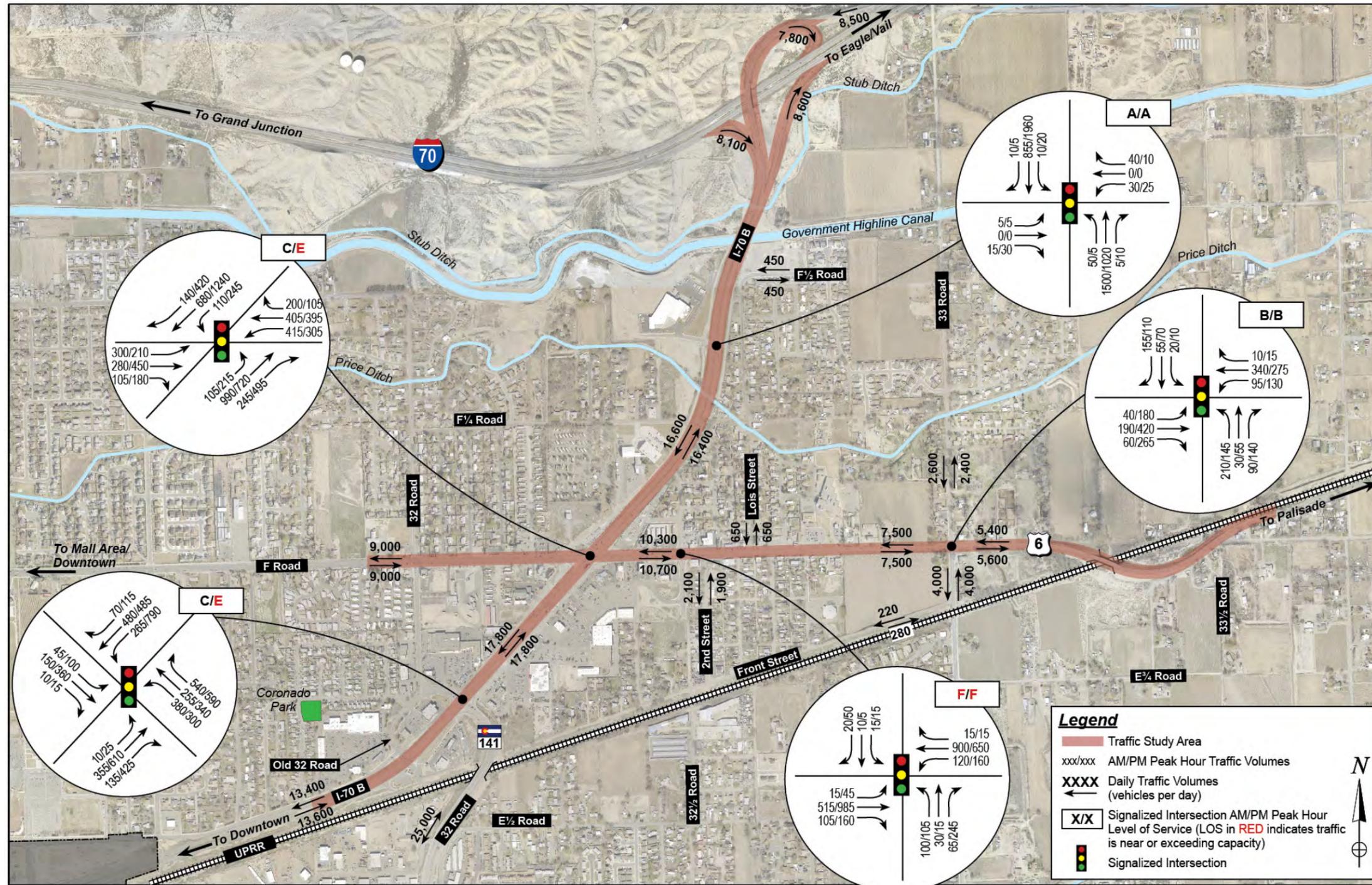
West of 33 Road, traffic along US 6C is projected to increase by approximately 3,500 vehicles daily while east of 33 Road traffic is expected to increase by approximately 3,000 vehicles. This equates to a 0.8% and 1.0% annual increase in daily traffic along US 6C west and east of 33 Road, respectively.

Traffic along I-70B is projected to increase between approximately 13,000 and 24,000 daily vehicles by 2040. Between the I-70 interchange and the US 6C intersection, daily traffic is projected to increase by over 19,000 vehicles to 33,000 daily. This equates to an increase in daily traffic volumes of approximately 3.5% annually from the existing year to year 2040. Along I-70B south of Old 32 Road, daily traffic is projected to increase by over 12,000 vehicles to 27,000 daily, an increase of over 2% annually.

These traffic forecasts are substantially lower than the traffic forecasts utilized by previous transportation plans and studies within the area, which were developed for the *Grand Valley 2035 Regional Transportation Plan*. The population, economic, and travel demand forecasts used at that time suggested that the region would experience robust growth rates. However, as noted in the *Grand Valley 2040 Regional Transportation Plan*, the economic downturn significantly dampened current and future growth rates. Newer population forecasts revised growth rates downward in the near and mid-term, so that the region is expected to grow more slowly. The revised population and employment forecasts for the region greatly reduced the traffic forecasts along US 6C. However, the corridor still faces capacity constraints, operational issues, and safety concerns.



Figure 9: Year 2040 Traffic Volumes and Levels of Service



Source: Mesa County Regional Travel Model, DEA



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The 2040 peak hour traffic operations are summarized in **Table 8** along with results of the existing operational analysis for comparison. The Budweiser Access intersection with I-70B was analyzed as a signalized intersection based on plans to install a signal for development by 2040. The intersection operation reports are included in **Appendix C**.

As shown, three of the five signalized intersections along the US 6C and the I-70B study corridors are projected to operate at LOS E or worse during the 2040 AM and/or PM peak hours, assuming no improvements to the existing corridors other than the new signal at the Budweiser Access intersection. The intersections with reported LOS E or worse operations include I-70B and US 6C, I-70B and 32 Road, and US 6C and 1st Street. All three intersections are expected to operate at LOS E or worse during the PM peak hour while the US 6C and 1st Street intersection is expected to operate at LOS F during the AM peak hour. Both the I-70B and Budweiser Access and US 6C and 33 Road signalized intersections are expected to operate at LOS B or better during the peak hours

Table 8: Existing and Year 2040 Intersection Performance

INTERSECTION	CONTROL	EXISTING AM/PM PEAK HOUR		2040 AM/PM PEAK HOUR	
		DELAY (SEC)	LOS	DELAY (SEC)	LOS
I-70B & Budweiser Access ¹	Stop	14.9 / 17.7	B / C	-	-
	Signal	-	-	3.9 / 6.2	A / A
I-70B & US 6C (F Road)	Signal	20.0 / 25.3	C / C	27.7 / 61.4	C / E
I-70B & 32 Road (SH 141)	Signal	26.7 / 34.8	C / C	29.5 / 55.2	C / E
US 6C (F Road) & 1 st Street	Signal	23.6 / 43.8	C / D	112.4 / 172.1	F / F
US 6C (F Road) & 33 Road	Signal	11.3 / 11.6	B / B	11.8 / 16.0	B / B

Note: Signalized intersection reported with delay and LOS

Stop-controlled intersection reported with worst movement delay and LOS

Source: DEA analysis with HCM 2010 methods

US 6C corridor performance in 2040 was analyzed and the results are summarized and compared to 2014 results in **Table 9**. The corridor operation reports are included in **Appendix C**. In general, travel speeds along the corridor will deteriorate. In the eastbound direction, performance between I-70B and 1st Street will degrade to LOS E and F during the AM and PM peak hours, respectively. The PM peak hour average speed will decrease to approximately 5 MPH. East of 1st Street, performance is expected to remain at LOS C or better with average travel speeds decreasing by no more than 1 MPH. In the westbound direction, performance between 1st Street and I-70B will remain at LOS F and LOS E during the AM and PM peak hours, respectively. US 6C between 1st Street and 2nd Street will continue to operate at LOS F during the peak hours. East of 2nd Street, the roadway is expected to experience a decrease in average speeds of 10 and 2 MPH during the AM and PM peak hours, respectively. The AM peak hour performance is expected to degrade from LOS A to LOS C.



Table 9: Existing and Year 2040 US 6C Corridor Performance

US 6C		EXISTING AM / PM PEAK HOUR		YEAR 2040 AM / PM PEAK HOUR	
DIRECTION	SEGMENT EXTENTS	SPEED (MPH)	LOS	SPEED (MPH)	LOS
Eastbound	I-70B to 1 st St	13 / 10	D / E	12 / 5	E / F
	1 st St to 2 nd St	20 / 17	C / C	19 / 16	C / C
	2 nd St to 33 Road	25 / 25	B / B	25 / 24	B / B
	Overall	20 / 18	C / C	19 / 13	C / D
Westbound	33 Road to 2 nd St	28 / 29	A / A	18 / 27	C / A
	2 nd St to 1 st St	8 / 9	F / F	7 / 9	F / F
	1 st St to I-70B	9 / 11	F / E	9 / 10	F / E
	Overall	17 / 18	C / C	14 / 17	D / C

Source: DEA analysis with HCM 2010 methods

Queue lengths along the US 6C corridor were also analyzed in 2040 and the results are summarized and compared to 2014 results in **Table 10**. The queue length reports are included in **Appendix C**. By the year 2040, the increase in traffic volumes and lack of operational improvements along the US 6C corridor are expected to result in increased queues at the signalized intersections at I-70B and 1st Street. During the peak hours, the traffic analysis shows the 95th percentile vehicle queues in the westbound direction extend back over 800 feet from 1st Street to beyond Lois Street. During the PM peak hour, congestion in the eastbound direction will result in 95th percentile vehicle queues extending over 1100 feet from 1st Street to the I-70B intersection and beyond. Side street approaches to US 6C between 1st Street and 5th Street are also expected to experience increased queues.

Table 10: Existing and Year 2040 US 6C 95th Percentile Queue Lengths

US 6C		EXISTING QUEUE LENGTH (FEET)		YEAR 2040 QUEUE LENGTH (FEET)	
DIRECTION	INTERSECTION APPROACH	AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR
Eastbound	I-70B	170	230	290	500
	1 st St	280	520	370	1110*
	33 Road	140	200	120	230
Westbound	33 Road	160	100	140	130
	1 st St	350*	310*	850*	530*
	I-70B	230	170	420	270

Note: * Queue length extends to and/or beyond upstream intersection.

Source: SimTraffic queue length analysis



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The increased congestion will result in increased travel times along the corridor and fewer gaps in vehicle platoons that will allow for vehicle turning movements on and off of US 6C. The limited gaps may result in increased safety concerns as drivers must make riskier attempts to turn on and off the highway during the peak travel periods. The number of crashes along US 6C will likely increase as a result of the increased traffic volumes and congestion.

CRASH HISTORY

CDOT is completing a safety assessment for the US 6C corridor from I-70B to 33 Road with estimated completion March 2015. That assessment will compare the crash rate to similar highways to identify potential corrective measures. Previously, CDOT completed an *Access Control Assessment Report* for the US 6C study corridor as part of the *US 6 – Clifton Access Control Plan*. That report examined five years of crash data from January 1, 2000 through December 31, 2005 and it concluded that the highway operates at a level below average for safety and it is expected to become worse in the future as traffic volumes increase. There have been no major changes to the corridor east of 2nd Street since that report. In addition, the ACP noted that the lack of defined access points at many locations along the corridor plus a lack of adequate sidewalks for the vast majority of the corridor create unsafe conditions for pedestrians. As traffic volumes increase in the future, the overall safety for pedestrians using the US 6C corridor is expected to decrease.

This section describes an evaluation of the crash history for roadways within the study area. This information will be used for the determination of the project needs and development of alternatives with potential corrective measures to improve safety.

In order to identify general crash trends for this study prior to the completion of the new safety assessment report, CDOT crash data along US 6C and I-70B were compiled and reviewed for a five-year period from July 2009 through June 2014. Additional crash data along 1st Street, 2nd Street, 33 Road, and Front Street was provided by Mesa County, covering a five-year period from January 2009 through December 2013.

The vast majority of the crashes along US 6C within the study area occurred along the west half of the corridor, from I-70B to 5th Street. Due to the close proximity of intersections, alleys, and business accesses along US 6C, it is difficult to accurately assign crashes to individual intersections and access points. For this reason, crashes are summarized by segment along US 6C.

For I-70B, crashes were summarized for the I-70B and US 6C intersection and for segments north and south of US 6C. The type of crashes (rear end, broadside, head-on, sideswipe, etc.) occurring along the roadway is an important consideration because it not only relates to the severity of the crashes, but also to the potential corrective measures that may be developed.

US 6C Crashes

The types of crashes along US 6C from west of the I-70B intersection to east of the bridge over the UPRR are summarized in **Table 11**. Rear end crashes were by far the most common type of crash within the study period, accounting for over 50% of all crashes along US 6C. Crashes were most predominant at the I-70B intersection where 34 crashes occurred during the 5-year study period. The 33 Road and 2nd Street intersections were the next most common crash locations with 8 and 7 crashes during the five-year time period, respectively.



Table 11: US 6C Corridor Crash Type and Location (2009 – 2014)

US 6C SEGMENT	REAR END	APPROACH TURN	BROADSIDE	HEAD-ON	SIDESWIPE	FIXED OBJECT	OVERTURN	PEDESTRIAN	BICYCLE	OTHER	TOTAL
West of 1 st Street	23	4	5	1	5	1	0	0	0	1	40
1 st Street to 5 th Street	10	2	2	0	2	1	0	1	0	0	18
5 th Street to 33 Road	5	2	1	0	1	0	0	2	0	0	11
East of 33 Road	6	1	1	0	2	1	0	0	0	2	13
Total:	44	9	9	1	10	3	0	3	0	3	82
Percentage:	53.7%	11.0%	11.0%	1.2%	12.2%	3.7%	0%	3.7%	0%	3.7%	100%

Source: CDOT crash data

The single head-on crash along US 6C occurred at the I-70B intersection and involved a westbound vehicle turning left onto I-70B and an eastbound vehicle traveling through the intersection from F Road to US 6C. This crash occurred at night and the severity was listed as property damage only.

Three crashes along US 6C during the study period involved pedestrians. The first crash (in 2011) involved an eastbound vehicle turning left either onto Holland Street or into a business access during daylight hours. The second crash (in 2012) involved an eastbound vehicle hitting an eastbound pedestrian between the school and 33 Road during daylight hours at approximately 4:40 pm. The third pedestrian crash (in 2013) involved an eastbound vehicle and a pedestrian crossing US 6C at night and alcohol was involved. All three vehicle-pedestrian crashes were listed as injury crashes.

The crashes along US 6C within the study area are also summarized by severity in **Table 12**. Nearly 25% of the crashes involved personal injury and one crash was a fatality.

Table 12: US 6C Corridor Crash Severity (2009 – 2014)

US 6C SEGMENT	FATALITY	INJURY	PROPERTY DAMAGE ONLY	TOTAL
West of 1 st Street	1	7	32	40
1 st Street to 5 th Street	0	7	11	18
5 th Street to 33 Road	0	4	7	11
East of 33 Road	0	2	11	13
Total:	1	20	61	82
Percentage:	1.2%	24.4%	74.4%	100%

Source: CDOT crash data



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The fatal crash along US 6C occurred at the I-70B intersection shortly after midnight on April 7, 2012. The crash was an approach turn crash involving a westbound vehicle turning left onto I-70B and an eastbound vehicle traveling through the intersection from F Road to US 6C. “Driver emotionally upset” was listed as a factor in the crash.

I-70B Crashes

The types of crashes along I-70B from south of the Old 32 Road intersection to south of the I-70 interchange are summarized in **Table 13**.

Table 13: I-70B Corridor Crash Type and Location (2009 – 2014)

US 6C SEGMENT	REAR END	APPROACH TURN	BROADSIDE	HEAD-ON	SIDESWIPE	FIXED OBJECT	OVERTURN	PEDESTRIAN	BICYCLE	OTHER	TOTAL
North of US 6C	4	1	1	0	2	6	1	0	0	0	15
At US 6C Intersection	11	2	0	0	0	2	0	0	0	0	15
South of US 6C	68	18	19	1	22	2	0	0	1	6	137
Total:	83	21	20	1	24	10	1	0	1	6	167
Percentage:	49.7%	12.6%	12.0%	0.6%	14.4%	6.0%	0.6%	0%	0.6%	3.6%	100%

Source: CDOT crash data

As with the US 6C corridor, rear end crashes were the most common along I-70B within the study area during the study period, accounting for just under 50% of all crashes. Crashes were most predominant at the 32 Road intersection, where 79 crashes occurred during the five-year time period. The 33 Road and 2nd Street intersections were the next most common crash locations with 27 and 15 crashes during the 5-year time period, respectively.

The single head-on crash on I-70B occurred in April 2013 at the 32 Road intersection during daylight hours. The injury crash involved an eastbound vehicle turning left onto 32 Road and a westbound vehicle traveling through the intersection on I-70B. A crash involving a bicyclist also occurred at the 32 Road intersection in October 2011. The injury crash involved a northbound bicyclist and a westbound vehicle during daylight hours.

The crashes along I-70B within the study area are also summarized by severity in **Table 14**. Nearly 30% of the crashes involved personal injury and one crash was a fatality. The fatal crash occurred at the 32 Road intersection at approximately 8:30 pm on August 10, 2012. The crash was a broadside crash involving a northbound vehicle on 32 Road and a westbound vehicle on I-70B. No apparent factors in the crash were included in the accident listing report.



Table 14: I-70B Corridor Crash Severity (2009 – 2014)

I-70B SEGMENT	FATALITY	INJURY	PROPERTY DAMAGE ONLY	TOTAL
North of US 6C	0	3	12	15
At US 6C Intersection	0	4	11	15
South of US 6C	1	43	93	137
Total:	1	50	116	167
Percentage by type:	0.6%	29.9%	69.5%	100%

Source: CDOT crash data

Other Roadway Crashes

Crash data received from Mesa County for 1st Street/32½ Road, 2nd Street, 33 Road, and Front Street was summarized for the five-year period from January 2009 through December 2014. The crashes along these four roadways within the study area are summarized by severity in **Table 15**.

Table 15: Crash Locations and Severity Along Streets Within the Project Study Area (2009 – 2014)

STUDY AREA ROADWAY	FATALITY	INJURY	PROPERTY DAMAGE ONLY	TOTAL
1 st Street/32½ Road near US 6C	0	1	10	11
1 st Street/32½ Road near Front Street	0	0	7	7
2 nd Street (US 6C to Front Street)	0	2	8	10
Front Street (32 Road Overpass to 33 Road)	0	1	3	4
33 Road (G Road to Front Street)	0	1	20	21
Total:	0	5	48	53
Percentage by type:	0.0%	9.4%	90.6%	100%

Source: Mesa County crash data

Along 1st Street/32½ Road to the north and south of the US 6C intersection, 11 crashes occurred at or close to the intersection during the five-year period. Only one crash included injuries and none of the crashes included fatalities. One pedestrian-related crash occurred along 1st Street approximately 150 feet south of the US 6C intersection. Rear end crashes were most common along 1st Street/32½ Road. Along 1st Street/32½ Road from Orson Avenue to just south of the UPRR, seven crashes occurred during the five-year period. Three of the crashes involved fixed objects, three were rear-end crashes, and one crash was a broadside crash south of the UPRR. None of the crashes involved injuries or fatalities.



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Along 2nd Street from the US 6C intersection to the Front Street intersection, ten crashes occurred during the five-year time period. Six of the crashes occurred at or in close proximity to the US 6C intersection. Two crashes included injuries and none of the crashes included fatalities. There were no more than two of a given crash type along 2nd Street.

Along Front Street, there were four crashes during the five-year time period. One crash occurred near the west end of the roadway while two of the crashes occurred between 1st Street and 2nd Street. A head-on crash at the 4th Street intersection was the only injury crash.

Along 33 Road from G Road to Front Street, 21 crashes occurred during the five-year time period. Eleven of the crashes occurred at the US 6C intersection, of which only two were not included in the CDOT accident listings for the same time period. Of the remaining ten crashes, seven occurred north of US 6C with three of the crashes within close proximity of US 6C and three just south of G Road. The crashes south of G Road included two with fixed objects and one head on crash. Three crashes along 33 Road occurred south of US 6C, with two of them at the Front Street intersection. Of all the crashes, only one included injuries and none of the crashes were fatalities.

CORRIDOR MULTIMODAL MOBILITY

The study area is served by GVT and two regional park-n-ride facilities, located in the northwest and northeast corners of the I-70B and US 6C intersection. Pedestrian and bicycle infrastructure conditions along the US 6C corridor were inventoried for this study in November 2014.

Transit Services

US 6C through downtown Clifton is served by GVT Route 4 or the “Palisade” Route. Route 4 provides connections to destinations from the Clifton Transfer Station at I-70B and 32 Road, through Clifton to Palisade. Route 4 buses operate once per hour, every hour from 4:45 am to 8:35 pm. The route takes 50 minutes to operate as a loop from the transfer station to Palisade and back.

The GVT route system within the vicinity of the study area is illustrated in **Figure 10**. In addition to Route 4, Routes 2, 3, 9, and 10 all end at the Clifton Transfer Station. Route 2, the “Patterson Road” Route, is an east-west route providing service from the Mesa Mall Transfer Station to the Clifton Transfer Station via the Patterson Road/F Road corridor north of downtown. Route 3, the “Orchard Avenue” Route, provides service north from the Downtown Transfer Station to Orchard Avenue and then east to the Clifton Transfer Station. Route 9, the “North Avenue” Route, provides service from the Downtown Transfer Station north to North Avenue and then east to the Clifton Transfer Station via North Avenue and I-70B. Route 10, the “Clifton” Route, is a loop route serving the Clifton Transfer Station to the north, D Road to the south, 29 Road to the west, and 33 Road to the east.

This section describes alternative modes of transportation within the study area, including bicycle, pedestrian, and transit services and infrastructure. This information will be used for the determination of the project needs and development of alternatives to improve multimodal mobility.



Clifton Transfer Center



According to the *Draft GVT 2014 Onboard Survey and Counts Report*, approximately 215 riders used Route 4 during a 24-hour period from noon on October 1 to noon on October 2, 2014. **Table 16** shows the Route 4 24-hour boardings and alightings at stops within the project study area.

Table 16: Route 4 Daily Boardings and Alightings within the Study Area

ROUTE 4 STOP LOCATION	DIRECTION	BOARDINGS	ALIGHTINGS
Clifton Transfer Station (32 Road & I-70B)	EB/WB	30+	30+
32 Road & South of Patterson Road	WB	1-4	5-10
F Road & East of Helena Street	WB	0	0
Peach Tree Shopping Center (Gold's Gym)	EB/WB	5-10	11-30
2 nd Street & Grand Avenue	EB	0	5-10
US 6C & East of Lois Street	WB	5-10	1-4
Front Street & East of 3 rd Street	EB	0	1-4
Front Street & West of 33 Road	EB	1-4	5-10

Source: GVT

The Clifton Transfer Station experienced the greatest boardings/alightings of any stops along the route with the Peach Tree Shopping Center stop the second busiest within the study area. According to the *Draft GVT 2014 Onboard Survey and Counts Report*, the Clifton Transfer Station had the second greatest daily boardings and alightings within the GVT system, second only to the Downtown Transfer Site. The Clifton Transfer Station experienced approximately 570 boardings and 450 alightings during the 24-hour survey period. According to the *Draft GVT 2014 Onboard Survey and Counts Report*, 19% of riders on all GVT routes reported living in Clifton. Only Grand Junction had a higher percentage of GVT users at 55%.

The GVT bus stops within the study area are often lacking amenities. Many stops have no benches, shelters, or route and schedule information. Bicycle and pedestrian connections are also commonly lacking at the GVT bus stops. According to the *Draft GVT 2014 Onboard Survey and Counts Report*, 81% of transit riders access the system by foot while 7% access the system by bicycle.

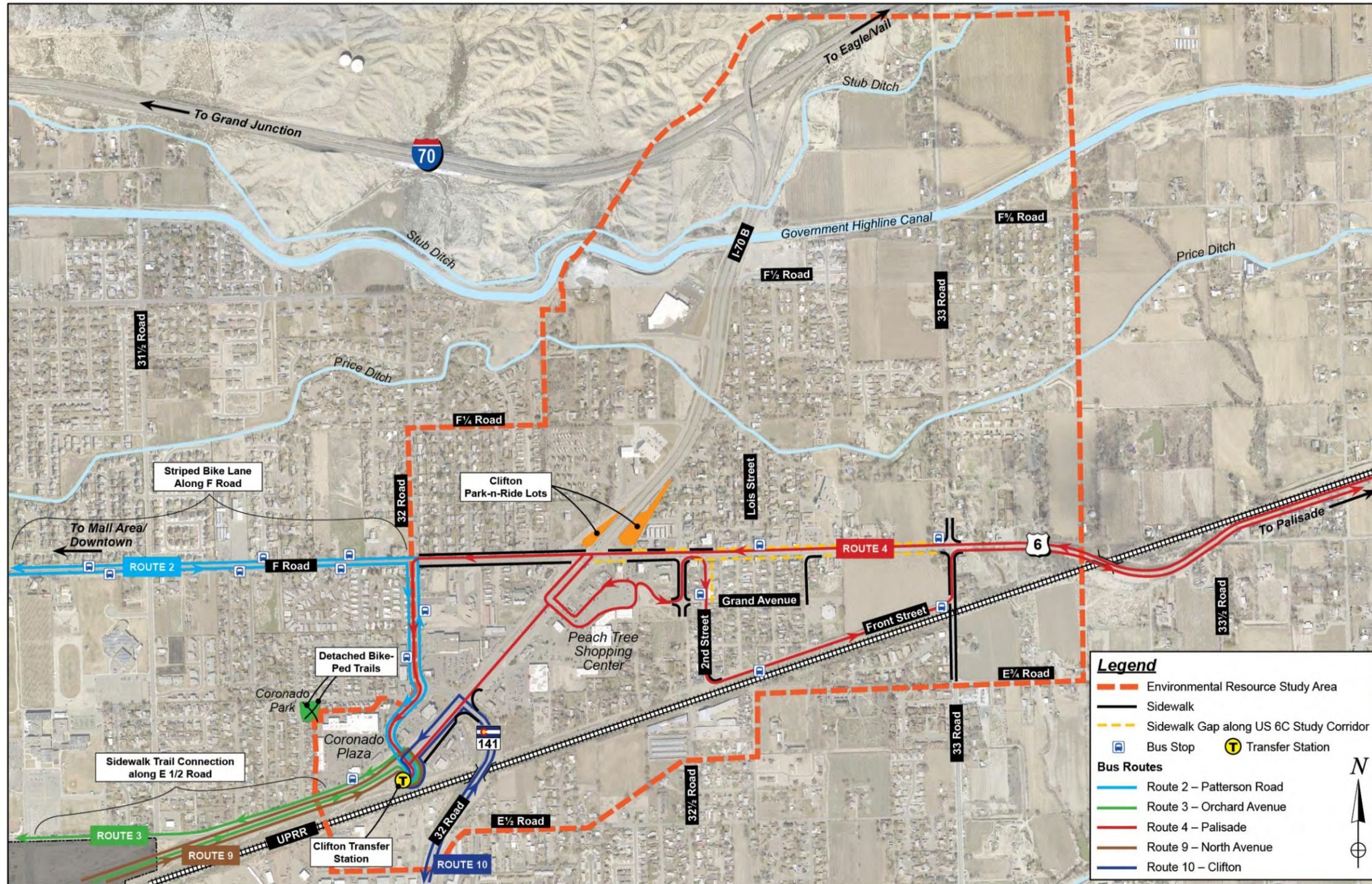


School bus stop on US 6C at 3rd Street

In addition to the GVT bus service, the Mesa County School District 51 provides bus service for students living two miles or more from an elementary school and three miles or more from a middle school or high school. Bus service for the Mesa County School District is provided by First Student, a student transportation services company. The bus service currently has a bus route that stops at US 6C and Lois Street. Traffic along US 6C in both directions is required to stop as students get on and off the bus.



Figure 10: Existing Multimodal Conditions



Source: GVT, DEA



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Pedestrian and Bicycle Conditions

Sidewalks within the study area are illustrated with the transit routes and stops in **Figure 10**. There is recently-installed sidewalk along the south side of US 6C leading from the pedestrian signal at Clifton Elementary School to 5th Street and along the east side of 5th Street to the church parking area at Grand Avenue. There is sidewalk along both sides of 33 Road that was installed with recent roadway reconstruction from about 300 feet north of US 6C to E $\frac{3}{4}$ Road, south of the UPRR crossing. There is sidewalk along the new section of 1st Street south of US 6C and along US 6C adjacent to a few properties near I-70B. There is attached and detached sidewalk along both sides of F Road, west of I-70B.

East of 2nd Street, there are almost no sidewalks on either side of US 6C through downtown Clifton. There is no sidewalk along I-70B within the study area, except for a short section of detached sidewalk along the east side of the highway between the Clifton Transfer Station and the Peach Tree Shopping Center, likely installed with the commercial development north of the transfer station.



Pedestrian walking along US 6C east of 2nd Street

US 6C is a three-lane cross-section without a raised median and it carries enough traffic to make it often difficult for pedestrians to cross except at signalized intersections. Pedestrian crosswalks are located

across each leg of the signalized intersections along US 6C. There is a pedestrian-activated signalized crosswalk east of 5th Street, serving the Clifton Elementary School. The curb ramps at the signalized intersections along US 6C are directional ramps with tactile strips.



Bicyclist crossing US 6C near 3rd Street

Pedestrian crosswalks are located across each leg of the signalized intersection at I-70B and 32 Road. However, the traffic signal at I-70B and the Clifton Transfer Station has pedestrian crosswalks only across the south and east legs. The traffic signal on I-70B at the Peach Tree Shopping Center has pedestrian crosswalks only across

the north and east legs and has older style, non-directional curb ramps without tactile strips. A non-directional curb ramp consists of one ramp on each intersection corner that is located at the apex of the corner of the intersection. Users are traveling diagonal to traffic when they enter the street at the bottom of a non-directional ramp.



Along the US 6C corridor, there are numerous existing curb cuts, curb ramps, and sidewalks that do not meet the slope and width standards of the American with Disabilities Act (ADA). This deficiency can make it difficult for people to access the bus stops or travel along the corridor.

Bicycling in the regional Grand Valley area, surrounding the study area, is an important mode of transportation and recreation. There are no existing bicycle facilities, such as trails or bike lanes, within the study area. However, there are several planned bicycle and trail improvements identified in the *Clifton-Fruitvale Community Plan*. The improvement identified with the highest need within the study area is along US 6C. A bike lane or detached path along US 6C from I-70B to west of 33 Road is also identified as a “high” priority improvement in the *Clifton Pedestrian Circulation Study*.

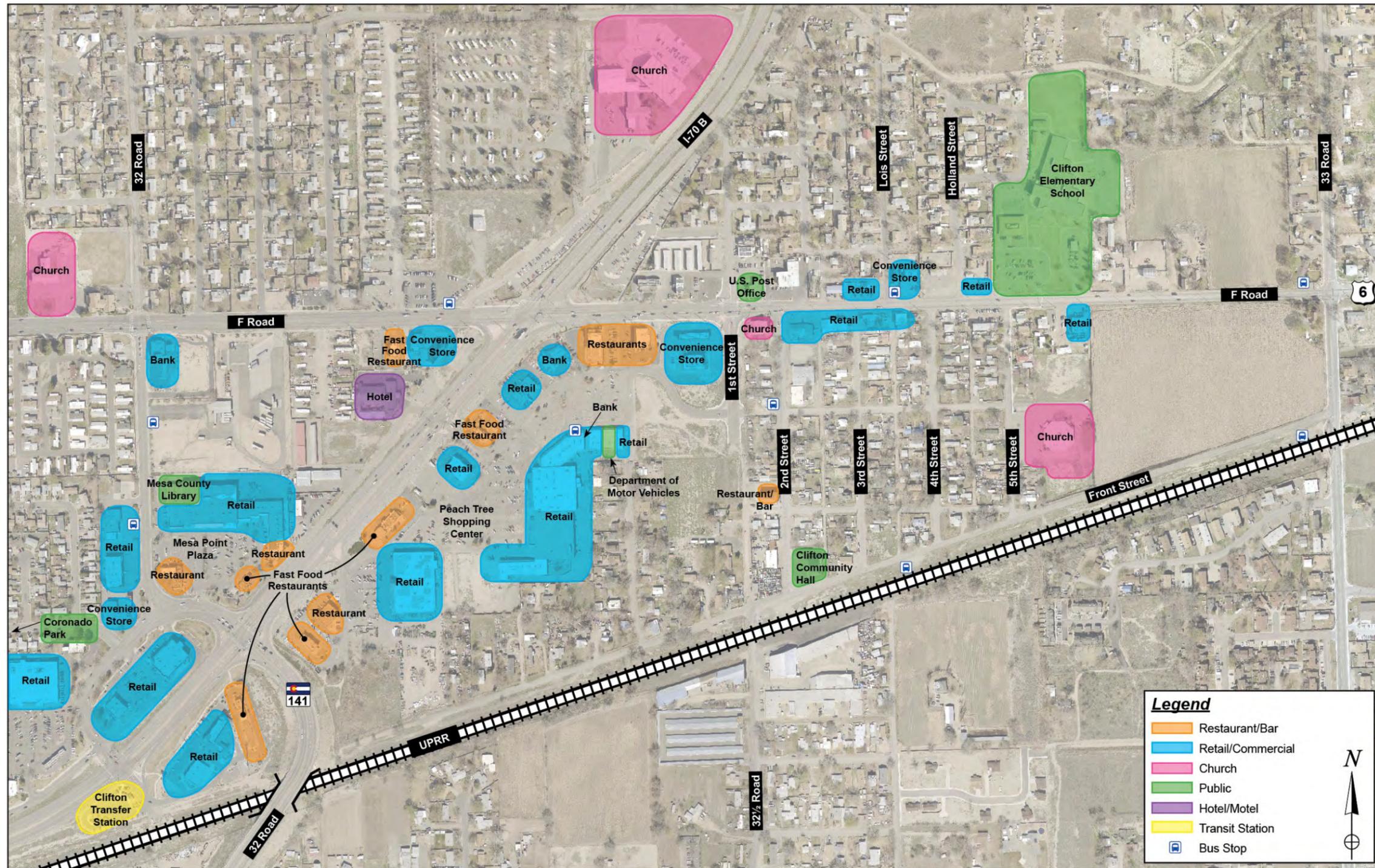
Potential Non-Motorized Travel Demand

Various land uses within the US 6C study area are likely to generate demand for short walking and bicycling trips, as shown in **Figure 11**. The higher-density residential areas located northwest of the I-70B and US 6C intersection, north of US 6C between I-70B and Lois Street, and south of US 6C between 1st Street and 5th Street are likely generators of pedestrian and bicyclist trips along the US 6C corridor.

Additionally, the businesses and government service facilities within the Peach Tree Shopping Center, the local businesses along US 6C, the US Post Office, and the Clifton Elementary School are destinations to which many residents may walk or ride a bicycle instead of driving. The park-n-ride lots, Route 4 bus stops, and the Clifton Transfer Station are also destinations for pedestrians and bicyclists to access in order to utilize transit or carpooling for longer trips. Because many of the origins and destinations of these walking or bicycling trips are on opposite sides of US 6C, conflicts with vehicles due to limited crossing locations are inevitable.



Figure 11: Existing Multimodal Destinations



Source: DEA field observations, November 2014



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Multimodal Mobility Challenges and Opportunities

Alternative mode travel challenges and opportunities for the study area, focused on the US 6C corridor through downtown Clifton, are summarized below. This summary was developed from the existing conditions data, previous studies, observations during site visits, and input gathered from the involved agencies. These opportunities provide a basis for identifying project needs and developing alternatives that promote safe travel for all roadway users.

- People walk in the US 6C corridor within downtown Clifton to many destinations and for many purposes.
- There are many bicycle skill types using the corridor for different purposes (school children, recreational, commuter).
- Sidewalks are missing along most of US 6C through downtown Clifton.
- Existing sidewalks are narrow and in poor condition.
- Pedestrian and bicycle connections to adjacent land uses from residential areas are not present.
- It is difficult to walk across the highway because of traffic.
- Mid-block crossings are typically occurring across US 6C between 2nd Street and 5th Street.
- Pedestrian movements across wide, open property accesses conflict with vehicles accessing adjacent businesses.
- Bicyclists are currently riding on sidewalks or in parking areas along US 6C.
- There are generally no amenities at bus stops within the study area.
- There are limited sidewalk connections to Route 4 bus stops within the study area.



Bicyclist on sidewalk along US 6C at 1st Street

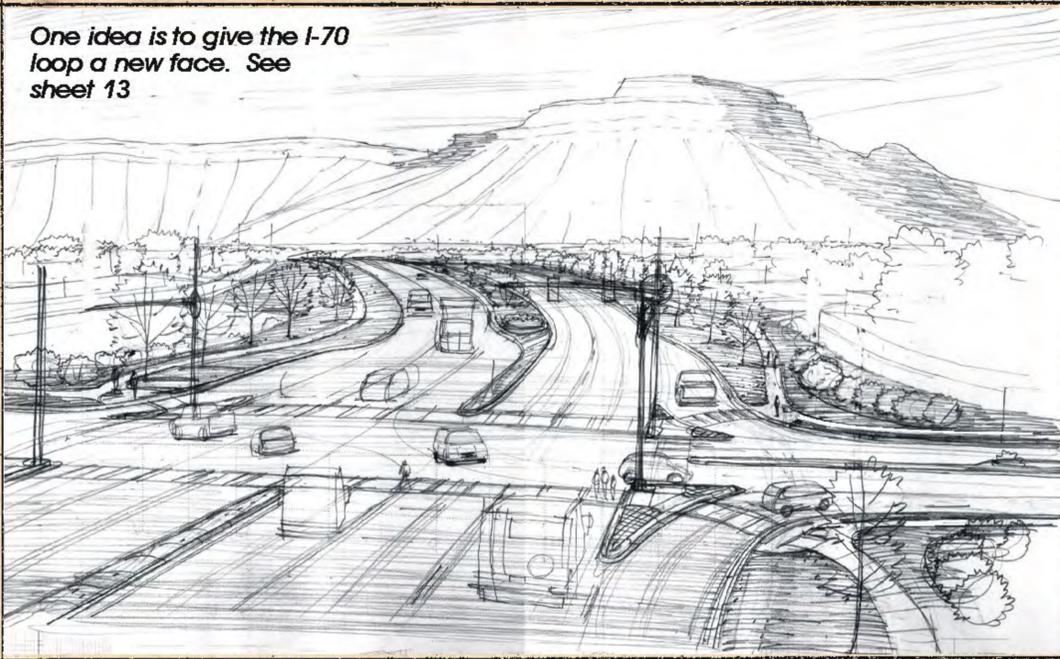


APPENDIX A
PAST PLAN INFORMATION

Concepts for improving streets walkways, and private development in the Clifton Fruitvale area.



Views of landmarks, such as Mt Garfield at left are important identity features for the Clifton / Fruitvale area



One idea is to give the I-70 loop a new face. See sheet 13

SKETCH CONCEPTS Ways to improve the community landscape.

Sidewalks, walkways, and paths are part of the common-space fabric of a community. Improving how these function can go a long way to creating more livable, enjoyable neighborhoods. The ability to walk to school, to the store, or to a friend's home easily, unencumbered by hazards, should be a primary goal of any community. All centers of activity such as schools, churches, and shopping areas should be easily and safely accessed by nearby residents.

A corresponding goal is to enhance these community connections with the appropriate landscape elements such as street trees, landscape, and the appropriate fences or walls. Creating a pleasant, less harsh network of streetscapes can unite communities in a positive way. Private and public involvement can be coordinated to achieve these goals. Some of these goals can also be incorporated into bigger future projects and numerous smaller improvements throughout the Clifton / Fruitvale area.

Special areas such as gateways, important roadways, and historic areas can require special attention to maximize the benefits to the citizens. These in turn can be catalysts for energizing other improvements.

This sketch report identifies some basic guidelines to improve walkways, streetscapes, landmarks, fences and landscapes. It is hoped that these will aid in public discussion and awareness.

** Friendly walkways, entryways, and landscaped streets are important community pride and identity elements.*

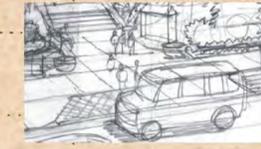
INDEX TO DRAWINGS PART I SKETCH PORTFOLIO



sheet 2
Walkways, nodes,
commercial areas



sheet 3
Boulevards,
landscaped arterial
roadways, gateways,
entry ways



sheet 4
Landmarks,



sheet 5
Walkways along local
residential streets.



sheet 6
Walkways along minor
arterials and collector
Roadways



sheet 7
Walks, paths,
pedestrian ramps,
trails



sheet 8
edges, Fences

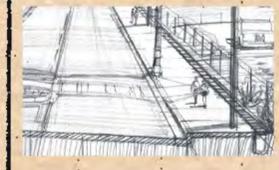


sheet 9
edges, walls, noise
barriers, parking lot
edges



sheet 10
Park and Rides,
Dumpsters

PART II PRIORITY AREAS,



sheet 11
Clifton Elementary
School



sheet 12
F Road



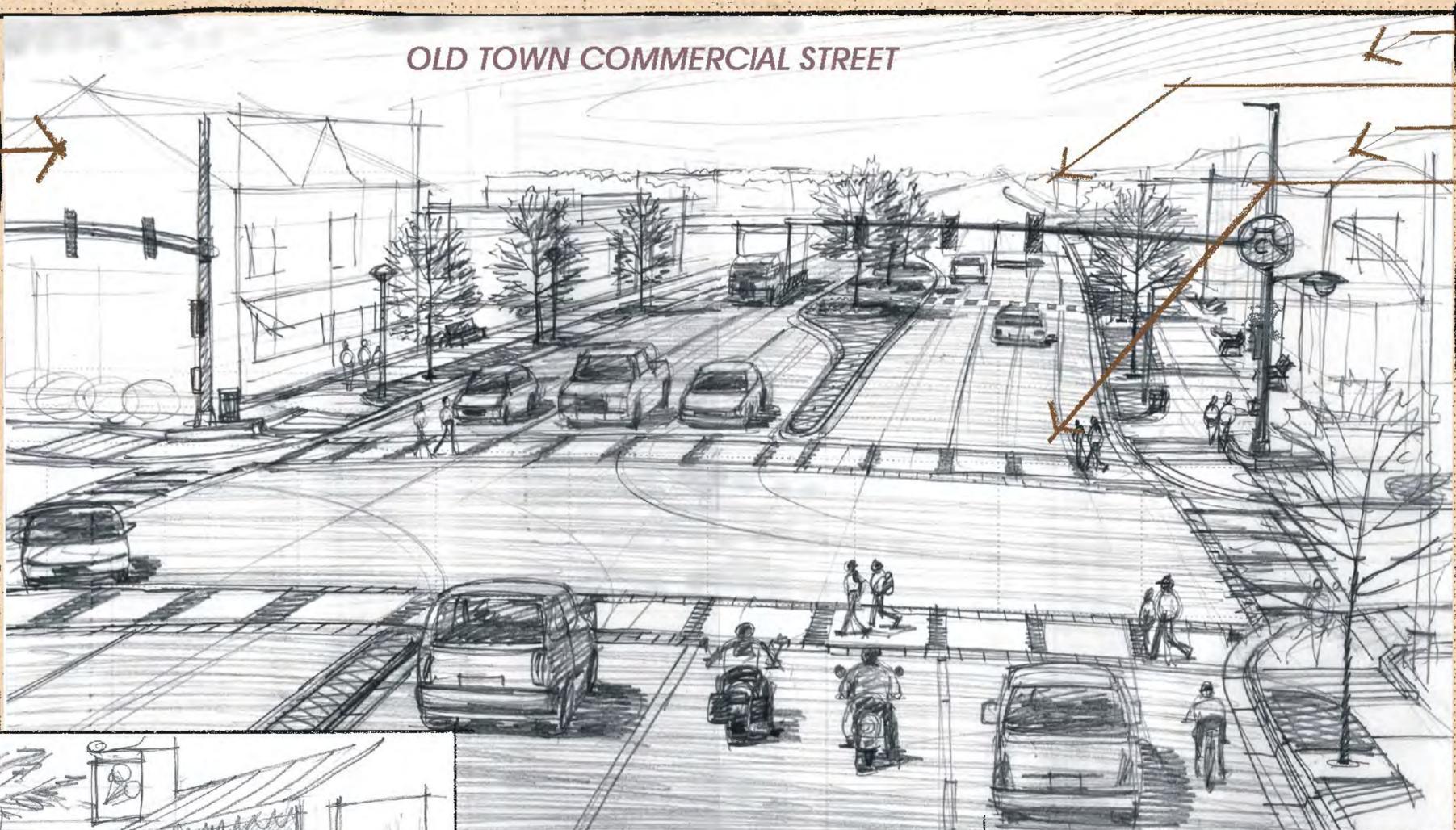
sheet 13
I-70 Loop



Sheet 14
I-70 interchange
Gateway



sheet 15
Maintenance
Strategies



TOP CENTER: Bird's eye view of older style commercial area, or community node, with modest streetscape upgrades. Specialty pavements and street trees are added to roadsides to enhance these important neighborhoods.

Cross walks are also emphasized for pedestrian safety and as a visual cue to motorists.

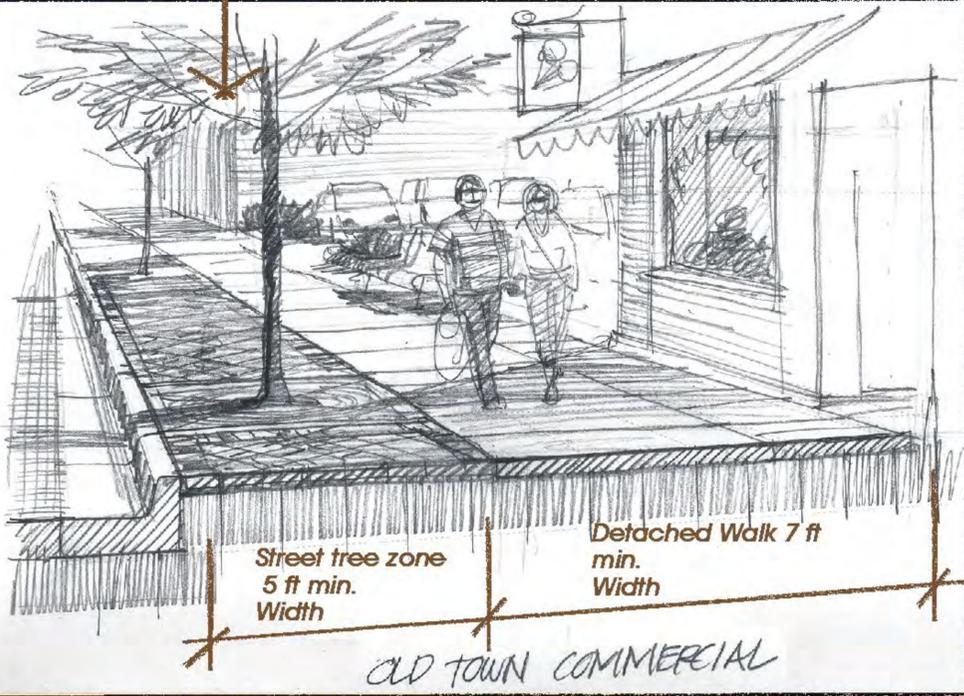
Median landscape may be appropriate in some areas.

BELOW: Sidewalk cross section showing specialty paving in the tree lawn area and a widened sidewalk to accommodate larger groups of people and activities.

- Business close to arterial street with parking in the rear.
- Median landscape where appropriate.
- Signal pole with neighborhood sign plaque.
- Enhanced cross walk, either a specialty pavement type or embossed asphalt

WALKWAYS SIDEWALKS, Old town commercial areas

Older more historic areas or commercial areas that are close up to the arterial streets require a more refined walkway and streetscape treatment. Increased pedestrian traffic often means a wider side walk is desirable. Sketch at left indicates a 12 ft wide walkway area with a special paving area for what would be the tree lawn. This wider pavement accommodates larger groups of people, some street furnishings, light poles and perhaps some benches. Trees can be in 'tree grate' pit or in a small unpaved area. A more utilitarian approach would be to pave the entire wide walkway in concrete with openings for trees. This style of commercial development is being revived in many areas.



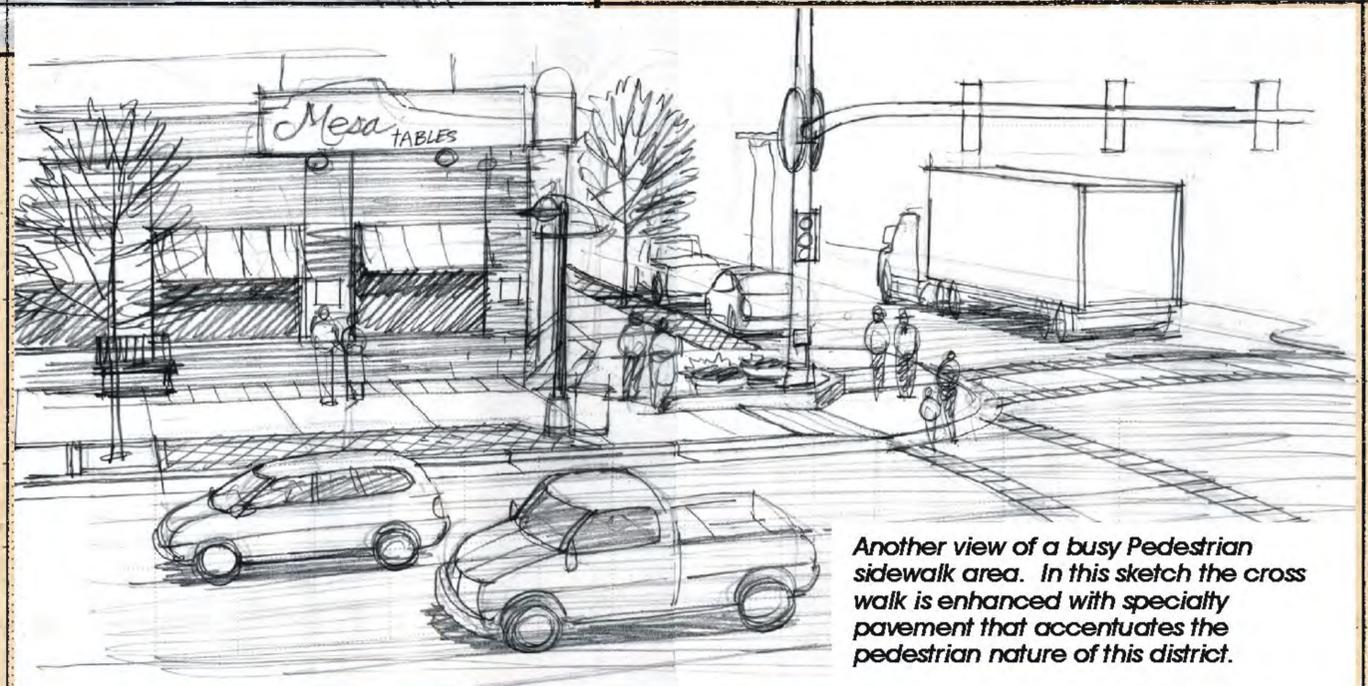
Street tree zone 5 ft min. Width

Detached Walk 7 ft min. Width

OLD TOWN COMMERCIAL

ARCHITECTURAL CHARACTER of newer buildings and renovated buildings should build on the existing good architecture examples in the community, preferably the more historic structures. Projects should use similar materials in similar ways although with more contemporary function. Develop a vernacular of materials: windows, roof lines, and details that works with the climate, the economy, and the people.

** Busy community nodes deserve more extensive streetscape refinements*



Another view of a busy Pedestrian sidewalk area. In this sketch the cross walk is enhanced with specialty pavement that accentuates the pedestrian nature of this district.

Walkways, nodes, commercial areas

BOULEVARDS

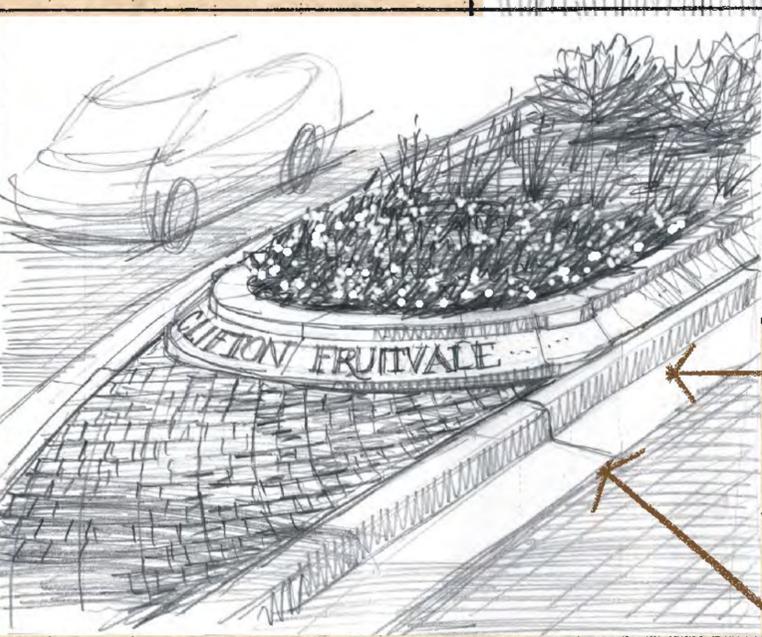
Arterial road, entry roadway, aligns with landmarks, connects important parts of town.

Boulevards are important roadways that are intended to enhance property values and generate community pride. As gateways, or entry ways they give visitors positive first impressions of a community. Locals also have an attractive pedestrian friendly corridor that connects neighborhoods and districts. Boulevards are landscaped enhanced arterial roadways. They can be commercial, residential or a combination of land uses. The landscaped medians are the unique feature. Only the wider medians can be landscaped. Narrower medians at left turn lanes are usually paved with specialty pavements.

* *Friendly walkways and landscaped streets are important community pride and identity elements.*

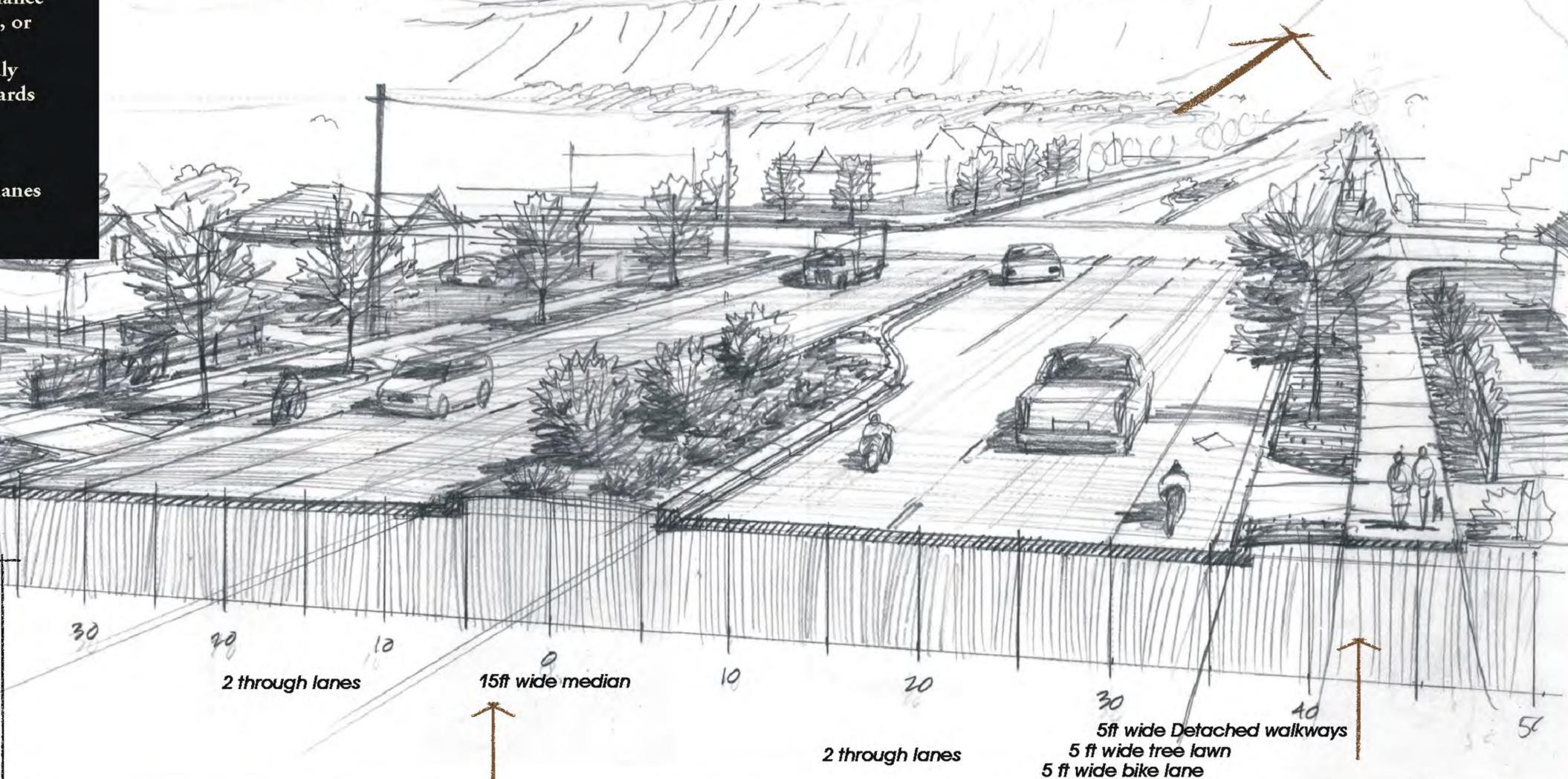
Views of landmarks, such as Mt Garfield, and Book Cliffs add to the experience

5ft wide Detached walkways
5 ft wide tree lawn
4 ft wide bike lane



LEFT: Landscaped medians should be at least 8-10 ft wide to fit trees shrubs and some kind of median edging. Narrower medians are usually paved. Concrete, patterned concrete are the preferred materials.

Ends of medians can be highlighted with community names



ABOVE: Cross section of a landscaped boulevard. A 100 ft wide right of way width for a 5 lane roadway is typically enough width. This is an attractive and safe way to accommodate pedestrians, cyclists, and motorist.

Right: Example of attractive median landscape (Unaweep Ave.) in Grand Junction. Median edging is inspired by the Book Cliffs



Boulevards, landscaped arterials

Parking area, with landscape screening

Generous pedestrian provisions detached walks if possible. Street tree planting. If an historic site, period paving or site furnishings may be appropriate.

Well designed and maintained landscapes are important



LANDMARK WITHIN THE COMMUNITY

Landmarks may benefit from additional public open space to accommodate bigger groups of people or features to supplement landmark activities. Other considerations:

- *Interpretive signing and information kiosk
- *Public gathering area
- *Adequate drop off area for small busses.
- *Accessibility is also important, handrails, ramps are important elements.

LANDMARKS, HISTORIC SITES, Within a community.
 There are many kinds of landmark or historic structures. When they are located within the fabric of a developed community they may deserve some of the treatment shown at left. Many of the edge, walkway suggestions described in sheets 2 and 3 may apply here. Additional upgrades to these features may incorporate historic character materials or features such as brick, wrought iron fences, period lighting, or benches. Depending on how the site is used it may also need some public accommodation type features like parking lots, interpretive signing, drop off areas or as shown here, additional park space.

Landmarks

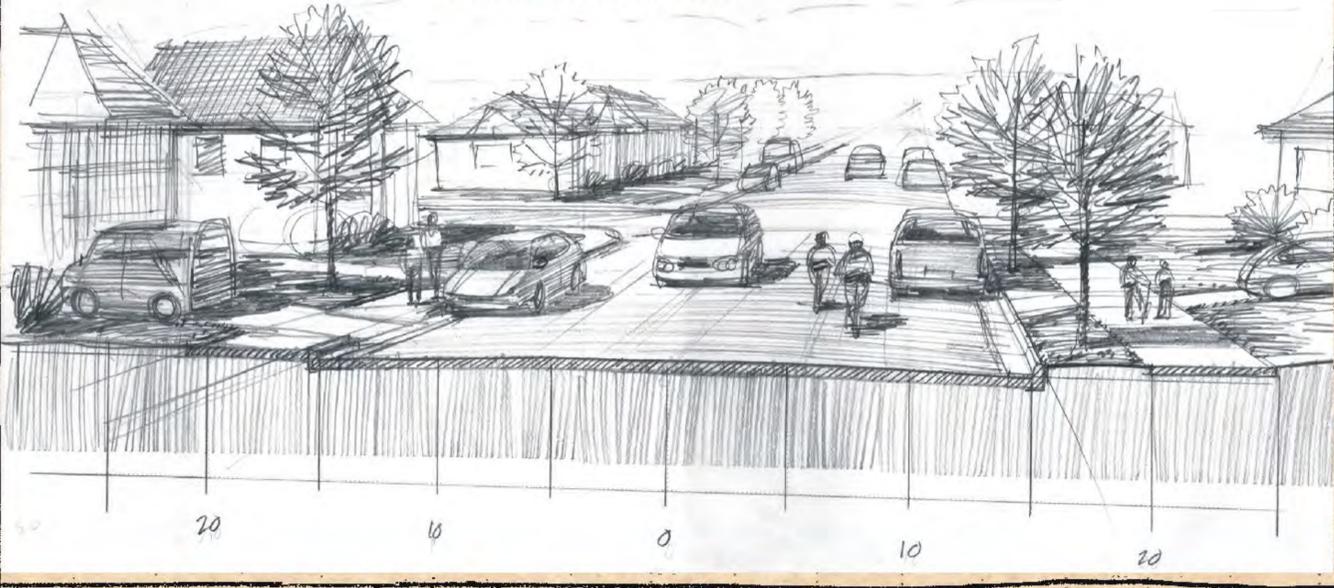
HISTORIC STRUCTURES or historic sites can encompass a wide variety of arrangements from true authentic restorations to adaptive re-uses. Historic 'period' restorations may deserve public interpretive facilities similar to that shown above. Private commercial partial restorations however may not. Many of these streetscape elements may, none-the-less be important in accentuating an important community landmark feature.

RIGHT: Other landmarks include major topographic or landscape features such as Mt Garfield. This is the major identity feature of the Clifton / Fruitvale area. An attractive street scape combined with the dramatic view of this mountain can make a lasting impression on visitors.



* Landmarks are key identity elements in communities. Enhancing the landmarks can do much for enhancing communities.

LOCAL RESIDENTIAL STREET WITH WALKWAYS



LEFT: Cross section of a local residential street with 27 ft road. A detached walk is shown on the right, an attached walk on the left. On-street parking is possible. Occasional two directional traffic with larger vehicles is slowed because of the tight fit. Which is appropriate for a residential area.

WALKWAYS SIDEWALKS
Low traffic Residential Streets

Pedestrian ways are one of the most important ingredients in livable successful communities. The ability to safely walk to school, walk to your neighbors house, the park, or to the store are fundamental needs. We shouldn't be compelled to drive everywhere or if we do walk, have to negotiate dangerous conditions. Indeed many people are unable to drive or do not have someone to drive them to their destinations. Walkways need to be safe and convenient.

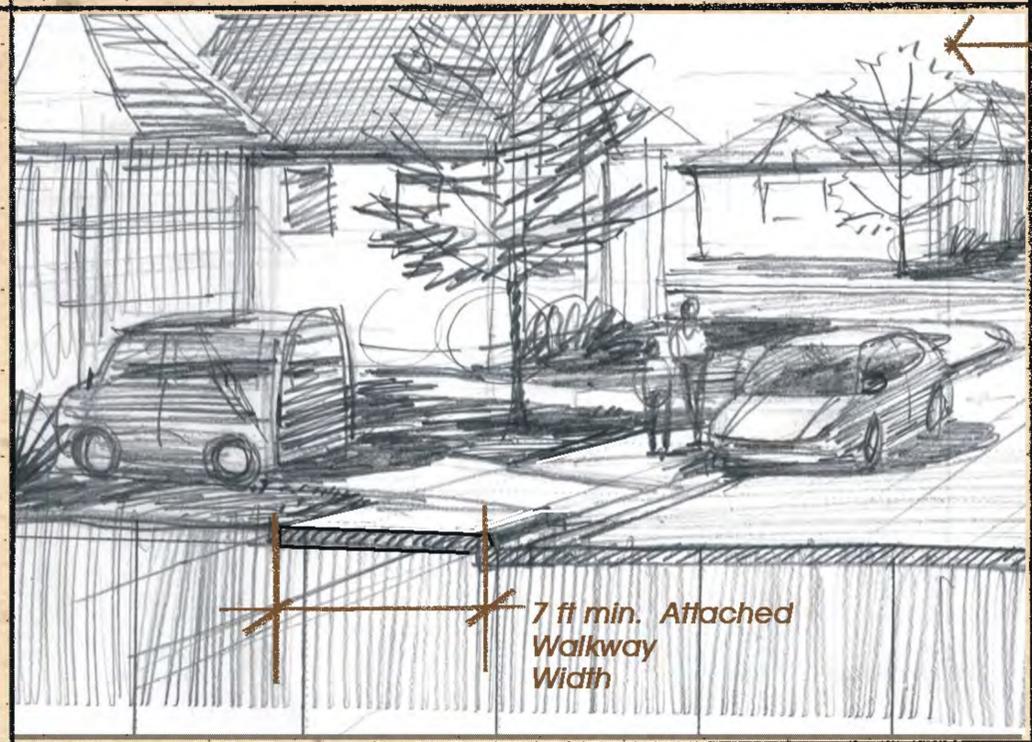
Detached walkways, where the walkway is separated from the street by a tree lawn, is the preferred walkway type when adequate space is available. Attached walks, where the sidewalk is attached to the street curb, is acceptable but somewhat less desirable.

It can also be stated that walkways and sidewalks are aesthetically pleasing. When you drive through a community with generous walkways and street trees it has a welcoming friendly appearance. Neighborhoods without walkways often appear to be unfriendly and isolated.

Walkways, paths, trails

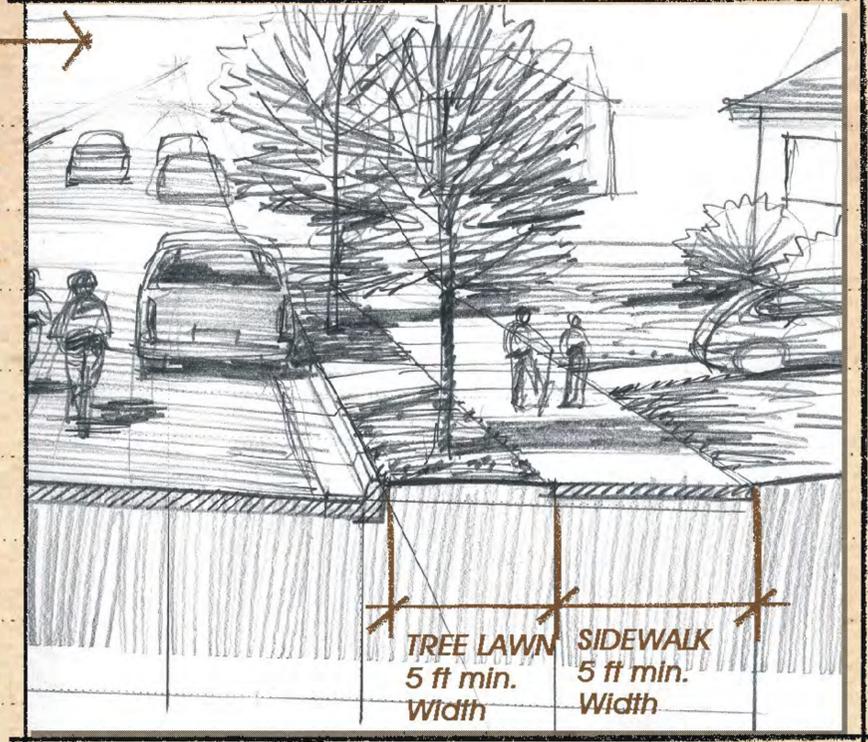
LEFT: Close-up of the attached walk. Attached walks need to be at least 7 ft wide. All walkways should allow two people to walk comfortably side by side. A five foot wide walk will allow this but with a curbed edge people shy away from the edge. Indeed the curb is also a hazard for small children on bikes, and older people with walkers and wheel chairs. A 7 ft wide attached walk minimizes these hazards and user conflicts.

RIGHT: Close-up of the detached walk. This has a classic home town look. The tree lawn space between the curb and the walk gives the pedestrian a safer feeling and creates a space for tree planting. Detached walks can be five ft wide and function pretty well. The tree lawn should be a minimum of 5 ft wide to allow for tree planting space.



ATTACHED WALKWAYS

* Minor residential streets should have walkways, preferably detached walkways with street trees.



DETACHED WALKWAYS

PART 1 SKETCH PORTFOLIO - Walkways along a minor arterial and collector roadways

Businesses need visibility and access. Tree planting should be more widely spaced. Shrub varieties should be 3-4 ft height allow views of building signs

Tree planting is often possible under utility poles using lower growing species.

Attached walkways should be a minimum of 7 ft width. Busier arterials may consider 8 ft or wider attached walks to better accommodate recreation cyclists.

Bike lanes, 4 ft minimum width, striped on pavement are desirable, particularly on regional bike trail links, or appropriate corridors. 5 ft is preferred width.

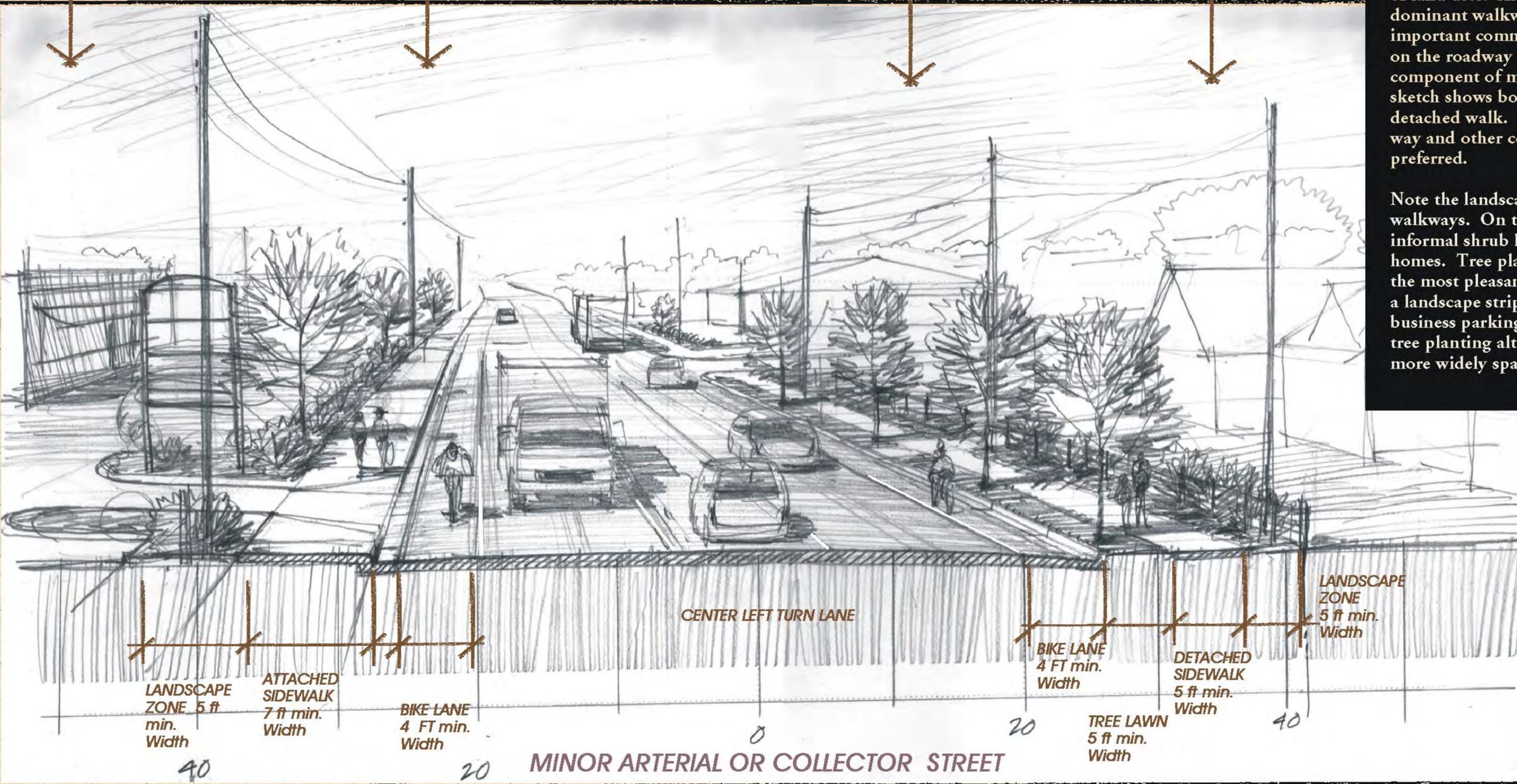
Detached walkways are more user friendly and should be provided wherever possible. The same minimum 5 foot wide tree lawn and 5 foot wide walkway apply here. If bike lanes are not provided on the street detached walkways should be widened to 8 ft where possible.

Fences and screening, see 'Edges' section of this report

WALKWAYS SIDEWALKS, BIKELANES Minor Arterial and Collector Streets

Minor arterial and collector streets like the one shown on the sketch often pass through a variety of land uses. Although vehicular traffic is more dominant walkways are still needed for important community connections. Bike lanes on the roadway are also an important component of multi modal transportation. This sketch shows both a wide attached walk and a detached walk. Depending on available right of way and other constraints either option may be preferred.

Note the landscape features associated with the walkways. On the right are low open fences and informal shrub hedges that screen back yards of homes. Tree planting on the tree lawn creates the most pleasant walk environment. On the left a landscape strip between the walkway and the business parking lot is used to screen cars. Street tree planting although still desirable may be more widely spaced to allow views of businesses.



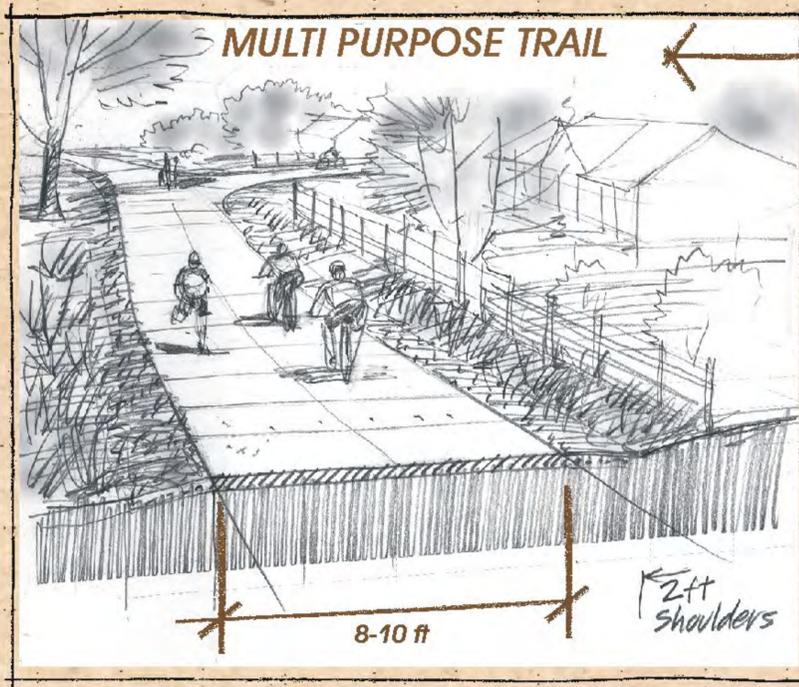
Walkways, along minor arterial roadway paths,

- * Most urban streets should have side walks..
- * Detached walks are the preferred type of walk.





Example of multi purpose trail paralleling a limited access highway. This is another way of providing pedestrian and bicycle connections for communities and neighborhoods.



MULTI PURPOSE TRAIL

LEFT: Multi purpose trail. A paved 8-10 foot wide trail with wide soft shoulders for horses and runners is preferred. Crushed fine textured gravel surface is also a good choice but requires more maintenance. Open fences at edges may be appropriate when passing through residential areas.

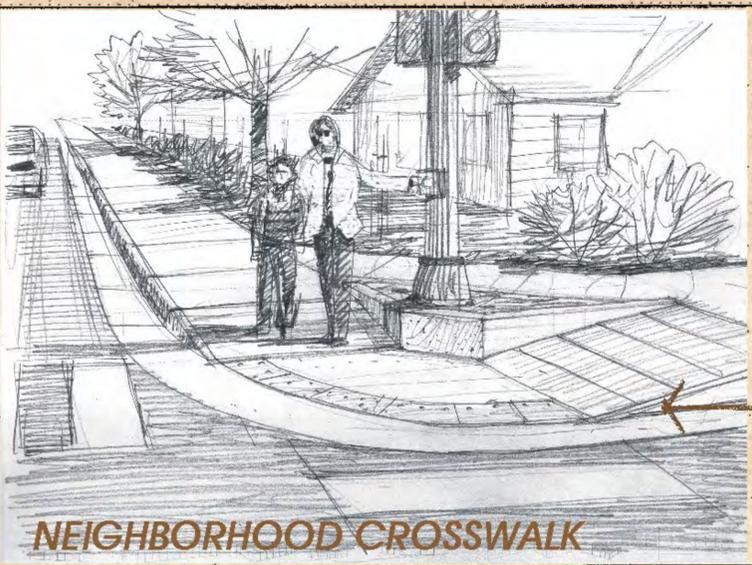
CROSS WALKS, TRAILS, AND PATHS

Residential areas, open space

Connecting neighborhoods to schools, parks, businesses, stores and other trails not only depends on good walkways but also on important community links like safe crosswalks. A safe cross walk can make all the difference in the world for a 10 year old being able to walk to school instead of being driven.

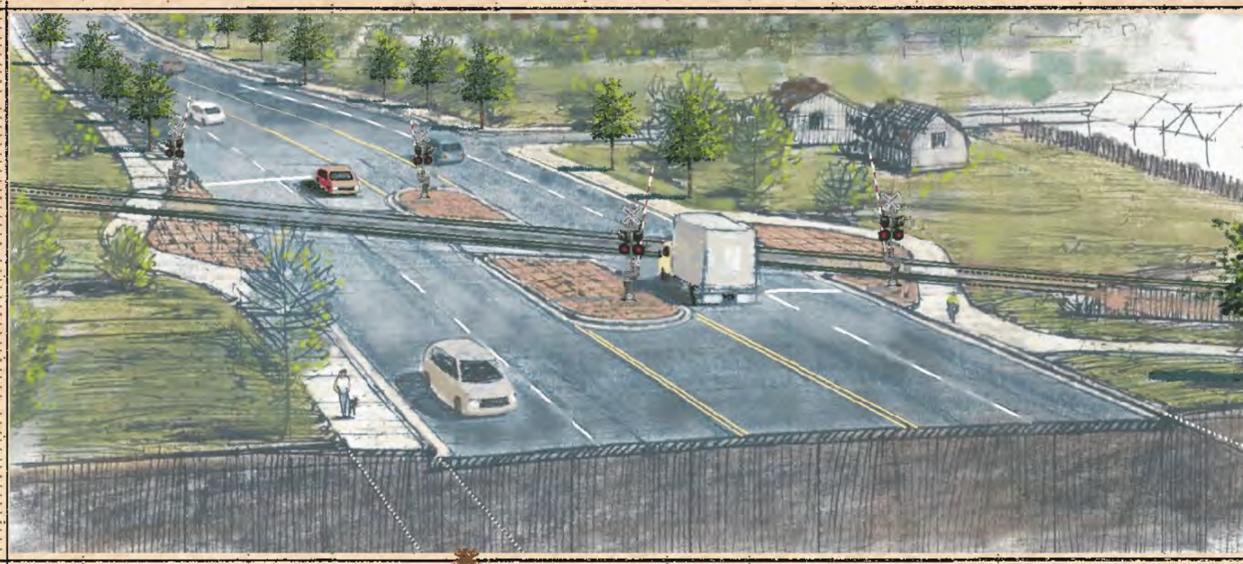
A short cut path at the end of a cul de sac or through a neighborhood can also be very helpful in connecting neighborhoods and businesses.

Multi purpose trails are both functional and recreational features. Good design of these features is important so they are safe and enjoyable.



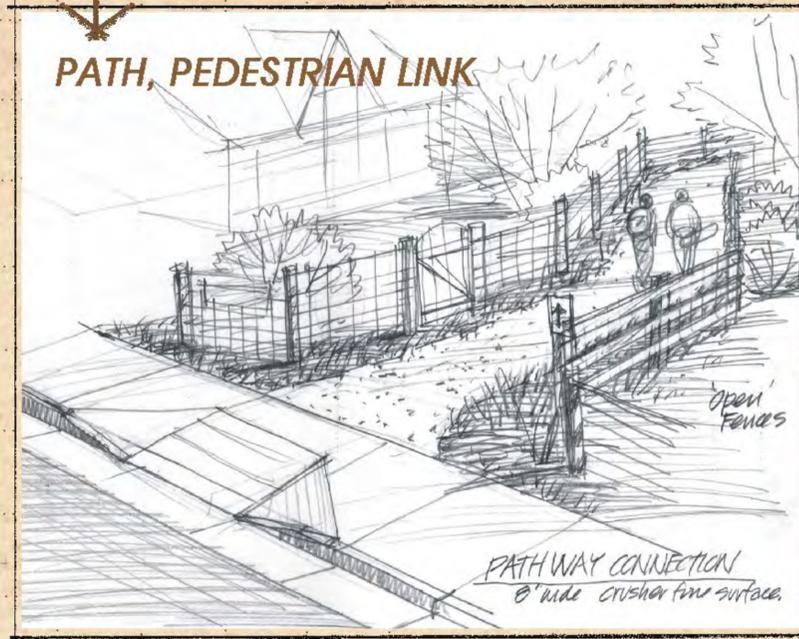
NEIGHBORHOOD CROSSWALK

Pedestrian ramp at cross walk. This sketch depicts more recent national accessibility standards. All ramps are a minimum 5 ft width. Low wall is intended as a tactile guide for visually impaired people. Note diagonal walk behind signal pole. In this sketch the cross walk is painted. More elaborate cross walk options might be appropriate at major pedestrian nodes. Appropriate signing is also desirable to alert drivers.



ABOVE: Illustration depicting a safer at-grade railroad crossing. Paved walkways, signals, and signs are important components. Although grade-separated crossings are safer they are not always possible.

* Critical links like crosswalks, ramps, and pathways are important components of walkway networks



PATH, PEDESTRIAN LINK

LOWER RIGHT: Connector path passing through a residential area. Mostly for pedestrians, these need to be only about 8 ft wide, between fences. Path users are less intimidated if the edge fences are 'open' type fences rather than solid. Wire mesh can be use on fences to keep dogs away. Fence shouldn't exceed 5 ft in height. The surface can be fine textured gravel compacted to create a smooth surface.

Walkways, paths, pedestrian ramps, trails





White vinyl fences are a popular choice presumably for their durability and cost. While they are better than some fence types they have a rather harsh bright shiny synthetic look. The open vinyl fence above could use some larger shrubs planted along the fence line to soften its look.



Another solid vinyl fence about 4 ft in height. This one is in shadow. In the bright sun the shiny reflective surface can be rather harsh. Note landscape space in front of fence. Large shrubs should be planted here to soften the view of the fence texture and enhance roadway.



This is a brick masonry wall about 4 1/2 ft tall at the top of a berm separating a parking lot from an arterial roadway. If a fence or wall is desirable this is a high quality attractive solution. Higher masonry walls, whether brick or block should have adequate landscape space in front of the wall for shrub planting.



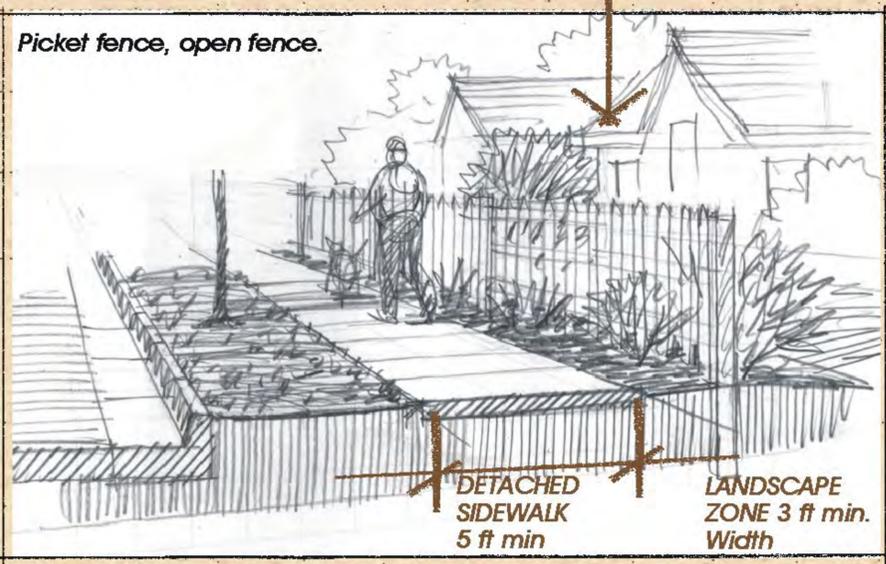
6 ft tall solid cedar fences are popular inexpensive options that have been overused in the past 30 years. Unfortunately these fences only last about 15-20 years. Along this arterial roadway the deteriorating fences become a neighborhood landscape blight issue. These are all private fences, some may get replaced others may not. What is most unfortunate is that there is no landscape space directly in front of the fence to soften the view of the tattered fences.

EDGES, FENCES
Along roadway edges
 Fences are used to create separations, to block views and define spaces. When placed along street frontages they often become the dominant landscape element. Most fences are built by property owners to define their property line and to screen the view of the roadway. Sometimes the roadway forms the edge of their back yard sometimes the front yard. Unfortunately a lot of these fences are stark and obtrusive, or just ugly. Often they are erected with out regard to the long term streetscape views. From the roadway side 6 ft tall solid fences convey a image of isolation and rejecting of the public roadway. More often than not there are no guidelines for fences that take the roadway landscape and views into consideration. It is not only the fence type but also where the fence is located in relation to walkways and the landscape spaces that can make a difference. Guidelines should encourage landscape spaces that separate the walkways from the fence or wall. Guideline should also discourage the use of fences taller than 5 ft for most frontages.

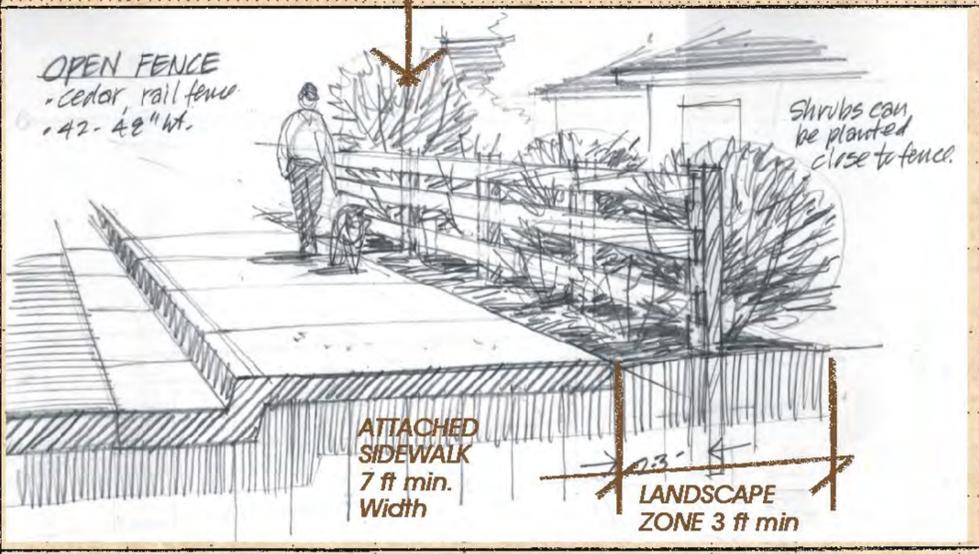
Edges, fences

PREFERRED FENCE ALTERNATIVES

BELOW: Sketch of picket fence alternative. Open fences, fences that allow some screened views, are often the most desirable when considering views from the roadway. Shrub planting along the fences can create a soft and welcome appearance.



BELOW: Sketch of open rail fence alternative. Both of these 3-5 ft height open fences create softer more attractive roadway edges. A variety of shrubs augment the screening ability of the fence and create a much more interesting and attractive roadway. Note with this rail fence that shrubs can be planted almost under the fence and grow through the openings. As the wood fence ages the older larger shrubs will conceal much of the fence wood.

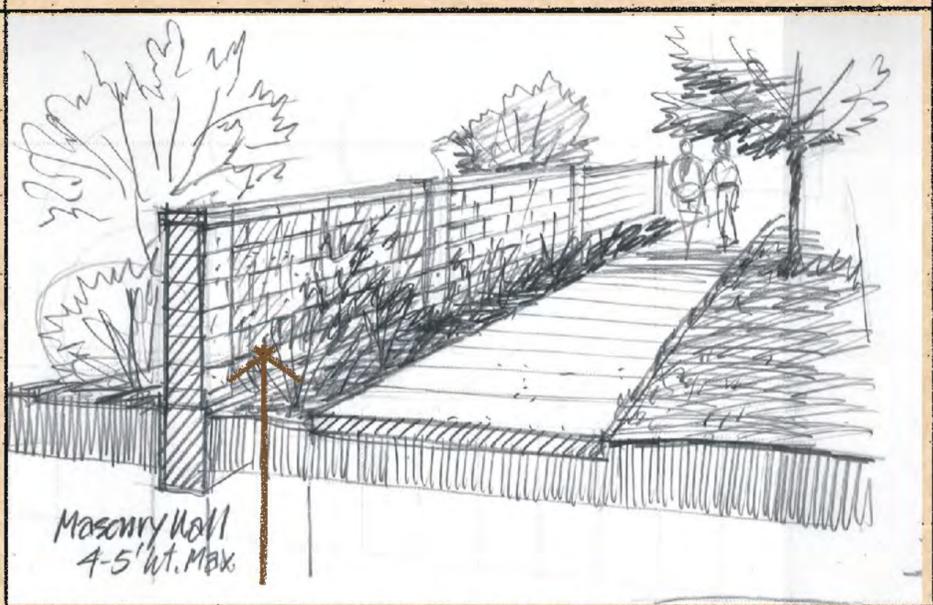


PRIVACY AND SAFETY ARE not a cut and dry issue. Privacy needs to be balanced with important visibility issues. Shutting all views to and from back yards does not help build community cohesiveness. Sometimes a more subtle separation is better than a solid fence or wall. There is even some evidence that solid fences inhibit crime awareness. Being able to see over a fence or through an open fence can have important advantages other than just aesthetics.

NOISE ABATEMENT-The solid wood fence above does little to attenuate noise from the roadway. While it blocks the views of the road, sound leaks through the cracks with little resistance. Nor does dense vegetation attenuate much sound. The most effective noise barriers are tall solid masonry walls or earthen berms such as the one shown above with the brick wall.

- * Open fences are usually better than solid fences;
- * Fences are best if they have a landscape zone in front of them.
- * Environmental design for public safety





Sketch of low masonry wall. 3-4 ft ht. This can be either block or brick or combination of those. This can also be effective in commercial areas to block views of parking lots or in residential areas where more distant views are desirable.

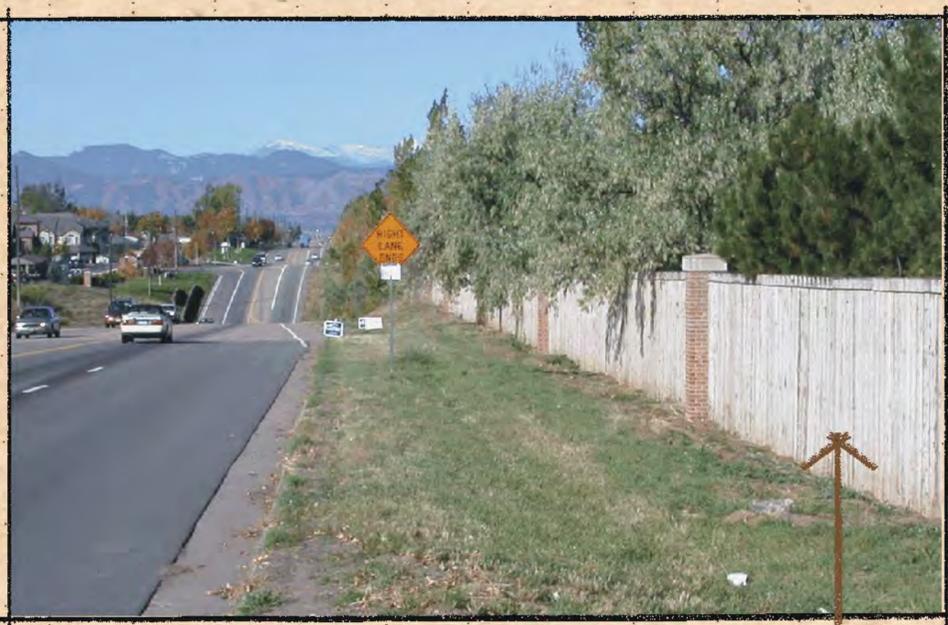
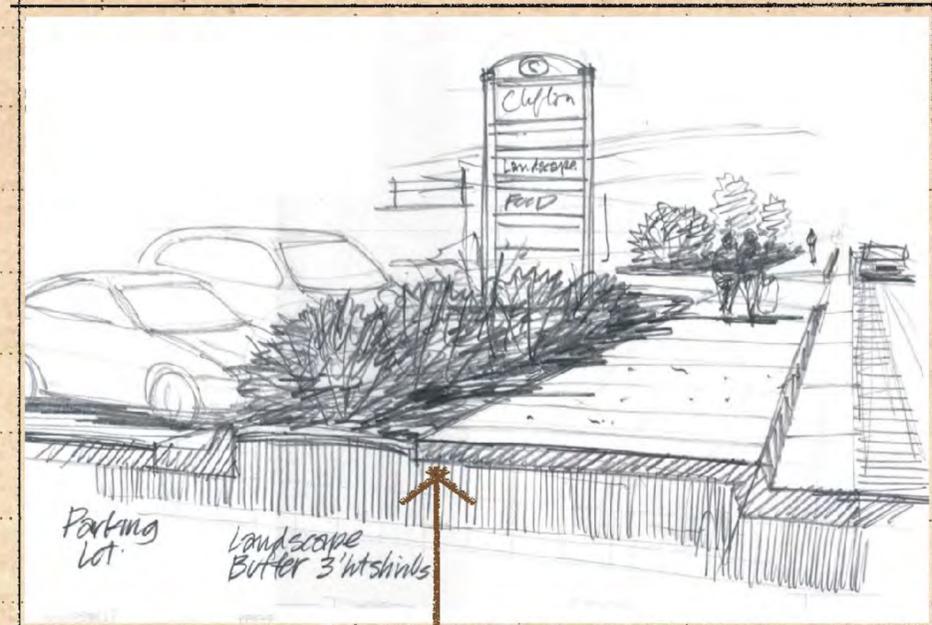


Photo of solid wood fence with masonry columns. Although the masonry columns give it some refinement it has most of the disadvantages of a plain wood fence with minimal sound attenuation and a short life span.



Tall masonry noise barrier wall along a limited access highway, consisting of concrete block with bands of different colors. If it is absolutely necessary to have a tall wall for sound attenuation then this is one of the more effective examples. Pilasters and banded colors add interest. Coarse textured surfaces help reduce noise reflection. Some shrub planting along the face of this wall would soften its appearance as well as intercepting dust. Note there is no sidewalk or landscape strip on this roadside which gives the otherwise attractive wall a somewhat harsh look.



ABOVE: landscape zone between parking lot and sidewalk. This landscape buffer does a great deal to mitigate the harsh affects of pavements and parking lots in commercial areas. Tree planting needs to be strategically located so signs are not blocked. This landscape zone should be a minimum of 5 - 6 ft wide. Shrub species should not exceed 4 ft in height. Trees need to have a higher canopy to permit views under branches, to buildings.

WALLS, LANDSCAPE EDGES

Along arterial roadways

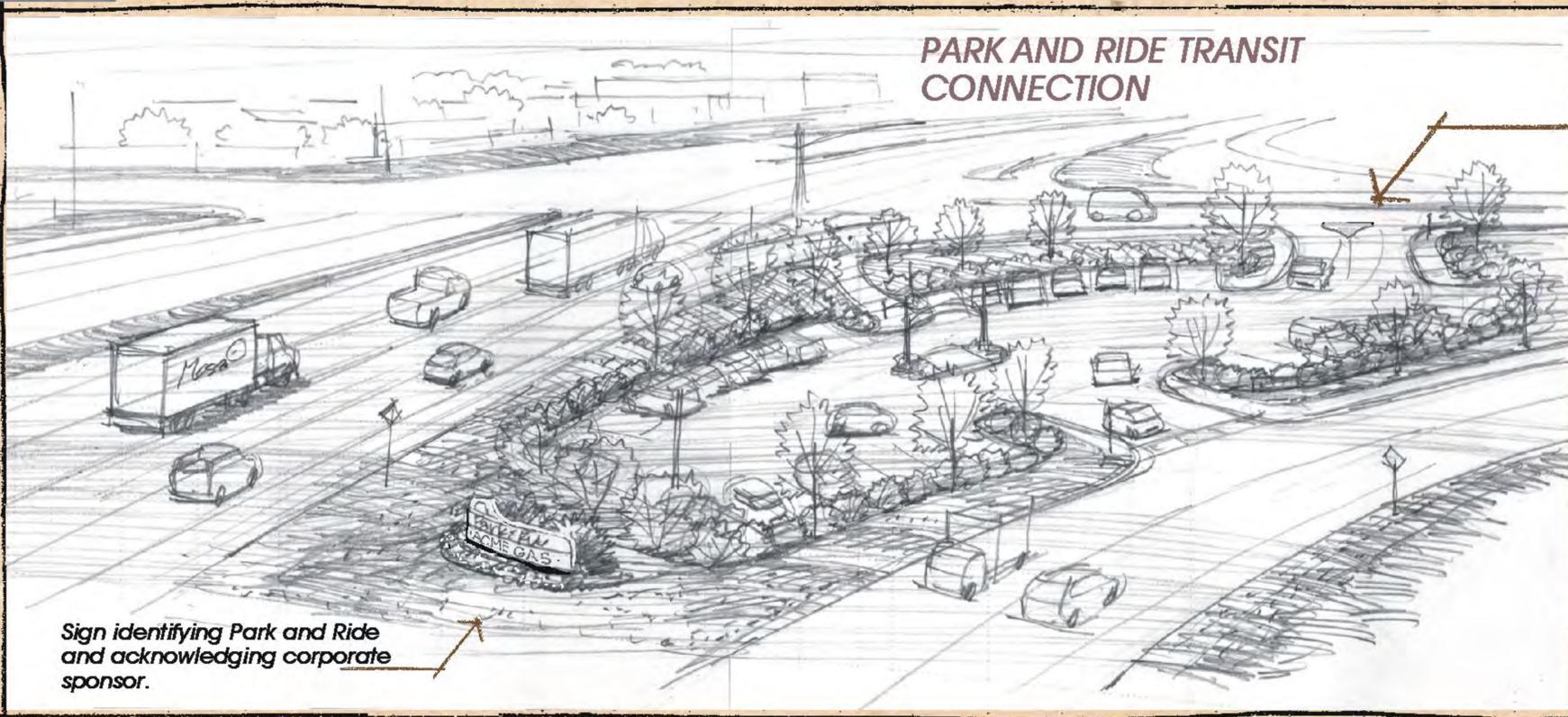
Masonry walls are the best sound attenuators. For residential area fronting on noisy busy arterial roadways brick or concrete block masonry walls are the most effective and arguably the most attractive solution. The tall 8-10 ft walls shown on photo at lower left are effective noise barriers. Careful treatment of masonry patterns and colors however, are important design considerations. A big blank wall with no color or refinement can be real negative element as well as an invitation to vandals. Even a low wall shown in the sketch (above left) helps reduce tire noise while not creating a 'canyon' feeling. The landscape strip mentioned previously is also important for mitigating the harsh effects of a tall wall, reducing dust, and deterring vandalism.

Other edges common to commercial strip areas are parking lot walkway edges. Views of lots of cars, and asphalt pavement can be obtrusive and harsh. A landscape zone with 3-4 ft ht dense shrubs and plants can do a lot to soften those negative views. Flower planting and tree planting are also important. Tree planting should be a little more widely spaced to allow views of stores and signs.

Edges, fences, noise barriers, parking lot edges

* *Masonry walls are the best noise barriers, but need to be designed carefully*

* *Parking lots should have some edge landscape by sidewalks*



PARK AND RIDE TRANSIT CONNECTION

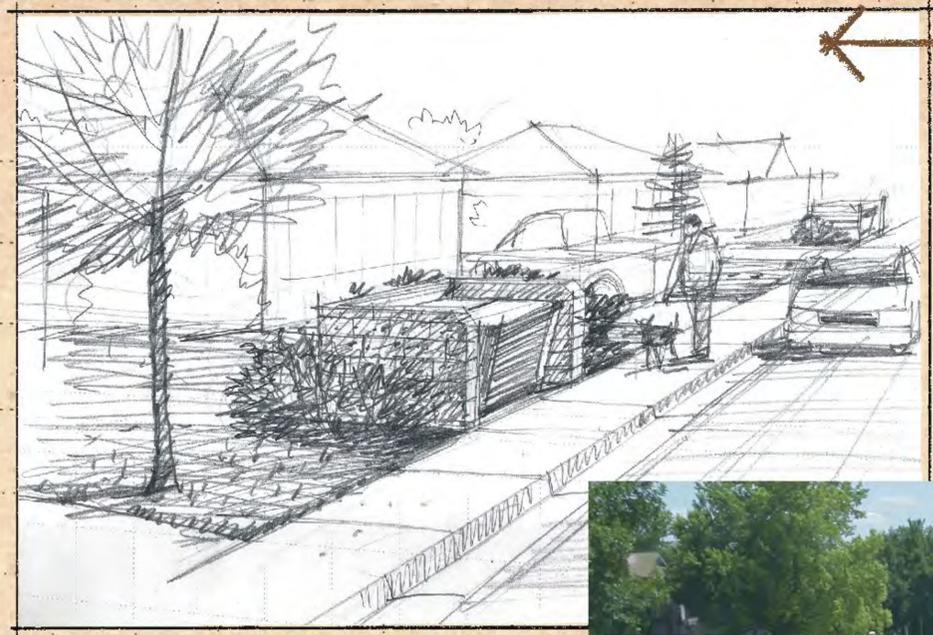
Two access points.
 Landscape of trees and shrubs around periphery of parking.
 Walkway connections,
 Adequate lighting, trash containers
 Local storm water detention may also be possible in these areas. Parking area grading can be designed to accommodate some storm water detention.

Sign identifying Park and Ride and acknowledging corporate sponsor.

PARK AND RIDES
Corporate sponsored
 A number of informal parking areas have developed along the I-70 Business Loop, along the adjacent frontage road. This the primary arterial entry way for the Clifton / Fruitvale area and these scattered parking areas are a negative visual distraction for such an important roadway. It is suggested here that these park and rides could be legitimized and improved with paving and landscape. Larger regional businesses may sponsor the construction and maintenance and get a sign acknowledging their community contribution.

* Corporations, maintenance districts, or citizen's groups can be important sponsors of community enhancements

Park and Rides, dumpsters



LOWER LEFT; Some dumpsters have to be directly on the street for access. A small block masonry wall combined with some shrub planting can reduce the obtrusiveness



RIGHT: A heavy wood fence and landscape are used to soften the negative appearance of a parking lot dumpster.



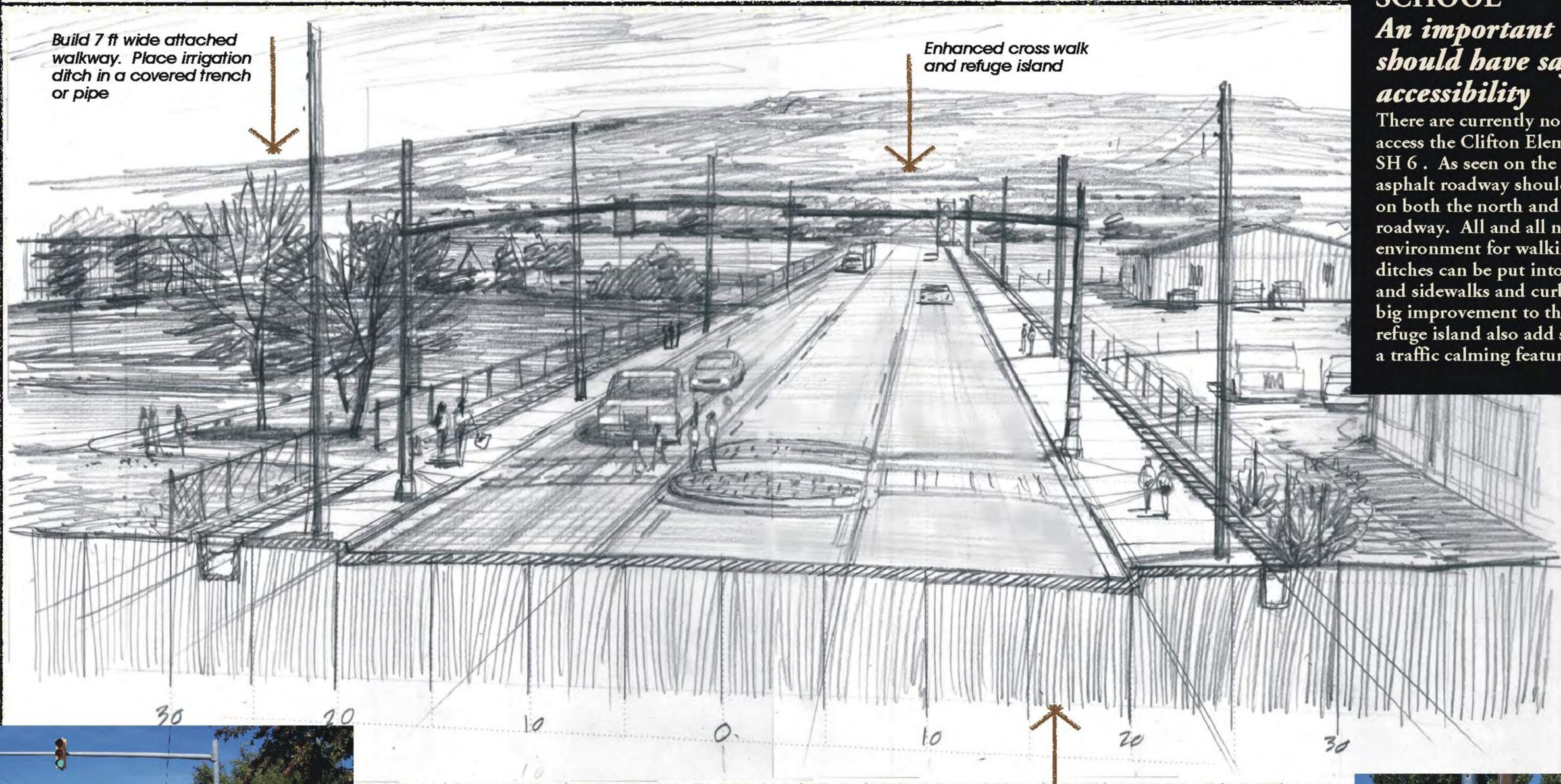
DUMPSTERS
They don't have to be that ugly
 Dumpsters for trash collection are a necessary evil. They need to be in an accessible and often a conspicuous location. A series of beat up containers lining the street can be an eyesore. There are ways though to create a more discrete enclosure with masonry walls or heavy wood fence as shown here.

* There is hope for even the ugliest of urban features.

CLIFTON ELEMENTARY SCHOOL

An important community node should have safe pedestrian accessibility

There are currently no continuous walkways that access the Clifton Elementary school from F Road, SH 6. As seen on the photos there are 4-6 ft wide asphalt roadway shoulders and an irrigation ditch on both the north and south sides of this busy roadway. All and all not a safe pedestrian environment for walking to school. If irrigation ditches can be put into trenches covered with grates and sidewalks and curbs added it would make an a big improvement to the pedestrian safety. A median refuge island also add some safety as well as acting as a traffic calming feature.



Clifton Elementary School



LEFT: Looking west along north side of F Road note wide paved shoulder and irrigation ditch

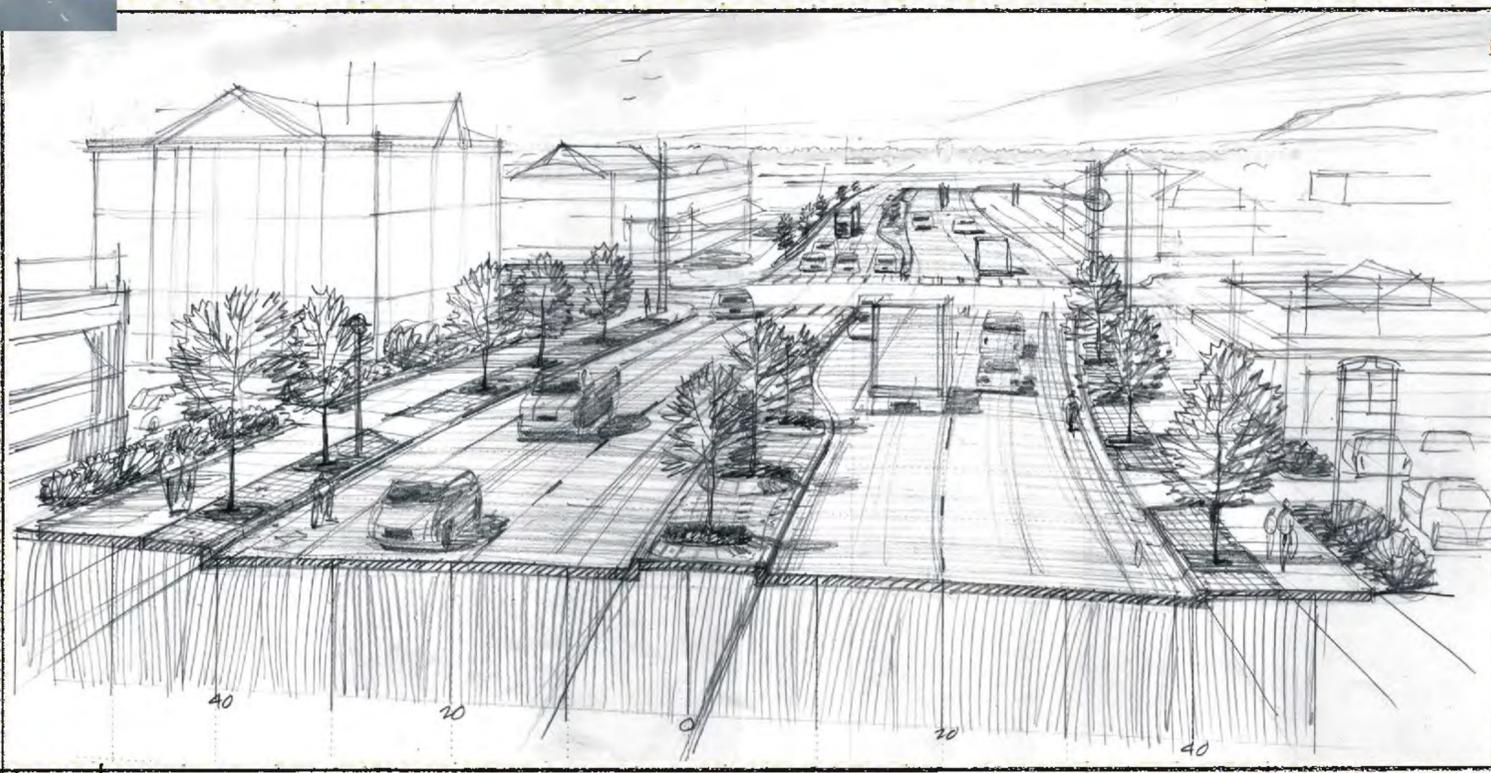
View to the east at the school cross walk area of F Road, one through lane each direction with center left turn lane.

Safe pedestrian crossing with walk signals and enhanced cross walks

Looking west, south side of F Road near the Clifton Elementary School.



* One idea for improving pedestrian access to this important community node.



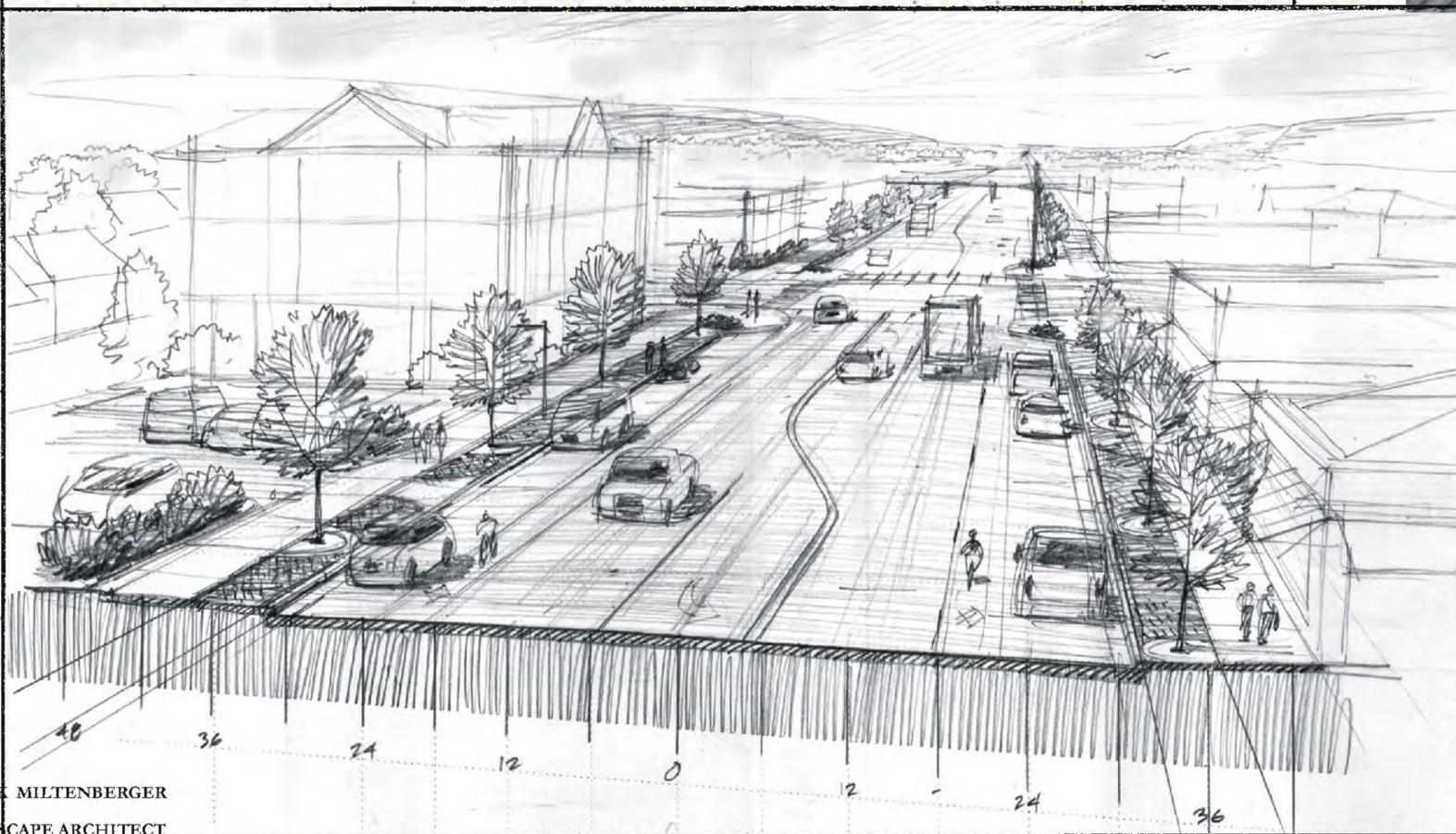
LEFT: Four lane alternative. This one has a landscaped median and a slight curve in the alignment to add interest and avoid important buildings. Bike lanes are also included. Parking for businesses would be to the sides and backs of buildings that front close to the street. Once again pedestrian friendly wide sidewalks and tree planting will encourage local pedestrian activity. This alternative would require more land purchase and would be more expensive than the narrower concept below.

'F' ROAD DOWNTOWN CLIFTON
Between I-70 Loop and Clifton Elementary School

High traffic volumes, intermittent sidewalks, and related problems give this important state and local road an unfriendly feeling. Getting to the post office can be difficult. Planning for future improvements will consider a number of options, or combinations of options. These two sketch concepts include some ideas for consideration. Both would enhance the pedestrian accessibility. Handling the most traffic volume in the safest way is the highest priority.



ABOVE: Project area



LEFT: two lane alternative, with center left turn lane and on-street parking. This alignment will require only minimal right-of-way land purchase. Wide sidewalks and tree planting are also part of this scheme. Note the 'chokers', or constrictions, at the intersections. These are intended to enhance the important pedestrian crossings, and act as traffic calming features.

- * Enhancements to the streetscape make for a vibrant commercial core at a human scale.
- * Simple aesthetic treatments can help retain and attract commerce/businesses
- * Creating attractive urban spaces in commercial areas can create opportunities for community events and gatherings. Farmers markets, sidewalk sales, musical entertainment, make neighborhoods fun places to live and visit.

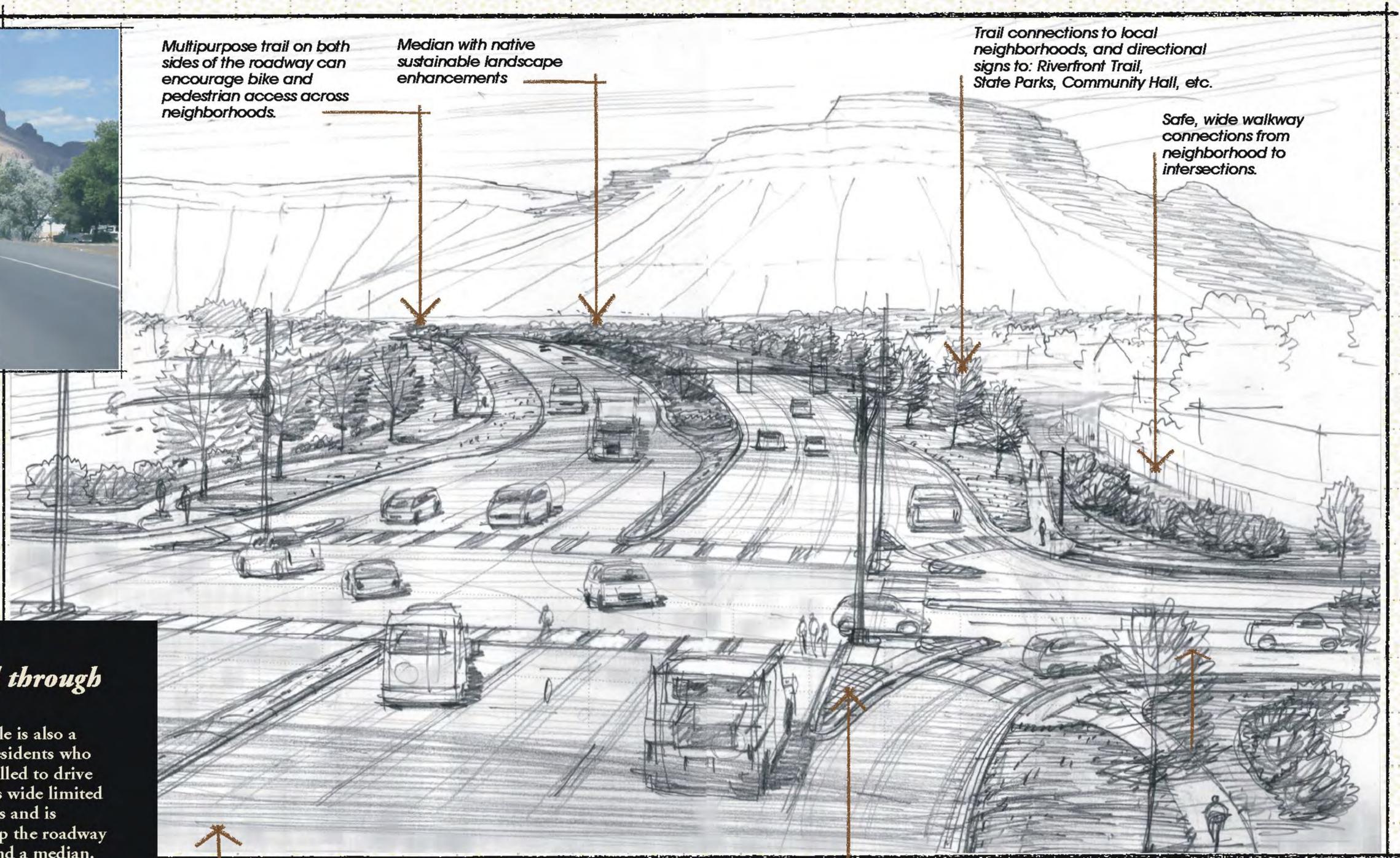
Old downtown should be a safer more friendly place to visit or to do business.

F Road, downtown Clifton



ABOVE : Existing northbound view of I-70 Business loop. Note the wide shoulders and median. Note also the commanding view of Mt. Garfield and the Book Cliffs. From this view point existing trees create an attractive middle ground.

Enhanced landscape of tree planting along roadsides and intersections.



Multipurpose trail on both sides of the roadway can encourage bike and pedestrian access across neighborhoods.

Median with native sustainable landscape enhancements

Trail connections to local neighborhoods, and directional signs to: Riverfront Trail, State Parks, Community Hall, etc.

Safe, wide walkway connections from neighborhood to intersections.

Bird's eye view looking north, sketch concept for enhancing this arterial roadway.

Safe pedestrian crossing with walk signals and enhanced cross walks

I-70 Business Loop

I-70 BUSINESS LOOP
The primary arterial spine road through Clifton / Fruitvale

This primary entrance arterial into Clifton Fruitvale is also a major impediment to community connectivity. Residents who live less than a quarter mile from stores feel compelled to drive because of the harsh pedestrian environment. This wide limited access highway has few pedestrian accommodations and is intimidating at best. This concept would tighten up the roadway cross section to a more urban arterial with curbs and a median. The addition of enhanced cross walks and traffic islands will help with pedestrian accessibility. A detached multi purpose trail is also suggested for both sides of the roadway as well as roadside landscape upgrades.

** This busy somewhat scary arterial roadway has the potential to become a more friendly attractive gateway and community connector.*

PART II SPECIFIC AREAS - I-70 Clifton Exit, Gateway enhancement



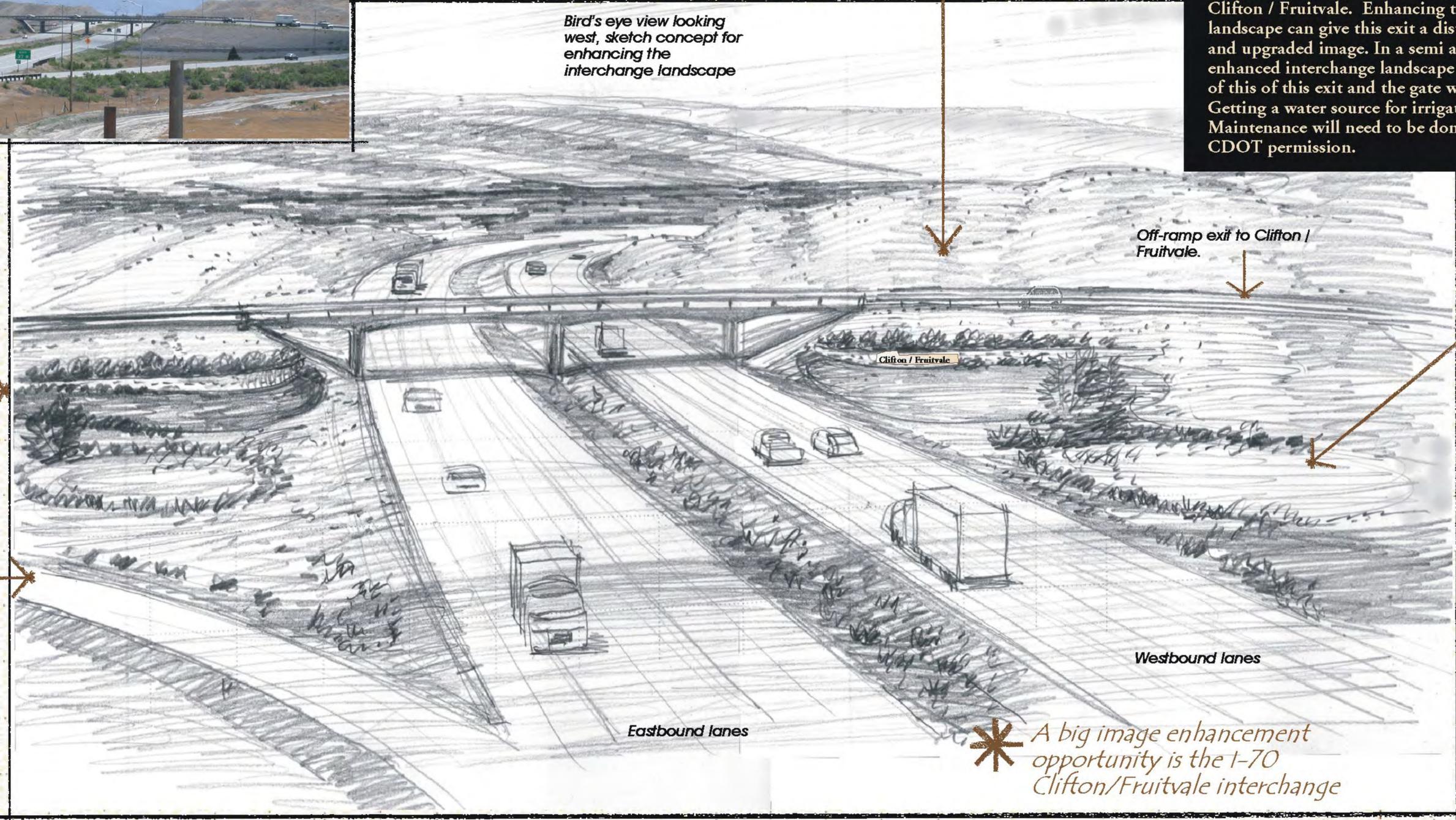
I-70 CLIFTON EXIT GATEWAY
Enhancing the interchange landscape can provide important visibility for Clifton /Fruitvale
 Interstate 70 is the primary connection to the state for the traveling public and regional commerce for Clifton / Fruitvale. Enhancing the interchange landscape can give this exit a distinguishing image and upgraded image. In a semi arid desert a greener enhanced interchange landscape can raise the profile of this of this exit and the gate way it represents. Getting a water source for irrigation may be an issue. Maintenance will need to be done privately with CDOT permission.



View to the west toward Clifton Interchange. Barren dry slopes give this interchange a stark dusty look. Conspicuous embankment slopes provide good enhancement opportunity.

Enhanced landscape at conspicuous bridge embankment slope area. May include stone masonry wall, tree and shrub planting, a small patch of irrigated grass and a sign plaque

Bird's eye view looking west, sketch concept for enhancing the interchange landscape



South side of I-70 conspicuous embankment slope can have similar treatment to north side with a rock wall, tree and shrub planting and some irrigated turf.

Eastbound on ramp

Off-ramp exit to Clifton / Fruitvale.

Possible storm water detention and water quality planting

Eastbound lanes

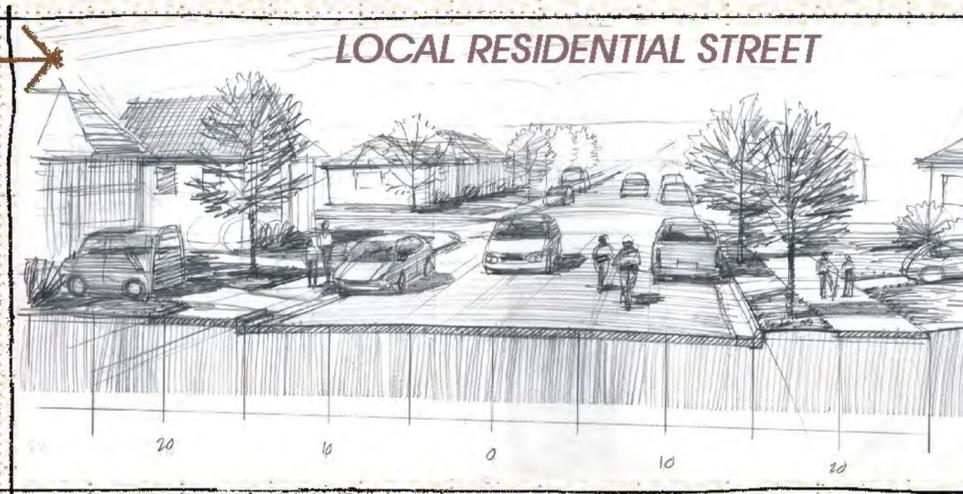
Westbound lanes

***** A big image enhancement opportunity is the I-70 Clifton/Fruitvale interchange

I-70 Clifton Exit Gateway enhancement



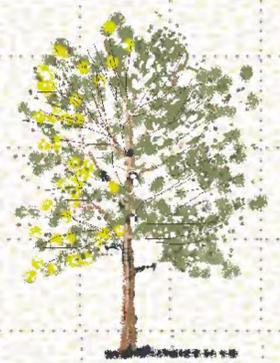
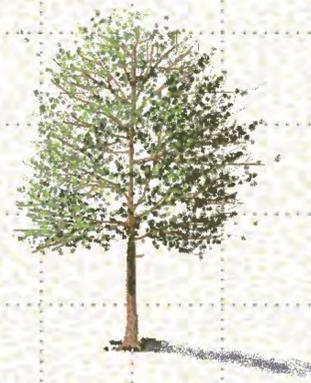
LOCAL RESIDENTIAL STREETS-
all of the roadside landscape is privately installed and maintained. Home owners can be offered incentives such as discounted 'arbor day trees' and given advice on species, spacing and planting techniques. Sidewalks should be required for all private development



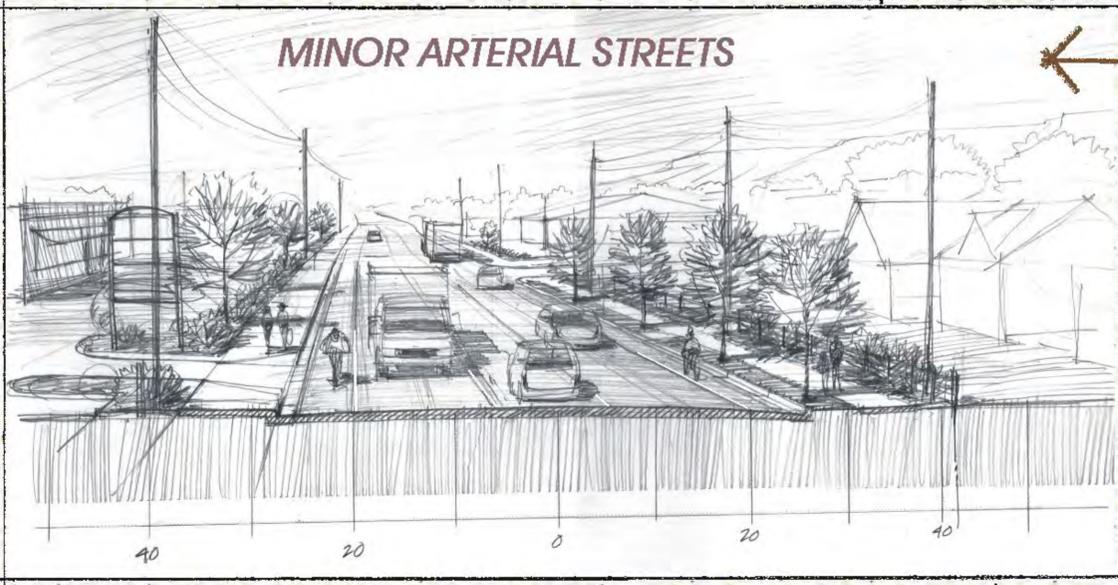
LOCAL RESIDENTIAL STREET

LANDSCAPE MAINTENANCE STRATEGIES
Combination of private and public maintenance is recommended.

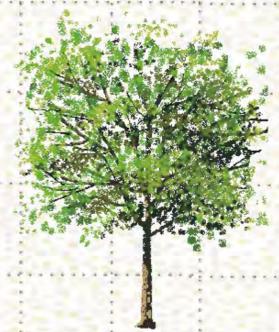
It is in the public's best interests to have pleasant attractive walkable public streets. The residents feel better about their neighborhood and property values are enhanced. Tree planting programs or incentives can encourage public rights of way landscape enhancements. Planning regulations can require these improvements. Maintenance districts can be created for maintaining roadway medians or unique public landscapes.



MINOR ARTERIAL STREETS

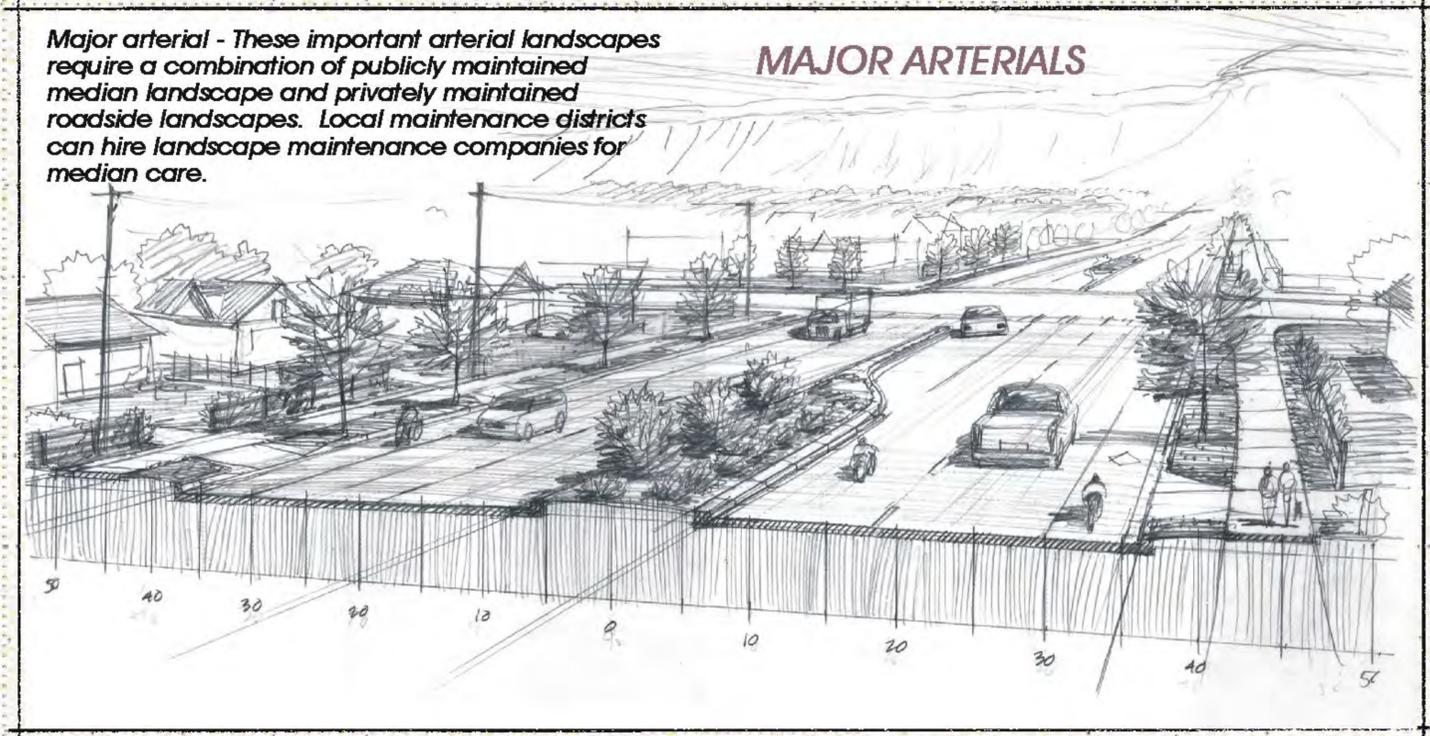


LEFT; Minor arterial streets, encourage property owners to plant trees by providing discounted trees and planting information. For edge planting, encourage building department to make a landscape zone a requirement for edges and fence construction. Sidewalks should be required as a part of property improvements.



Major arterial - These important arterial landscapes require a combination of publicly maintained median landscape and privately maintained roadside landscapes. Local maintenance districts can hire landscape maintenance companies for median care.

MAJOR ARTERIALS

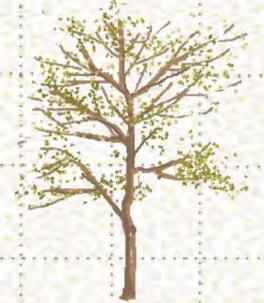


Maintenance strategies.

SPECIAL HISTORIC OR UNIQUE DISTRICTS

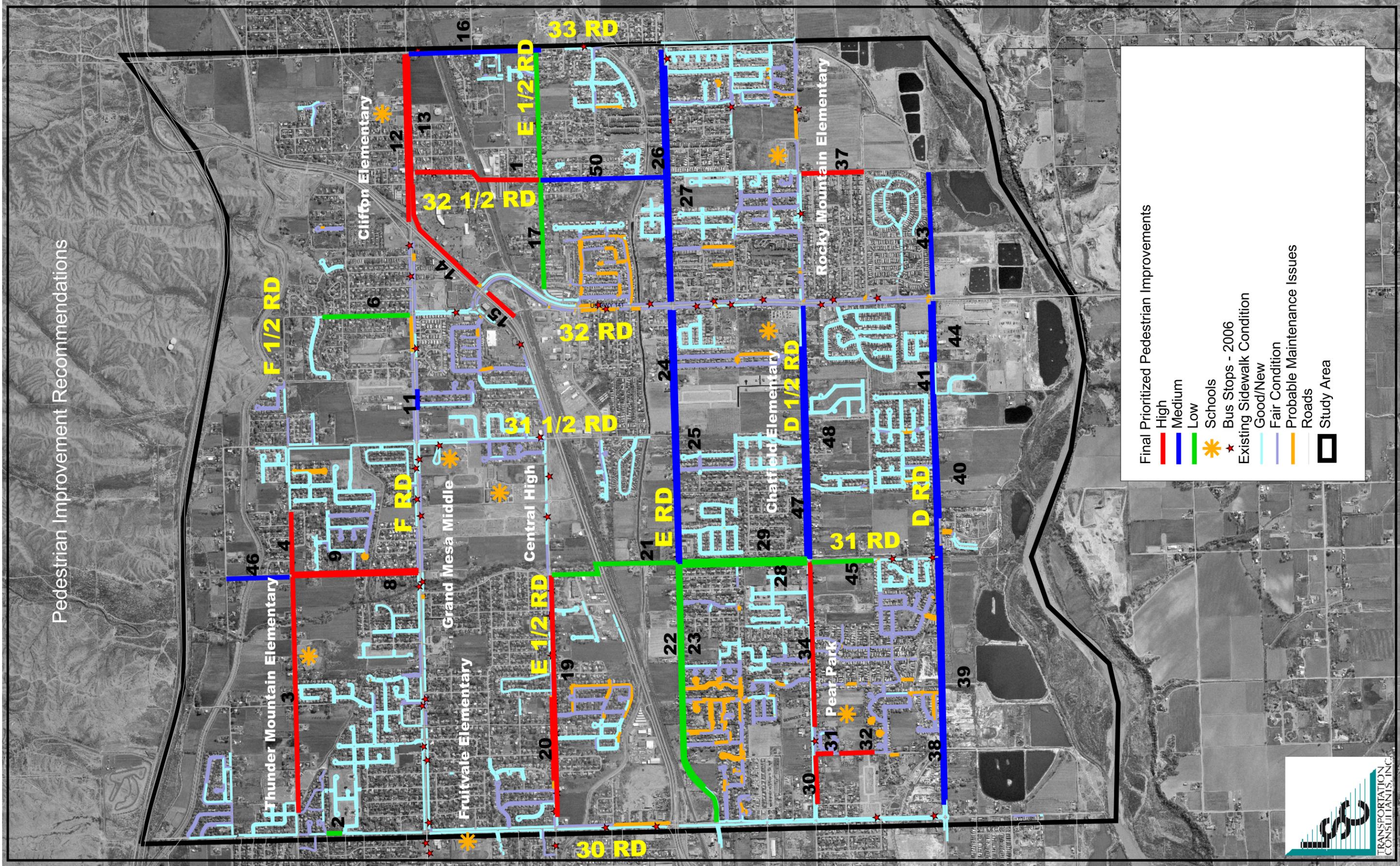


LEFT: Historic districts. Streetscape grants can be made available for designing and funding construction. Special maintenance districts can be created to maintain the roadside landscapes, or landscapes can be maintained under written agreement.



* Public / private cooperation can create livable and attractive communities.

Pedestrian Improvement Recommendations

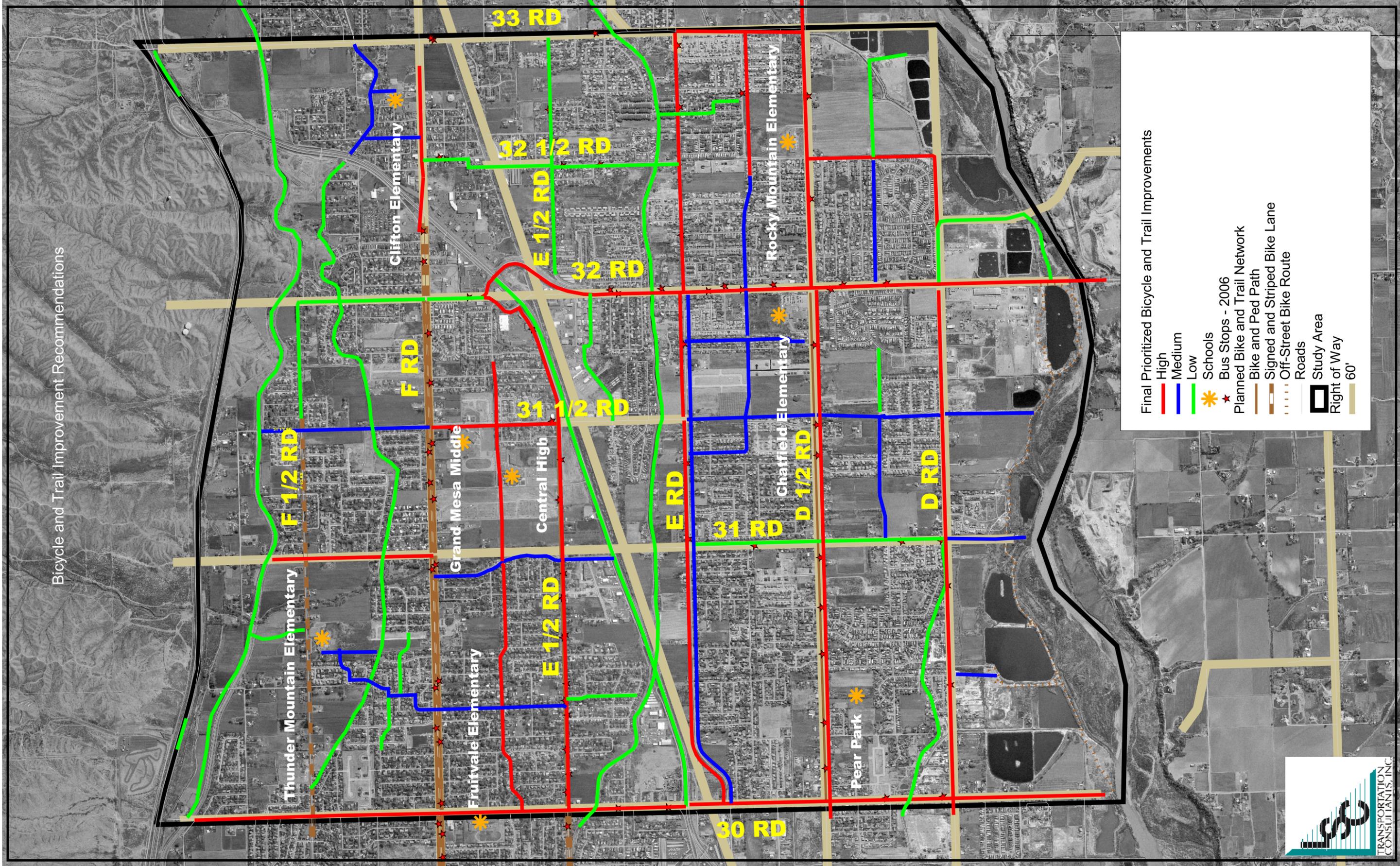


Final Prioritized Pedestrian Improvements

- High
- Medium
- Low
- Schools
- Bus Stops - 2006
- Existing Sidewalk Condition
- Good/New
- Fair Condition
- Probable Maintenance Issues
- Roads
- Study Area



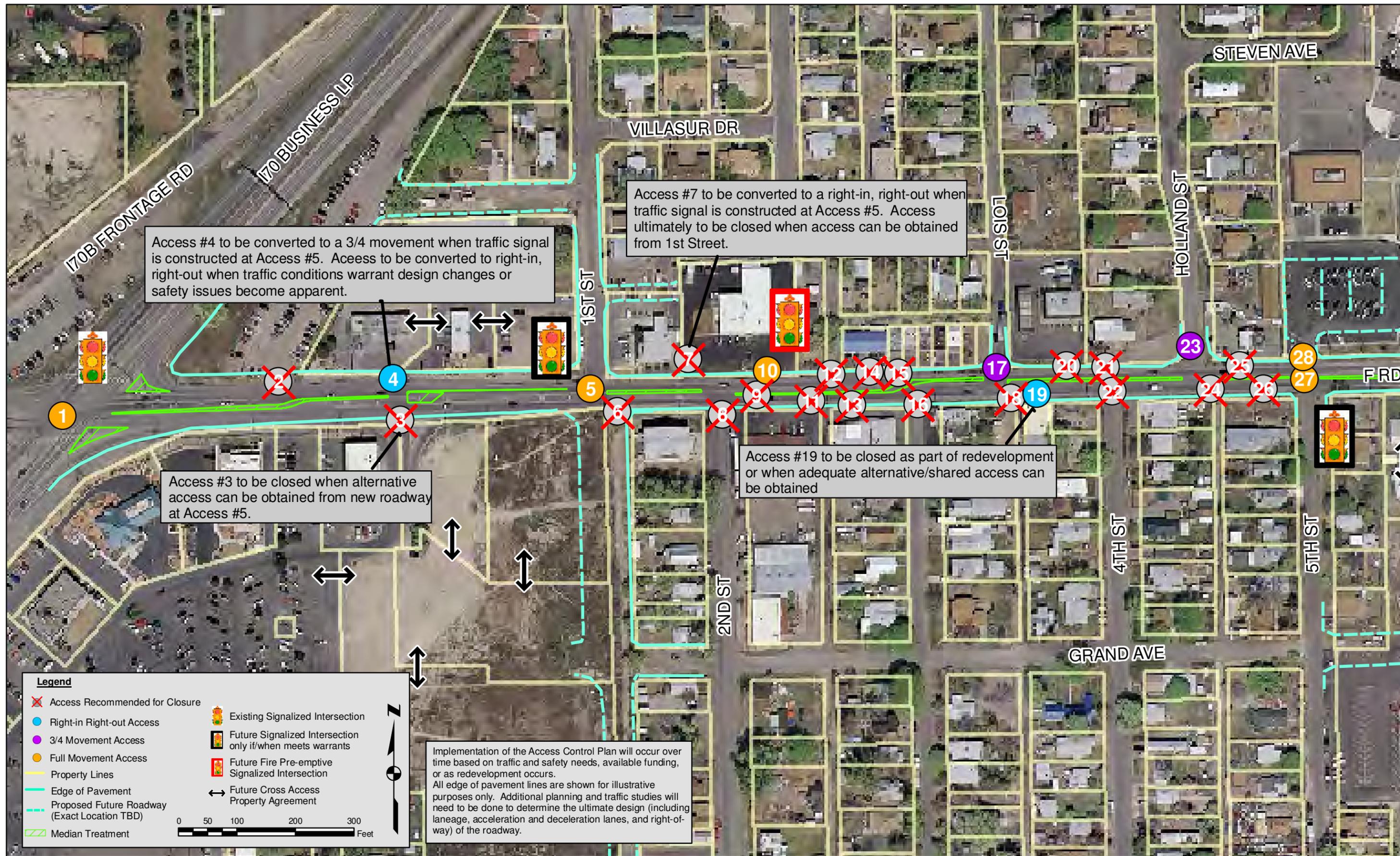
Bicycle and Trail Improvement Recommendations



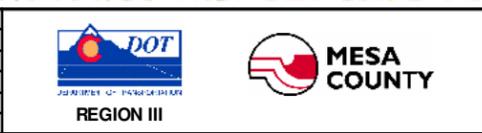
Final Prioritized Bicycle and Trail Improvements

- High (Red line)
- Medium (Blue line)
- Low (Green line)
- Schools (Orange asterisk)
- Bus Stops - 2006 (Red star)
- Planned Bike and Trail Network (Brown line)
- Bike and Ped Path (Dashed brown line)
- Signed and Striped Bike Lane (Dotted brown line)
- Off-Street Bike Route (Dashed orange line)
- Roads (Black outline)
- Study Area (Black outline)
- Right of Way (Yellow line)
- 60' (Yellow line)





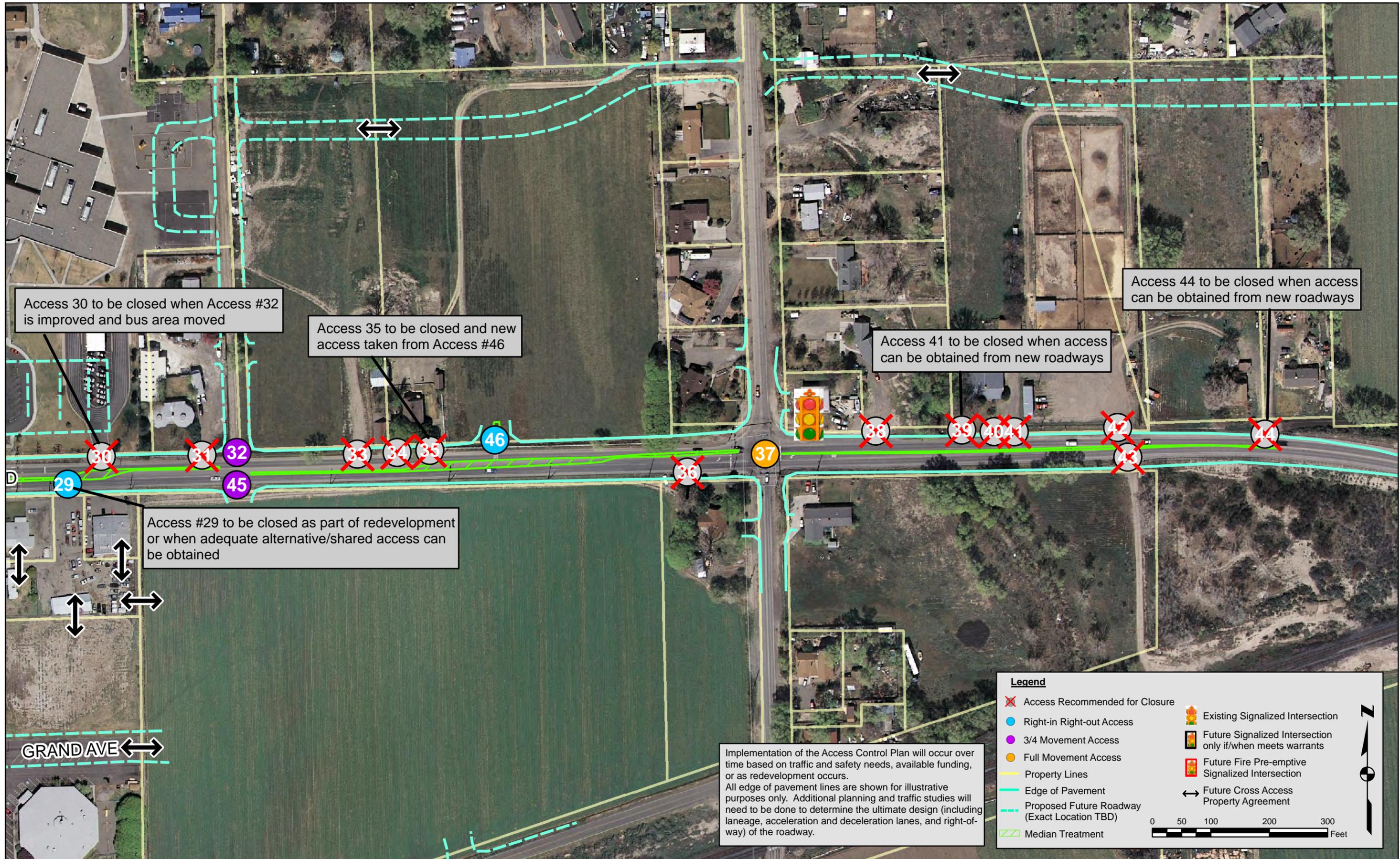
Computer File Information		Index of Revisions	
Creation Date: 08/08/08	Initials:		
Last Modification Date: 08/08/08	Initials:		
Full Path: G:\Projects\Trans\100000305\MXD			
Drawing File Name:			
Acad Ver. ACAD2000 Scale:	Units: ENGLISH		



No. Revisions:	
Revised:	
Void:	

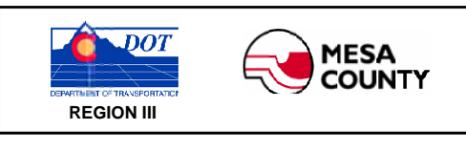
US 6 Access Control Plan

Project No./Code	
Sheet Number:	1 of 2



Computer File Information	
Creation Date: 08/08/08	Initials:
Last Modification Date: 08/08/08	Initials:
Full Path: G:\Projects\Trans\100000305\MXD	
Drawing File Name:	
Acad Ver. ACAD2000 Scale:	Units: ENGLISH

Index of Revisions	



No. Revisions:	
Revised:	
Void:	

US 6 Access Control Plan

Project No./Code	
Sheet Number:	1 of 2



APPENDIX B
TRAFFIC COUNT DATA



Site Code: 6
 Station ID: 6
 I-70 EB ON RAMP

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	10	1	0	0	3	0	0	2	0	0	0	0	16
01:00	0	8	1	0	1	0	0	0	1	0	0	0	0	11
02:00	0	14	4	0	0	4	0	0	3	0	0	0	0	25
03:00	1	28	5	0	2	1	0	0	2	0	0	0	0	39
04:00	1	108	30	1	3	2	0	2	0	0	0	0	0	147
05:00	6	275	63	0	4	1	0	1	8	0	0	0	0	358
06:00	3	282	70	1	4	5	0	3	6	1	0	0	0	375
07:00	8	185	30	0	4	1	0	1	14	0	0	0	0	243
08:00	5	169	22	0	5	5	0	0	10	0	0	0	1	217
09:00	2	180	17	0	3	4	0	1	9	2	0	0	0	218
10:00	2	152	19	0	4	9	1	1	13	0	0	0	0	201
11:00	2	139	17	0	1	2	0	1	8	0	0	0	0	170
12 PM	3	141	8	1	3	0	0	1	7	1	0	0	1	166
13:00	1	125	10	0	2	3	1	2	5	0	0	0	0	149
14:00	1	159	13	0	2	2	0	1	7	1	0	0	0	186
15:00	1	178	19	0	2	1	0	2	2	0	0	0	0	205
16:00	7	229	19	0	2	0	0	1	6	1	0	0	1	266
17:00	4	179	13	0	1	0	0	0	3	0	0	0	0	200
18:00	1	99	5	0	2	1	0	0	3	0	0	0	1	112
19:00	2	60	4	0	0	0	0	1	4	0	0	0	0	71
20:00	2	62	3	0	0	0	0	0	4	1	0	0	0	72
21:00	0	28	3	0	0	0	0	0	1	0	0	0	0	32
22:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
23:00	0	7	0	0	0	1	0	0	1	0	0	0	0	9
Day Total	52	2828	377	3	46	45	2	18	119	7	0	0	4	3501
Percent	1.5%	80.8%	10.8%	0.1%	1.3%	1.3%	0.1%	0.5%	3.4%	0.2%	0.0%	0.0%	0.1%	
AM Peak	07:00	06:00	06:00	04:00	08:00	10:00	10:00	06:00	07:00	09:00			08:00	06:00
Vol.	8	282	70	1	5	9	1	3	14	2			1	375
PM Peak	16:00	16:00	15:00	12:00	12:00	13:00	13:00	13:00	12:00	12:00			12:00	16:00
Vol.	7	229	19	1	3	3	1	2	7	1			1	266



Site Code: 6
 Station ID: 6
 I-70 EB ON RAMP

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	1	5	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	7	2	0	0	0	0	0	2	0	0	0	0	11
02:00	1	12	1	0	1	1	0	0	2	0	0	0	0	18
03:00	0	32	6	0	2	1	0	0	4	0	0	0	0	45
04:00	2	101	23	0	3	0	0	0	5	0	0	0	0	134
05:00	6	271	64	0	6	3	0	2	5	0	0	0	0	357
06:00	1	291	56	0	4	3	0	1	11	2	0	0	0	369
07:00	2	176	27	0	7	2	0	0	11	0	0	0	0	225
08:00	2	156	17	0	4	1	0	1	8	0	0	0	1	190
09:00	2	151	16	0	6	1	0	1	8	3	0	0	1	189
10:00	2	138	13	0	2	1	0	1	9	0	0	0	0	166
11:00	2	141	6	0	0	5	0	0	12	0	0	0	0	166
12 PM	4	172	12	0	2	5	0	1	14	0	0	0	0	210
13:00	3	158	15	0	4	3	0	1	11	1	0	0	0	196
14:00	4	156	7	0	1	3	0	0	10	1	0	0	0	182
15:00	2	179	20	0	2	0	0	1	10	0	0	0	0	214
16:00	6	241	18	0	1	0	0	0	1	0	0	0	0	267
17:00	8	176	11	0	1	2	0	0	3	2	0	0	0	203
18:00	7	84	4	0	1	1	0	0	2	0	0	0	0	99
19:00	0	54	6	0	1	0	0	2	3	1	0	0	0	67
20:00	1	48	3	0	2	0	0	0	2	1	0	0	0	57
21:00	1	35	3	0	0	0	0	0	1	0	0	0	0	40
22:00	2	22	4	0	3	0	0	0	2	0	0	0	0	33
23:00	1	15	1	0	0	1	0	0	1	0	0	0	0	19
Day Total	60	2821	335	0	53	33	0	11	137	11	0	0	2	3463
Percent	1.7%	81.5%	9.7%	0.0%	1.5%	1.0%	0.0%	0.3%	4.0%	0.3%	0.0%	0.0%	0.1%	
AM Peak	05:00	06:00	05:00		07:00	11:00		05:00	11:00	09:00			08:00	06:00
Vol.	6	291	64		7	5		2	12	3			1	369
PM Peak	17:00	16:00	15:00		13:00	12:00		19:00	12:00	17:00				16:00
Vol.	8	241	20		4	5		2	14	2				267
Grand Total	112	5649	712	3	99	78	2	29	256	18	0	0	6	6964
Percent	1.6%	81.1%	10.2%	0.0%	1.4%	1.1%	0.0%	0.4%	3.7%	0.3%	0.0%	0.0%	0.1%	



Site Code: 7.5
 Station ID: 7.5
 I-70 WB ON-RAMP

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	5	2	0	0	0	0	0	0	0	0	0	0	7
01:00	0	1	2	0	2	0	0	0	0	0	0	0	0	5
02:00	0	8	1	0	0	0	0	0	1	0	0	0	0	10
03:00	0	13	3	0	2	0	0	0	2	0	0	0	0	20
04:00	1	23	10	0	8	0	0	1	0	0	0	0	0	43
05:00	0	70	28	0	21	0	0	2	0	0	0	0	0	121
06:00	0	154	85	0	35	0	0	7	3	1	1	0	0	286
07:00	1	282	88	1	43	3	0	6	3	0	0	0	0	427
08:00	0	135	44	1	15	1	0	2	6	0	0	0	0	204
09:00	0	99	29	1	11	0	0	2	1	0	0	0	0	143
10:00	0	72	33	0	19	1	0	4	2	0	0	0	0	131
11:00	0	88	34	2	23	0	0	2	4	2	0	0	0	155
12 PM	0	62	32	0	19	1	0	6	4	0	0	0	0	124
13:00	1	73	42	1	13	1	0	2	0	0	0	1	0	134
14:00	0	105	31	2	13	3	0	6	1	0	0	1	0	162
15:00	0	83	44	2	19	1	0	0	4	0	0	0	0	153
16:00	0	119	56	0	17	0	0	3	5	0	0	0	0	200
17:00	0	106	46	0	22	0	0	1	1	0	0	0	0	176
18:00	0	75	38	0	15	0	0	1	3	0	0	0	0	132
19:00	0	34	15	0	10	0	0	0	0	0	0	0	0	59
20:00	0	39	16	0	5	0	0	0	1	0	0	0	0	61
21:00	0	25	8	0	3	0	0	0	0	0	0	0	0	36
22:00	0	17	5	0	1	0	0	0	1	0	0	0	0	24
23:00	0	9	3	0	2	0	0	0	2	0	0	0	0	16
Day Total	3	1697	695	10	318	11	0	45	44	3	1	2	0	2829
Percent	0.1%	60.0%	24.6%	0.4%	11.2%	0.4%	0.0%	1.6%	1.6%	0.1%	0.0%	0.1%	0.0%	
AM Peak	04:00	07:00	07:00	11:00	07:00	07:00		06:00	08:00	11:00	06:00			07:00
Vol.	1	282	88	2	43	3		7	6	2	1			427
PM Peak	13:00	16:00	16:00	14:00	17:00	14:00		12:00	16:00			13:00		16:00
Vol.	1	119	56	2	22	3		6	5			1		200



Site Code: 7.5
 Station ID: 7.5
 I-70 WB ON-RAMP

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	1	4	1	0	0	1	0	0	0	0	0	0	0	7
01:00	0	4	2	0	1	0	0	0	1	0	0	0	0	8
02:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
04:00	0	27	10	0	8	0	0	0	1	1	0	0	0	47
05:00	0	72	31	0	22	1	0	2	0	0	0	0	0	128
06:00	0	146	81	0	36	0	0	6	0	1	0	0	0	270
07:00	0	272	82	1	30	1	0	7	4	0	0	0	0	397
08:00	1	159	47	0	10	5	0	6	1	0	0	0	0	229
09:00	0	102	18	1	13	1	0	3	2	1	0	1	0	142
10:00	1	86	38	2	18	1	0	6	1	0	0	0	0	153
11:00	0	105	24	2	12	1	0	5	5	0	0	0	0	154
12 PM	0	96	30	1	13	0	0	5	0	0	0	0	0	145
13:00	1	87	24	0	17	1	0	1	2	0	0	0	0	133
14:00	1	97	28	1	9	5	0	4	2	0	0	0	0	147
15:00	1	93	35	2	14	0	0	2	1	0	0	0	0	148
16:00	0	105	46	2	16	0	0	2	3	0	0	0	0	174
17:00	0	113	33	0	35	0	1	3	3	0	0	0	0	188
18:00	0	86	24	1	17	0	0	4	1	0	0	1	0	134
19:00	0	48	19	0	9	0	0	0	2	0	0	0	0	78
20:00	0	35	13	0	3	0	0	0	1	0	0	0	0	52
21:00	0	30	7	0	3	0	0	1	1	0	0	0	0	42
22:00	0	24	2	1	1	0	0	0	1	0	0	0	0	29
23:00	0	6	6	0	0	0	0	0	0	0	0	0	0	12
Day Total	6	1816	602	14	288	17	1	57	32	3	0	2	0	2838
Percent	0.2%	64.0%	21.2%	0.5%	10.1%	0.6%	0.0%	2.0%	1.1%	0.1%	0.0%	0.1%	0.0%	
AM Peak	00:00	07:00	07:00	10:00	06:00	08:00		07:00	11:00	04:00		09:00		07:00
Vol.	1	272	82	2	36	5		7	5	1		1		397
PM Peak	13:00	17:00	16:00	15:00	17:00	14:00	17:00	12:00	16:00			18:00		17:00
Vol.	1	113	46	2	35	5	1	5	3			1		188
Grand Total	9	3513	1297	24	606	28	1	102	76	6	1	4	0	5667
Percent	0.2%	62.0%	22.9%	0.4%	10.7%	0.5%	0.0%	1.8%	1.3%	0.1%	0.0%	0.1%	0.0%	



Site Code: 8
 Station ID: 8
 I-70 EB OFF-RAMP

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	18	2	0	0	0	0	0	0	0	0	0	0	20
01:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
02:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
03:00	0	9	1	0	1	0	0	0	0	0	0	0	0	11
04:00	0	19	0	0	4	0	0	1	1	0	0	0	0	25
05:00	0	38	1	0	4	0	0	0	0	0	0	0	0	43
06:00	0	100	10	0	6	3	0	0	0	0	0	0	0	119
07:00	2	146	8	1	8	1	0	2	2	0	0	0	0	170
08:00	1	108	14	0	16	0	0	0	2	0	0	0	0	141
09:00	2	110	12	1	13	1	0	4	0	0	0	0	0	143
10:00	1	93	12	2	10	1	0	0	1	0	0	0	0	120
11:00	0	115	13	1	19	0	0	0	0	0	0	0	0	148
12 PM	1	131	9	4	10	2	0	3	2	0	0	0	0	162
13:00	3	121	17	0	9	1	0	1	0	0	0	0	0	152
14:00	1	137	19	3	12	3	0	1	0	0	0	0	0	176
15:00	1	220	17	4	14	0	0	0	1	0	0	0	0	257
16:00	2	277	14	1	17	1	0	1	1	0	0	0	0	314
17:00	0	228	101	0	82	2	0	6	0	1	0	0	0	420
18:00	0	114	36	0	34	0	0	0	1	0	0	0	0	185
19:00	0	66	32	0	14	0	0	2	0	0	0	0	0	114
20:00	0	61	31	1	25	0	0	0	0	1	0	0	0	119
21:00	0	49	21	1	18	0	0	1	0	0	0	0	0	90
22:00	0	27	12	0	6	0	0	0	0	0	0	0	0	45
23:00	0	11	3	0	3	0	0	0	0	0	0	0	0	17
Day Total	14	2212	389	19	327	15	0	22	11	2	0	0	0	3011
Percent	0.5%	73.5%	12.9%	0.6%	10.9%	0.5%	0.0%	0.7%	0.4%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	10:00	11:00	06:00		09:00	07:00					07:00
Vol.	2	146	14	2	19	3		4	2					170
PM Peak	13:00	16:00	17:00	12:00	17:00	14:00		17:00	12:00	17:00				17:00
Vol.	3	277	101	4	82	3		6	2	1				420



Site Code: 8
 Station ID: 8
 I-70 EB OFF-RAMP

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	9	10	0	1	0	0	0	1	0	0	0	0	21
01:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
02:00	0	1	2	1	0	0	0	0	0	0	0	0	0	4
03:00	0	5	4	1	3	0	0	0	0	0	0	0	0	13
04:00	0	6	5	1	9	0	0	0	0	0	0	0	0	21
05:00	0	21	12	0	18	0	0	0	1	0	0	0	0	52
06:00	1	47	30	0	39	2	0	1	3	0	0	0	0	123
07:00	0	77	41	0	39	0	0	1	1	1	0	0	0	160
08:00	0	39	24	0	33	2	0	2	5	0	0	0	0	105
09:00	0	90	12	2	14	1	0	2	0	0	0	0	0	121
10:00	0	98	15	3	10	2	0	0	0	0	0	0	0	128
11:00	0	116	18	0	11	4	0	1	0	0	0	0	0	150
12 PM	0	138	15	2	17	2	0	3	0	0	0	0	0	177
13:00	2	123	17	0	11	4	0	2	1	0	0	0	0	160
14:00	4	162	17	4	18	0	1	3	0	0	0	0	0	209
15:00	1	183	56	1	45	0	0	3	0	0	0	0	0	289
16:00	0	223	30	0	23	3	0	3	1	0	0	0	0	283
17:00	1	328	60	2	33	3	0	4	2	0	0	0	0	433
18:00	0	141	20	0	13	0	0	0	0	0	0	0	0	174
19:00	0	96	8	0	6	0	0	0	0	0	0	0	0	110
20:00	1	74	13	0	5	0	0	1	0	0	0	0	0	94
21:00	0	69	13	0	7	0	0	0	1	0	0	0	0	90
22:00	0	33	5	0	2	0	0	0	0	0	0	0	0	40
23:00	0	29	1	0	5	0	0	0	0	0	0	0	0	35
Day Total	10	2111	431	17	362	23	1	26	16	1	0	0	0	2998
Percent	0.3%	70.4%	14.4%	0.6%	12.1%	0.8%	0.0%	0.9%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	07:00	10:00	06:00	11:00		08:00	08:00	07:00				07:00
Vol.	1	116	41	3	39	4		2	5	1				160
PM Peak	14:00	17:00	17:00	14:00	15:00	13:00	14:00	17:00	17:00					17:00
Vol.	4	328	60	4	45	4	1	4	2					433
Grand Total	24	4323	820	36	689	38	1	48	27	3	0	0	0	6009
Percent	0.4%	71.9%	13.6%	0.6%	11.5%	0.6%	0.0%	0.8%	0.4%	0.0%	0.0%	0.0%	0.0%	



Site Code: 9.5
 Station ID: 9.5
 I-70 WB OFF RAMP

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	7	4	0	2	0	0	0	4	0	0	0	0	17
01:00	0	5	4	0	1	0	0	0	3	0	1	1	0	15
02:00	0	4	4	0	0	0	0	0	1	0	0	1	0	10
03:00	0	3	5	0	2	1	0	1	0	0	0	0	0	12
04:00	0	8	4	0	4	0	0	0	0	0	1	0	0	17
05:00	0	27	16	0	3	0	0	0	2	0	0	1	0	49
06:00	0	64	25	2	9	0	0	1	4	0	1	1	0	107
07:00	0	140	50	2	7	0	0	1	5	0	0	0	0	205
08:00	1	108	35	0	7	4	0	1	11	0	1	1	0	169
09:00	0	91	36	1	10	1	0	4	7	0	0	0	0	150
10:00	0	111	44	0	17	1	0	3	5	1	0	0	0	182
11:00	1	80	52	0	17	3	0	8	10	0	0	0	0	171
12 PM	1	110	44	1	13	0	0	6	9	1	0	0	0	185
13:00	0	85	59	0	18	2	0	3	13	1	0	0	0	181
14:00	1	122	64	5	31	3	0	5	7	1	0	0	0	239
15:00	0	133	104	0	26	1	0	4	12	0	1	0	1	282
16:00	0	147	154	2	35	2	0	4	13	2	0	1	0	360
17:00	0	202	179	0	39	4	0	2	10	0	0	0	0	436
18:00	1	146	132	0	34	1	0	1	8	0	0	0	0	323
19:00	0	66	60	1	4	1	0	2	6	0	0	0	0	140
20:00	1	52	16	0	6	1	0	2	1	0	0	0	0	79
21:00	0	29	20	0	4	0	0	1	2	0	0	0	0	56
22:00	0	23	9	0	1	0	0	1	1	0	0	0	0	35
23:00	0	19	7	0	2	0	0	0	3	0	0	0	0	31
Day Total	6	1782	1127	14	292	25	0	50	137	6	5	6	1	3451
Percent	0.2%	51.6%	32.7%	0.4%	8.5%	0.7%	0.0%	1.4%	4.0%	0.2%	0.1%	0.2%	0.0%	
AM Peak	08:00	07:00	11:00	06:00	10:00	08:00		11:00	08:00	10:00	01:00	01:00		07:00
Vol.	1	140	52	2	17	4		8	11	1	1	1		205
PM Peak	12:00	17:00	17:00	14:00	17:00	17:00		12:00	13:00	16:00	15:00	16:00	15:00	17:00
Vol.	1	202	179	5	39	4		6	13	2	1	1	1	436



Site Code: 9.5
 Station ID: 9.5
 I-70 WB OFF RAMP

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	7	4	0	2	0	0	0	6	0	0	0	0	19
01:00	0	8	5	0	0	0	0	0	1	0	0	0	0	14
02:00	0	4	1	0	0	0	0	0	1	0	0	0	0	6
03:00	1	2	2	0	0	1	0	0	1	0	0	0	0	7
04:00	0	10	5	1	3	0	0	0	1	0	1	0	0	21
05:00	0	41	15	1	4	0	0	1	7	1	0	2	0	72
06:00	0	54	19	1	12	1	0	1	4	0	0	1	0	93
07:00	0	127	41	1	5	0	0	1	10	0	0	2	0	187
08:00	0	94	27	0	5	1	0	0	10	0	0	0	0	137
09:00	0	108	28	0	7	0	0	2	13	0	0	1	0	159
10:00	0	96	43	0	10	3	0	1	12	0	0	0	0	165
11:00	1	114	48	0	6	5	0	3	18	0	0	0	0	195
12 PM	0	93	54	1	8	3	0	2	9	0	0	0	0	170
13:00	1	120	53	0	8	1	0	4	6	2	0	0	0	195
14:00	0	113	65	1	6	6	0	4	8	1	0	0	0	204
15:00	0	116	89	0	15	1	0	0	8	0	0	0	0	229
16:00	1	162	133	3	19	2	0	3	7	0	0	0	0	330
17:00	2	157	166	1	27	2	0	2	7	1	0	1	0	366
18:00	0	139	146	0	16	3	0	4	10	1	0	0	0	319
19:00	1	119	65	2	5	2	0	1	11	1	0	0	0	207
20:00	0	57	15	1	3	0	0	0	8	0	0	0	0	84
21:00	0	41	22	0	7	0	0	2	7	0	0	0	0	79
22:00	0	22	14	0	4	0	0	1	4	0	0	0	0	45
23:00	0	11	2	0	0	0	0	1	3	1	0	0	0	18
Day Total	7	1815	1062	13	172	31	0	33	172	8	1	7	0	3321
Percent	0.2%	54.7%	32.0%	0.4%	5.2%	0.9%	0.0%	1.0%	5.2%	0.2%	0.0%	0.2%	0.0%	
AM Peak	03:00	07:00	11:00	04:00	06:00	11:00		11:00	11:00	05:00	04:00	05:00		11:00
Vol.	1	127	48	1	12	5		3	18	1	1	2		195
PM Peak	17:00	16:00	17:00	16:00	17:00	14:00		13:00	19:00	13:00		17:00		17:00
Vol.	2	162	166	3	27	6		4	11	2		1		366
Grand Total	13	3597	2189	27	464	56	0	83	309	14	6	13	1	6772
Percent	0.2%	53.1%	32.3%	0.4%	6.9%	0.8%	0.0%	1.2%	4.6%	0.2%	0.1%	0.2%	0.0%	



Site Code: 10.5
 Station ID: 10.5
 I-70B N/O F RD (US 6)

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	3	29	1	0	0	0	0	0	4	0	0	0	0	37
01:00	0	20	2	0	0	0	0	0	4	0	0	0	0	26
02:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
03:00	0	18	1	0	2	1	0	0	1	0	0	0	0	23
04:00	0	28	4	0	1	0	0	0	2	0	0	0	0	35
05:00	3	83	7	0	2	0	0	1	3	1	0	0	0	100
06:00	10	176	13	0	2	3	0	0	7	0	0	0	0	211
07:00	18	315	17	0	4	7	0	2	6	0	0	0	1	370
08:00	13	262	15	0	1	5	0	0	14	0	0	0	0	310
09:00	11	249	21	0	4	2	0	3	9	1	0	0	0	300
10:00	9	245	19	0	4	3	1	0	9	1	0	0	1	292
11:00	6	259	25	0	3	4	0	6	13	0	0	0	0	316
12 PM	7	293	21	0	2	2	0	2	14	1	0	0	1	343
13:00	7	281	24	0	3	4	0	0	16	0	0	0	0	335
14:00	5	315	40	0	4	5	0	2	8	1	0	0	0	380
15:00	13	437	50	0	4	3	0	2	15	1	0	0	1	526
16:00	11	514	69	0	4	4	0	2	13	4	1	0	0	622
17:00	28	699	57	0	1	7	0	1	7	1	1	0	1	803
18:00	14	409	46	0	1	2	0	5	9	0	1	0	0	487
19:00	4	215	20	1	1	2	0	0	5	0	0	0	0	248
20:00	5	184	7	0	2	1	0	2	1	0	0	0	0	202
21:00	8	122	8	0	1	1	0	0	1	0	0	0	0	141
22:00	2	71	4	0	1	0	0	1	1	0	0	0	0	80
23:00	1	42	3	0	0	0	0	0	3	0	0	0	0	49
Day Total	178	5283	474	1	47	56	1	29	165	11	3	0	5	6253
Percent	2.8%	84.5%	7.6%	0.0%	0.8%	0.9%	0.0%	0.5%	2.6%	0.2%	0.0%	0.0%	0.1%	
AM Peak	07:00	07:00	11:00		07:00	07:00	10:00	11:00	08:00	05:00			07:00	07:00
Vol.	18	315	25		4	7	1	6	14	1			1	370
PM Peak	17:00	17:00	16:00	19:00	14:00	17:00		18:00	13:00	16:00	16:00		12:00	17:00
Vol.	28	699	69	1	4	7		5	16	4	1		1	803



Site Code: 10.5
 Station ID: 10.5
 I-70B N/O F RD (US 6)

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	1	25	2	0	1	0	0	0	3	0	0	0	0	32
01:00	0	20	1	0	2	0	0	0	5	0	0	0	0	28
02:00	0	6	0	0	0	0	0	1	1	0	0	0	0	8
03:00	0	11	2	0	1	0	0	0	2	0	0	0	0	16
04:00	0	33	3	0	4	0	0	0	1	0	0	0	0	41
05:00	1	97	12	0	4	0	1	3	6	1	0	0	0	125
06:00	3	176	17	0	5	3	0	2	9	0	0	0	0	215
07:00	6	306	21	0	3	3	0	3	10	0	0	0	0	352
08:00	5	214	19	0	3	4	0	0	10	0	0	0	0	255
09:00	5	232	16	0	2	1	0	2	17	2	0	0	1	278
10:00	2	233	27	0	3	7	0	1	10	0	0	0	0	283
11:00	10	278	24	0	0	11	0	2	13	0	0	0	1	339
12 PM	5	283	34	0	3	4	0	1	5	0	1	1	0	337
13:00	5	289	35	0	1	5	0	5	11	1	0	0	2	354
14:00	5	323	31	0	7	8	0	4	8	1	0	0	0	387
15:00	10	444	45	0	5	4	0	0	7	0	0	0	0	515
16:00	18	487	45	0	5	8	0	4	7	0	0	0	1	575
17:00	12	632	84	0	3	8	0	5	10	0	0	0	0	754
18:00	2	383	65	0	2	6	0	3	12	0	0	0	0	473
19:00	4	226	48	1	0	2	0	1	12	1	0	0	1	296
20:00	0	154	13	0	3	0	0	0	6	0	0	0	0	176
21:00	3	135	20	0	3	1	0	0	8	0	0	0	0	170
22:00	2	71	6	0	2	0	0	0	3	0	0	0	0	84
23:00	2	45	4	0	0	1	0	0	3	0	0	0	0	55
Day Total	101	5103	574	1	62	76	1	37	179	6	1	1	6	6148
Percent	1.6%	83.0%	9.3%	0.0%	1.0%	1.2%	0.0%	0.6%	2.9%	0.1%	0.0%	0.0%	0.1%	
AM Peak	11:00	07:00	10:00		06:00	11:00	05:00	05:00	09:00	09:00			09:00	07:00
Vol.	10	306	27		5	11	1	3	17	2			1	352
PM Peak	16:00	17:00	17:00	19:00	14:00	14:00		13:00	18:00	13:00	12:00	12:00	13:00	17:00
Vol.	18	632	84	1	7	8		5	12	1	1	1	2	754
Grand Total	279	10386	1048	2	109	132	2	66	344	17	4	1	11	12401
Percent	2.2%	83.8%	8.5%	0.0%	0.9%	1.1%	0.0%	0.5%	2.8%	0.1%	0.0%	0.0%	0.1%	



Site Code: 10
 Station ID: 10
 I-70B N/O F RD (US 6)

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	1	12	1	0	0	3	0	0	3	0	0	0	0	20
01:00	0	12	1	0	1	0	0	0	1	0	0	0	0	15
02:00	0	15	4	0	0	4	0	0	4	1	0	0	0	28
03:00	3	38	5	0	3	0	0	0	4	0	0	0	0	53
04:00	3	118	34	1	4	2	0	2	0	0	0	0	0	164
05:00	3	312	94	0	7	2	0	1	4	0	0	1	0	424
06:00	5	447	99	1	4	5	0	7	9	2	0	1	0	580
07:00	12	525	33	0	4	4	0	4	14	1	0	2	0	599
08:00	12	315	33	0	7	8	0	1	15	0	0	0	1	392
09:00	5	300	21	0	3	2	0	3	10	0	0	1	0	345
10:00	2	246	33	0	5	8	1	3	15	1	1	0	0	315
11:00	6	259	21	0	2	3	1	3	11	3	0	0	0	309
12 PM	7	237	21	0	3	1	0	1	12	1	0	0	0	283
13:00	8	233	24	1	3	5	1	1	5	0	0	0	1	282
14:00	4	297	23	0	3	6	0	3	7	1	0	0	0	344
15:00	2	302	30	0	2	3	0	5	6	0	0	0	0	350
16:00	6	386	33	0	2	1	0	3	9	3	0	0	0	443
17:00	7	330	25	1	1	2	0	0	3	2	0	1	0	372
18:00	2	222	12	0	1	2	0	1	6	1	0	0	1	248
19:00	1	112	13	0	1	0	0	2	4	0	0	0	0	133
20:00	1	123	17	0	1	1	0	0	4	1	0	0	0	148
21:00	1	56	5	0	0	1	0	0	1	0	0	0	0	64
22:00	0	37	2	0	1	1	0	0	0	0	0	0	0	41
23:00	1	22	2	0	0	2	0	0	2	0	0	0	0	29
Day Total	92	4956	586	4	58	66	3	40	149	17	1	6	3	5981
Percent	1.5%	82.9%	9.8%	0.1%	1.0%	1.1%	0.1%	0.7%	2.5%	0.3%	0.0%	0.1%	0.1%	
AM Peak	07:00	07:00	06:00	04:00	05:00	08:00	10:00	06:00	08:00	11:00	10:00	07:00	08:00	07:00
Vol.	12	525	99	1	7	8	1	7	15	3	1	2	1	599
PM Peak	13:00	16:00	16:00	13:00	12:00	14:00	13:00	15:00	12:00	16:00		17:00	13:00	16:00
Vol.	8	386	33	1	3	6	1	5	12	3		1	1	443



Site Code: 10
 Station ID: 10
 I-70B N/O F RD (US 6)

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	1	11	1	0	0	0	0	0	1	0	0	0	0	14
01:00	0	14	2	0	2	0	0	0	3	0	0	0	0	21
02:00	0	21	1	0	0	2	0	0	2	0	0	0	0	26
03:00	2	29	7	1	2	0	0	0	4	0	0	0	0	45
04:00	2	101	42	0	6	0	1	1	6	0	0	0	0	159
05:00	1	262	131	0	7	3	0	5	5	0	0	1	0	415
06:00	3	414	121	0	4	9	0	8	6	2	0	0	0	567
07:00	5	472	64	0	7	6	0	3	9	1	0	0	1	568
08:00	3	330	29	0	6	5	0	5	9	0	0	0	1	388
09:00	4	237	51	0	7	5	0	3	7	3	1	0	1	319
10:00	1	236	41	0	2	4	0	3	7	1	0	0	1	296
11:00	4	263	30	0	1	7	0	1	14	0	0	0	0	320
12 PM	0	241	64	2	9	5	1	5	10	1	0	0	1	339
13:00	2	234	55	3	9	2	0	2	13	1	0	0	1	322
14:00	2	269	40	0	5	6	0	1	11	1	0	0	0	335
15:00	5	266	38	0	7	4	2	4	8	0	0	1	2	337
16:00	1	327	73	0	4	2	1	3	5	0	0	2	1	419
17:00	2	283	57	1	2	3	1	6	4	3	0	0	1	363
18:00	1	191	36	0	2	1	0	1	5	0	0	1	0	238
19:00	1	127	16	0	1	1	0	3	5	0	0	0	0	154
20:00	0	86	15	0	3	0	0	0	1	0	1	1	0	107
21:00	1	70	13	0	0	1	0	0	2	0	0	0	0	87
22:00	1	57	6	0	4	1	0	0	1	0	0	0	0	70
23:00	1	20	1	0	0	1	0	0	1	1	0	0	0	25
Day Total	43	4561	934	7	90	68	6	54	139	14	2	6	10	5934
Percent	0.7%	76.9%	15.7%	0.1%	1.5%	1.1%	0.1%	0.9%	2.3%	0.2%	0.0%	0.1%	0.2%	
AM Peak	07:00	07:00	05:00	03:00	05:00	06:00	04:00	06:00	11:00	09:00	09:00	05:00	07:00	07:00
Vol.	5	472	131	1	7	9	1	8	14	3	1	1	1	568
PM Peak	15:00	16:00	16:00	13:00	12:00	14:00	15:00	17:00	13:00	17:00	20:00	16:00	15:00	16:00
Vol.	5	327	73	3	9	6	2	6	13	3	1	2	2	419
Grand Total	135	9517	1520	11	148	134	9	94	288	31	3	12	13	11915
Percent	1.1%	79.9%	12.8%	0.1%	1.2%	1.1%	0.1%	0.8%	2.4%	0.3%	0.0%	0.1%	0.1%	



Site Code: 11
 Station ID: 11
 F RD (US 6) W/O 33 RD
 F RD (US 6) W/O 33 RD

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	20	1	0	0	0	0	0	0	0	0	0	0	21
01:00	2	19	0	0	0	0	0	0	0	0	0	0	0	21
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
04:00	0	16	3	0	0	0	0	0	1	0	0	0	0	20
05:00	1	39	1	0	0	1	0	0	0	0	0	0	0	42
06:00	2	160	3	0	7	1	0	0	0	0	0	0	0	173
07:00	5	282	12	0	6	3	0	2	3	0	0	0	0	313
08:00	3	212	22	0	5	1	0	0	1	0	0	0	0	244
09:00	7	212	29	2	2	1	0	0	3	0	0	0	0	256
10:00	2	294	20	0	1	3	0	0	1	0	0	0	0	321
11:00	2	313	20	0	3	1	0	3	0	0	0	0	0	342
12 PM	2	371	21	0	4	3	0	3	0	0	0	0	0	404
13:00	4	412	32	0	4	2	0	1	2	0	0	0	0	457
14:00	0	382	54	1	8	2	0	3	1	1	1	0	0	453
15:00	2	401	49	0	3	2	0	0	0	0	0	0	0	457
16:00	3	461	52	0	3	0	0	1	0	0	0	0	0	520
17:00	1	570	34	0	0	3	0	0	0	0	0	0	0	608
18:00	2	360	27	0	0	0	0	0	0	0	0	0	0	389
19:00	3	228	18	0	1	0	0	0	0	0	0	0	0	250
20:00	1	194	12	0	1	0	0	0	0	0	0	0	0	208
21:00	1	136	9	0	0	1	0	0	0	0	0	0	0	147
22:00	1	71	11	0	1	0	0	0	0	0	0	0	0	84
23:00	0	36	5	0	1	0	0	0	0	0	0	0	0	42
Day Total	44	5199	437	3	50	24	0	13	12	1	1	0	0	5784
Percent	0.8%	89.9%	7.6%	0.1%	0.9%	0.4%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	09:00	09:00	06:00	07:00		11:00	07:00					11:00
Vol.	7	313	29	2	7	3		3	3					342
PM Peak	13:00	17:00	14:00	14:00	14:00	12:00		12:00	13:00	14:00	14:00			17:00
Vol.	4	570	54	1	8	3		3	2	1	1			608



Site Code: 11
 Station ID: 11
 F RD (US 6) W/O 33 RD
 F RD (US 6) W/O 33 RD

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	25	5	0	0	0	0	0	1	0	0	0	0	31
01:00	0	17	3	0	0	0	0	0	0	0	0	0	0	20
02:00	0	7	2	0	1	0	0	0	0	0	0	0	0	10
03:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
05:00	0	30	9	0	0	0	0	0	0	0	0	0	0	39
06:00	1	134	16	0	6	0	0	0	0	0	0	0	0	157
07:00	1	279	30	0	4	2	0	3	0	0	0	0	0	319
08:00	2	219	17	0	7	0	0	0	0	1	0	0	0	246
09:00	2	196	29	0	4	1	0	1	1	0	0	0	0	234
10:00	2	255	33	0	0	2	0	2	0	0	0	0	0	294
11:00	2	315	37	0	1	3	0	0	0	0	0	1	0	359
12 PM	3	333	33	0	1	4	0	3	0	0	0	0	0	377
13:00	5	350	24	0	0	2	0	1	0	0	0	0	0	382
14:00	4	460	26	0	3	2	0	4	1	0	0	0	0	500
15:00	6	463	26	0	2	0	0	1	2	0	0	0	0	500
16:00	7	530	29	0	4	1	0	2	0	0	0	0	0	573
17:00	13	572	34	0	0	2	0	0	2	0	0	0	0	623
18:00	11	375	19	0	1	0	0	1	1	0	0	0	0	408
19:00	4	247	9	0	0	0	0	0	0	0	0	0	0	260
20:00	2	175	13	0	0	0	0	0	0	0	0	0	0	190
21:00	3	123	3	0	0	0	0	0	1	0	0	0	0	130
22:00	2	85	1	0	0	0	0	0	0	0	0	0	0	88
23:00	0	45	1	0	0	0	0	0	0	0	0	0	0	46
Day Total	70	5251	401	0	34	19	0	18	9	1	0	1	0	5804
Percent	1.2%	90.5%	6.9%	0.0%	0.6%	0.3%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	11:00		08:00	11:00		07:00	00:00	08:00		11:00		11:00
Vol.	2	315	37		7	3		3	1	1		1		359
PM Peak	17:00	17:00	17:00		16:00	12:00		14:00	15:00					17:00
Vol.	13	572	34		4	4		4	2					623
Grand Total	114	10450	838	3	84	43	0	31	21	2	1	1	0	11588
Percent	1.0%	90.2%	7.2%	0.0%	0.7%	0.4%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	



Site Code: 11
 Station ID: 11
 F RD (US 6) W/O 33 RD
 F RD (US 6) W/O 33 RD

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	1	11	0	0	0	0	0	0	0	0	0	0	0	12
01:00	1	15	0	0	0	0	0	0	0	0	0	0	0	16
02:00	1	7	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	12	0	0	0	0	0	0	2	0	0	0	0	14
04:00	1	28	2	0	1	0	0	0	0	0	0	0	0	32
05:00	5	124	6	0	0	2	0	0	1	0	0	0	0	138
06:00	11	260	14	0	2	1	0	0	0	0	0	0	0	288
07:00	14	540	13	0	5	4	0	0	2	0	0	0	0	578
08:00	9	420	25	0	3	3	0	1	2	0	0	0	0	463
09:00	7	363	28	0	2	2	0	1	2	0	0	0	0	405
10:00	7	318	30	0	2	2	0	0	2	0	0	0	0	361
11:00	5	350	19	0	1	5	0	1	0	0	0	0	0	381
12 PM	7	360	12	0	1	5	0	0	0	0	0	0	0	385
13:00	5	370	23	0	4	3	0	1	1	0	0	0	0	407
14:00	4	389	29	0	5	2	0	1	0	0	0	0	0	430
15:00	5	377	22	0	5	2	0	1	0	0	0	0	0	412
16:00	4	404	28	0	1	0	0	0	0	0	0	0	0	437
17:00	4	332	27	0	0	3	0	0	0	0	0	0	0	366
18:00	7	218	10	0	0	0	0	0	0	0	0	0	0	235
19:00	2	127	6	0	1	0	0	0	0	0	0	0	0	136
20:00	2	115	6	0	1	0	0	0	0	0	0	0	0	124
21:00	0	70	2	0	0	0	0	0	0	0	0	0	0	72
22:00	0	41	1	0	0	0	0	0	0	0	0	0	0	42
23:00	1	19	1	0	0	0	0	0	0	0	0	0	0	21
Day Total	103	5270	304	0	34	34	0	6	12	0	0	0	0	5763
Percent	1.8%	91.4%	5.3%	0.0%	0.6%	0.6%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	10:00		07:00	11:00		08:00	03:00					07:00
Vol.	14	540	30		5	5		1	2					578
PM Peak	12:00	16:00	14:00		14:00	12:00		13:00	13:00					16:00
Vol.	7	404	29		5	5		1	1					437



Site Code: 11
 Station ID: 11
 F RD (US 6) W/O 33 RD
 F RD (US 6) W/O 33 RD

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	14	0	0	0	0	0	0	1	0	0	0	0	15
01:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	8	1	0	0	0	0	0	1	0	0	0	0	10
03:00	0	15	1	0	0	0	0	1	1	0	0	0	0	18
04:00	0	36	5	0	1	0	0	0	0	0	0	0	0	42
05:00	0	122	18	0	0	0	0	1	0	0	0	0	0	141
06:00	3	230	27	0	3	0	0	0	0	0	0	0	0	263
07:00	2	513	30	0	9	2	0	0	0	0	0	0	0	556
08:00	4	378	18	0	5	1	0	1	1	0	0	0	0	408
09:00	4	299	26	0	4	2	0	2	0	0	0	0	0	337
10:00	1	345	31	0	2	2	0	0	0	0	0	0	0	381
11:00	5	365	24	0	1	4	0	0	0	0	0	0	0	399
12 PM	5	332	24	0	2	5	0	2	1	0	0	0	0	371
13:00	8	293	15	0	2	4	0	0	0	0	0	0	0	322
14:00	10	375	13	0	3	2	0	0	1	0	0	0	0	404
15:00	9	437	10	0	6	3	0	0	0	0	0	0	0	465
16:00	11	366	14	0	4	0	0	0	0	0	1	0	0	396
17:00	14	353	20	0	1	4	0	0	0	0	0	0	0	392
18:00	5	247	10	0	1	1	0	0	0	0	0	0	0	264
19:00	4	227	4	0	1	0	0	0	0	0	0	0	0	236
20:00	2	102	0	0	1	0	0	0	0	0	0	0	0	105
21:00	2	68	0	0	0	0	0	0	0	0	0	0	0	70
22:00	2	40	0	0	0	0	0	0	0	0	0	0	0	42
23:00	2	20	0	0	0	0	0	0	1	0	0	0	0	23
Day Total	93	5197	291	0	46	30	0	7	7	0	1	0	0	5672
Percent	1.6%	91.6%	5.1%	0.0%	0.8%	0.5%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	10:00		07:00	11:00		09:00	00:00					07:00
Vol.	5	513	31		9	4		2	1					556
PM Peak	17:00	15:00	12:00		15:00	12:00		12:00	12:00		16:00			15:00
Vol.	14	437	24		6	5		2	1		1			465
Grand Total	196	10467	595	0	80	64	0	13	19	0	1	0	0	11435
Percent	1.7%	91.5%	5.2%	0.0%	0.7%	0.6%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	



Site Code: 12
 Station ID: 12
 33 RD S/O F RD (US 6)
 33 RD S/O F RD (US 6)

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	2	2	0	0	0	0	0	0	0	0	0	0	4
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
03:00	0	4	3	0	0	1	0	0	0	0	0	0	0	8
04:00	0	5	5	0	8	0	0	0	0	0	0	0	0	18
05:00	0	31	16	0	6	1	0	1	1	0	0	0	0	56
06:00	0	84	22	3	12	0	0	0	0	0	0	0	0	121
07:00	0	150	41	1	13	0	0	0	0	0	0	0	0	205
08:00	0	74	45	0	10	4	0	3	0	0	0	0	0	136
09:00	0	74	39	0	7	3	0	1	0	0	0	0	0	124
10:00	0	67	25	0	9	4	0	1	0	0	0	0	0	106
11:00	1	62	22	0	6	2	0	0	0	0	0	0	0	93
12 PM	0	81	20	0	3	0	0	0	0	0	0	0	0	104
13:00	0	87	28	1	7	4	0	1	0	0	0	0	0	128
14:00	1	99	33	0	11	2	0	0	0	0	0	0	0	146
15:00	1	77	24	1	13	0	0	1	0	0	0	0	0	117
16:00	0	90	38	0	7	0	0	2	1	0	0	0	0	138
17:00	5	108	29	0	7	1	0	0	0	0	0	0	0	150
18:00	0	64	13	0	4	0	0	0	0	0	0	0	0	81
19:00	0	44	9	0	3	0	0	1	0	0	0	0	0	57
20:00	0	41	9	0	2	0	0	0	0	0	0	0	0	52
21:00	0	25	4	0	1	0	0	0	0	0	0	0	0	30
22:00	0	13	4	0	2	0	0	0	0	0	0	0	0	19
23:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
Day Total	8	1296	435	6	132	22	0	11	2	0	0	0	0	1912
Percent	0.4%	67.8%	22.8%	0.3%	6.9%	1.2%	0.0%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	08:00	06:00	07:00	08:00		08:00	05:00					07:00
Vol.	1	150	45	3	13	4		3	1					205
PM Peak	17:00	17:00	16:00	13:00	15:00	13:00		16:00	16:00					17:00
Vol.	5	108	38	1	13	4		2	1					150



Site Code: 12
 Station ID: 12
 33 RD S/O F RD (US 6)
 33 RD S/O F RD (US 6)

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	6	1	0	0	0	0	0	0	0	0	0	0	7
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	4	5	0	0	0	0	1	0	0	0	0	0	10
04:00	0	9	3	0	5	0	0	0	0	0	0	0	0	17
05:00	0	40	9	0	8	0	0	0	0	0	0	0	0	57
06:00	1	86	21	2	9	0	0	0	0	0	0	0	0	119
07:00	0	134	36	1	7	1	0	3	1	0	0	0	0	183
08:00	0	98	30	0	5	0	0	1	2	0	0	0	0	136
09:00	1	64	17	0	10	0	0	2	0	0	0	0	0	94
10:00	1	63	20	0	6	0	0	0	0	0	0	0	0	90
11:00	0	62	27	0	7	0	0	2	0	0	0	0	0	98
12 PM	0	73	14	0	5	0	0	2	0	0	0	0	0	94
13:00	1	62	26	0	7	0	0	2	0	0	0	0	0	98
14:00	3	98	24	2	4	2	0	1	0	0	0	0	0	134
15:00	0	100	27	1	13	0	0	0	0	0	0	0	0	141
16:00	0	98	37	2	14	0	0	2	0	0	0	0	0	153
17:00	1	108	31	0	10	0	0	0	0	0	0	0	0	150
18:00	0	58	15	0	5	0	0	0	0	0	0	0	0	78
19:00	0	36	7	0	3	0	0	0	0	0	0	0	0	46
20:00	0	41	9	0	2	0	0	0	0	0	0	0	0	52
21:00	0	29	9	0	0	0	0	0	0	0	0	0	0	38
22:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
Day Total	8	1295	371	8	120	3	0	16	3	0	0	0	0	1824
Percent	0.4%	71.0%	20.3%	0.4%	6.6%	0.2%	0.0%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	06:00	09:00	07:00		07:00	08:00					07:00
Vol.	1	134	36	2	10	1		3	2					183
PM Peak	14:00	17:00	16:00	14:00	16:00	14:00		12:00						16:00
Vol.	3	108	37	2	14	2		2						153
Grand Total	16	2591	806	14	252	25	0	27	5	0	0	0	0	3736
Percent	0.4%	69.4%	21.6%	0.4%	6.7%	0.7%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	



Site Code: 12
 Station ID: 12
 33 RD S/O F RD (US 6)
 33 RD S/O F RD (US 6)

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/12/14	0	11	3	0	0	0	0	0	0	0	0	0	0	14
01:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
04:00	0	2	2	0	4	0	0	0	0	0	0	0	0	8
05:00	0	8	10	0	0	0	0	0	0	0	0	0	0	18
06:00	0	27	13	3	4	0	0	0	0	0	0	0	0	47
07:00	0	70	22	2	6	0	0	1	1	0	0	0	0	102
08:00	0	66	27	3	6	4	0	2	0	0	0	0	0	108
09:00	0	54	30	0	4	3	0	2	0	0	0	0	0	93
10:00	0	44	32	1	8	4	0	2	0	0	0	0	0	91
11:00	0	55	28	0	3	1	0	2	0	0	0	0	0	89
12 PM	0	78	31	0	5	0	0	2	1	0	0	0	0	117
13:00	0	82	44	2	11	1	0	1	0	0	0	0	0	141
14:00	0	93	33	2	5	1	0	2	0	0	0	0	0	136
15:00	0	109	27	1	10	1	0	4	0	0	0	0	0	152
16:00	0	101	49	2	10	0	0	2	0	0	0	0	0	164
17:00	1	170	38	0	9	3	0	2	0	0	0	0	0	223
18:00	1	103	30	0	6	0	0	0	0	0	0	0	0	140
19:00	0	62	17	0	7	1	0	0	0	0	0	0	0	87
20:00	0	54	17	0	5	0	0	0	0	0	0	0	0	76
21:00	0	39	10	0	5	1	0	0	0	0	0	0	0	55
22:00	0	20	4	0	2	0	0	0	0	0	0	0	0	26
23:00	1	14	5	0	1	0	0	0	0	0	0	0	0	21
Day Total	3	1276	477	16	111	20	0	22	2	0	0	0	0	1927
Percent	0.2%	66.2%	24.8%	0.8%	5.8%	1.0%	0.0%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	10:00	06:00	10:00	08:00		08:00	07:00					08:00
Vol.		70	32	3	8	4		2	1					108
PM Peak	17:00	17:00	16:00	13:00	13:00	17:00		15:00	12:00					17:00
Vol.	1	170	49	2	11	3		4	1					223



Site Code: 12
 Station ID: 12
 33 RD S/O F RD (US 6)
 33 RD S/O F RD (US 6)

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
11/13/14	0	6	4	0	0	0	0	0	0	0	0	0	0	10
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
04:00	0	3	5	0	1	0	0	0	0	0	0	0	0	9
05:00	0	7	7	0	0	0	0	0	0	0	0	0	0	14
06:00	0	31	16	3	5	1	0	0	0	0	0	0	0	56
07:00	0	70	23	2	9	1	0	1	0	0	0	0	0	106
08:00	0	67	22	3	6	1	0	0	0	0	0	0	0	99
09:00	0	32	11	0	4	0	0	3	0	0	0	0	0	50
10:00	0	56	14	1	9	1	0	1	0	0	0	0	0	82
11:00	0	57	26	0	13	0	0	2	0	0	0	0	0	98
12 PM	0	71	22	0	7	1	0	2	0	0	0	0	0	103
13:00	1	67	33	0	8	1	0	3	0	0	0	0	0	113
14:00	2	106	31	1	10	1	0	1	0	0	0	0	0	152
15:00	0	103	44	4	7	1	0	1	1	0	0	0	0	161
16:00	4	112	44	1	19	0	0	0	1	0	0	0	0	181
17:00	1	133	57	0	17	0	0	0	1	0	0	0	0	209
18:00	0	114	49	0	13	0	0	2	0	0	0	0	0	178
19:00	0	85	17	0	6	0	0	0	0	0	0	0	0	108
20:00	0	47	12	0	5	0	0	0	0	0	0	0	0	64
21:00	1	34	7	0	1	0	0	0	0	0	0	0	0	43
22:00	0	25	6	0	0	0	0	0	0	0	0	0	0	31
23:00	0	15	3	0	1	0	0	0	0	0	0	0	0	19
Day Total	9	1255	456	15	141	8	0	16	3	0	0	0	0	1903
Percent	0.5%	65.9%	24.0%	0.8%	7.4%	0.4%	0.0%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	11:00	06:00	11:00	06:00		09:00						07:00
Vol.		70	26	3	13	1		3						106
PM Peak	16:00	17:00	17:00	15:00	16:00	12:00		13:00	15:00					17:00
Vol.	4	133	57	4	19	1		3	1					209
Grand Total	12	2531	933	31	252	28	0	38	5	0	0	0	0	3830
Percent	0.3%	66.1%	24.4%	0.8%	6.6%	0.7%	0.0%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	



Site Code: 13
 Station ID: 13
 I-70B S/O 32 RD

Start Time	13-Nov-1 Thu	NB	SB							Total
12:00 AM		30	17							47
01:00		22	22							44
02:00		27	17							44
03:00		34	18							52
04:00		70	31							101
05:00		176	123							299
06:00		217	314							531
07:00		322	569							891
08:00		361	472							833
09:00		361	462							823
10:00		420	485							905
11:00		545	538							1083
12:00 PM		541	508							1049
01:00		554	469							1023
02:00		515	508							1023
03:00		644	555							1199
04:00		735	523							1258
05:00		677	548							1225
06:00		425	413							838
07:00		289	304							593
08:00		214	189							403
09:00		149	135							284
10:00		93	97							190
11:00		58	44							102
Total		7479	7361							14840
Percent		50.4%	49.6%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	11:00
Vol.	-	545	569	-	-	-	-	-	-	1083
PM Peak	-	16:00	15:00	-	-	-	-	-	-	16:00
Vol.	-	735	555	-	-	-	-	-	-	1258
Total		14989	14794							29783
Percent		50.3%	49.7%							
ADT		ADT 14,892	AADT 14,892							



Site Code: 14
 Station ID: 14
 F RD W/O 32 RD
 F RD W/O 32 RD

Start Time	12-Nov-1 Wed	EB	WB							Total
12:00 AM		29	24							53
01:00		28	15							43
02:00		16	12							28
03:00		23	21							44
04:00		81	39							120
05:00		190	146							336
06:00		300	291							591
07:00		388	491							879
08:00		346	465							811
09:00		347	425							772
10:00		388	397							785
11:00		422	434							856
12:00 PM		454	458							912
01:00		469	474							943
02:00		521	476							997
03:00		531	506							1037
04:00		632	529							1161
05:00		531	527							1058
06:00		376	457							833
07:00		262	269							531
08:00		247	185							432
09:00		168	130							298
10:00		83	76							159
11:00		55	38							93
Total		6887	6885							13772
Percent		50.0%	50.0%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	422	491	-	-	-	-	-	-	879
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	632	529	-	-	-	-	-	-	1161



Site Code: 14
 Station ID: 14
 F RD W/O 32 RD
 F RD W/O 32 RD

Start Time	13-Nov-1 Thu	EB	WB							Total
12:00 AM		33	31							64
01:00		32	10							42
02:00		17	10							27
03:00		28	21							49
04:00		78	38							116
05:00		184	149							333
06:00		290	272							562
07:00		372	501							873
08:00		353	447							800
09:00		322	390							712
10:00		360	404							764
11:00		397	459							856
12:00 PM		433	424							857
01:00		457	418							875
02:00		490	453							943
03:00		564	497							1061
04:00		587	549							1136
05:00		594	501							1095
06:00		379	466							845
07:00		268	331							599
08:00		220	161							381
09:00		157	128							285
10:00		93	85							178
11:00		66	57							123
Total		6774	6802							13576
Percent		49.9%	50.1%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	397	501	-	-	-	-	-	-	873
PM Peak	-	17:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	594	549	-	-	-	-	-	-	1136
Total		13661	13687							27348
Percent		50.0%	50.0%							
ADT		ADT 13,485	AADT 13,485							



Site Code: 15
 Station ID: 15
 F RD (US 6) E/O I-70B
 F RD (US 6) E/O I-70B

Start Time	12-Nov-1 Wed	EB	WB							Total
12:00 AM		41	22							63
01:00		33	25							58
02:00		12	13							25
03:00		24	29							53
04:00		53	43							96
05:00		149	165							314
06:00		232	340							572
07:00		373	602							975
08:00		372	536							908
09:00		330	483							813
10:00		376	413							789
11:00		408	454							862
12:00 PM		488	469							957
01:00		549	483							1032
02:00		521	503							1024
03:00		575	498							1073
04:00		614	503							1117
05:00		696	418							1114
06:00		483	345							828
07:00		289	193							482
08:00		259	180							439
09:00		198	95							293
10:00		95	62							157
11:00		52	37							89
Total		7222	6911							14133
Percent		51.1%	48.9%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	408	602	-	-	-	-	-	-	975
PM Peak	-	17:00	14:00	-	-	-	-	-	-	16:00
Vol.	-	696	503	-	-	-	-	-	-	1117



Site Code: 15
 Station ID: 15
 F RD (US 6) E/O I-70B
 F RD (US 6) E/O I-70B

Start Time	13-Nov-1 Thu	EB	WB							Total
12:00 AM		45	22							67
01:00		28	17							45
02:00		14	15							29
03:00		22	31							53
04:00		47	53							100
05:00		161	177							338
06:00		228	312							540
07:00		366	623							989
08:00		360	474							834
09:00		335	392							727
10:00		396	472							868
11:00		460	467							927
12:00 PM		445	479							924
01:00		487	389							876
02:00		544	475							1019
03:00		626	513							1139
04:00		675	532							1207
05:00		697	449							1146
06:00		467	356							823
07:00		292	300							592
08:00		235	129							364
09:00		169	92							261
10:00		103	70							173
11:00		68	40							108
Total		7270	6879							14149
Percent		51.4%	48.6%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	460	623	-	-	-	-	-	-	989
PM Peak	-	17:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	697	532	-	-	-	-	-	-	1207
Total		14492	13790							28282
Percent		51.2%	48.8%							
ADT		ADT 14,035	AADT 14,035							



Site Code: 16
 Station ID: 16
 F RD (US 6) E/O 33 RD
 F RD (US 6) E/O 33 RD

Start Time	12-Nov-1 Wed	EB	WB							Total
12:00 AM		9	10							19
01:00		9	10							19
02:00		2	7							9
03:00		5	8							13
04:00		13	14							27
05:00		43	66							109
06:00		204	179							383
07:00		295	374							669
08:00		194	284							478
09:00		166	252							418
10:00		218	241							459
11:00		245	269							514
12:00 PM		274	284							558
01:00		312	275							587
02:00		332	324							656
03:00		298	312							610
04:00		337	306							643
05:00		374	269							643
06:00		226	146							372
07:00		146	94							240
08:00		125	89							214
09:00		70	48							118
10:00		51	25							76
11:00		30	17							47
Total		3978	3903							7881
Percent		50.5%	49.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	295	374	-	-	-	-	-	-	669
PM Peak	-	17:00	14:00	-	-	-	-	-	-	14:00
Vol.	-	374	324	-	-	-	-	-	-	656



Site Code: 16
 Station ID: 16
 F RD (US 6) E/O 33 RD
 F RD (US 6) E/O 33 RD

Start Time	13-Nov-1 Thu	EB	WB							Total
12:00 AM		19	6							25
01:00		10	9							19
02:00		6	10							16
03:00		4	12							16
04:00		10	23							33
05:00		40	68							108
06:00		177	164							341
07:00		309	353							662
08:00		187	245							432
09:00		189	213							402
10:00		187	256							443
11:00		266	263							529
12:00 PM		266	263							529
01:00		257	220							477
02:00		368	346							714
03:00		342	335							677
04:00		386	320							706
05:00		399	285							684
06:00		247	220							467
07:00		127	199							326
08:00		99	74							173
09:00		71	23							94
10:00		49	28							77
11:00		21	17							38
Total		4036	3952							7988
Percent		50.5%	49.5%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	309	353	-	-	-	-	-	-	662
PM Peak	-	17:00	14:00	-	-	-	-	-	-	14:00
Vol.	-	399	346	-	-	-	-	-	-	714
Total		8014	7855							15869
Percent		50.5%	49.5%							
ADT		ADT 7,865	AADT 7,865							



Site Code: 17
 Station ID: 17
 2ND ST S/O GRAND AVE
 2ND ST S/O GRAND AVE

Start Time	12-Nov-1 Wed	NB	SB							Total
12:00 AM		10	13							23
01:00		7	18							25
02:00		3	5							8
03:00		9	3							12
04:00		9	5							14
05:00		34	12							46
06:00		49	20							69
07:00		95	48							143
08:00		117	76							193
09:00		98	80							178
10:00		80	104							184
11:00		79	98							177
12:00 PM		102	129							231
01:00		108	142							250
02:00		116	145							261
03:00		103	160							263
04:00		145	153							298
05:00		115	176							291
06:00		107	121							228
07:00		69	101							170
08:00		58	58							116
09:00		32	48							80
10:00		13	16							29
11:00		14	19							33
Total		1572	1750							3322
Percent		47.3%	52.7%							
AM Peak	-	08:00	10:00	-	-	-	-	-	-	08:00
Vol.	-	117	104	-	-	-	-	-	-	193
PM Peak	-	16:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	145	176	-	-	-	-	-	-	298



Site Code: 17
 Station ID: 17
 2ND ST S/O GRAND AVE
 2ND ST S/O GRAND AVE

Start Time	13-Nov-1 Thu	NB	SB							Total
12:00 AM		10	13							23
01:00		6	11							17
02:00		4	2							6
03:00		12	4							16
04:00		15	4							19
05:00		36	13							49
06:00		52	27							79
07:00		88	47							135
08:00		117	70							187
09:00		66	75							141
10:00		79	78							157
11:00		86	108							194
12:00 PM		117	97							214
01:00		94	119							213
02:00		106	150							256
03:00		122	163							285
04:00		142	168							310
05:00		124	150							274
06:00		98	117							215
07:00		66	73							139
08:00		52	68							120
09:00		37	50							87
10:00		24	25							49
11:00		24	26							50
Total		1577	1658							3235
Percent		48.7%	51.3%							
AM Peak	-	08:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	117	108	-	-	-	-	-	-	194
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	142	168	-	-	-	-	-	-	310
Total		3149	3408							6557
Percent		48.0%	52.0%							
ADT		ADT 3,194	AADT 3,194							



Site Code: 18
 Station ID: 18
 LOIS ST N/O PEACH ST
 LOIS ST N/O PEACH ST

Start Time	12-Nov-1 Wed	NB	SB							Total
12:00 AM		2	3							5
01:00		2	0							2
02:00		0	0							0
03:00		0	3							3
04:00		2	6							8
05:00		3	11							14
06:00		10	20							30
07:00		23	34							57
08:00		21	27							48
09:00		14	29							43
10:00		15	13							28
11:00		27	27							54
12:00 PM		19	22							41
01:00		21	26							47
02:00		32	17							49
03:00		48	45							93
04:00		41	31							72
05:00		40	37							77
06:00		42	24							66
07:00		17	16							33
08:00		26	17							43
09:00		9	5							14
10:00		7	2							9
11:00		6	4							10
Total		427	419							846
Percent		50.5%	49.5%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	27	34	-	-	-	-	-	-	57
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	48	45	-	-	-	-	-	-	93



Site Code: 18
 Station ID: 18
 LOIS ST N/O PEACH ST
 LOIS ST N/O PEACH ST

Start Time	13-Nov-1 Thu	NB	SB							Total
12:00 AM		0	1							1
01:00		1	1							2
02:00		0	0							0
03:00		0	2							2
04:00		4	7							11
05:00		3	15							18
06:00		13	20							33
07:00		20	38							58
08:00		26	25							51
09:00		13	23							36
10:00		14	22							36
11:00		27	21							48
12:00 PM		21	22							43
01:00		20	16							36
02:00		19	24							43
03:00		52	44							96
04:00		54	37							91
05:00		36	24							60
06:00		37	33							70
07:00		24	19							43
08:00		19	11							30
09:00		7	5							12
10:00		7	5							12
11:00		7	2							9
Total		424	417							841
Percent		50.4%	49.6%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	27	38	-	-	-	-	-	-	58
PM Peak	-	16:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	54	44	-	-	-	-	-	-	96
Total		851	836							1687
Percent		50.4%	49.6%							
ADT		ADT 848	AADT 848							



Site Code: 19
 Station ID: 19
 FRONT ST W/O 33 RD
 FRONT ST W/O 33 RD

Start Time	12-Nov-1 Wed	EB	WB							Total
12:00 AM		1	1							2
01:00		2	1							3
02:00		0	0							0
03:00		0	0							0
04:00		2	1							3
05:00		5	1							6
06:00		4	1							5
07:00		7	11							18
08:00		17	8							25
09:00		11	10							21
10:00		10	11							21
11:00		7	16							23
12:00 PM		15	5							20
01:00		15	5							20
02:00		11	8							19
03:00		18	12							30
04:00		13	13							26
05:00		9	14							23
06:00		4	9							13
07:00		5	2							7
08:00		10	10							20
09:00		3	3							6
10:00		4	1							5
11:00		2	0							2
Total		175	143							318
Percent		55.0%	45.0%							
AM Peak	-	08:00	11:00	-	-	-	-	-	-	08:00
Vol.	-	17	16	-	-	-	-	-	-	25
PM Peak	-	15:00	17:00	-	-	-	-	-	-	15:00
Vol.	-	18	14	-	-	-	-	-	-	30



Site Code: 19
 Station ID: 19
 FRONT ST W/O 33 RD
 FRONT ST W/O 33 RD

Start Time	13-Nov-1 Thu	EB	WB	Total						
12:00 AM		2	0	2						
01:00		0	2	2						
02:00		0	1	1						
03:00		1	1	2						
04:00		0	0	0						
05:00		4	0	4						
06:00		5	7	12						
07:00		7	8	15						
08:00		5	1	6						
09:00		6	5	11						
10:00		11	3	14						
11:00		6	10	16						
12:00 PM		13	10	23						
01:00		12	10	22						
02:00		9	5	14						
03:00		22	9	31						
04:00		20	2	22						
05:00		12	7	19						
06:00		6	5	11						
07:00		6	8	14						
08:00		2	4	6						
09:00		5	2	7						
10:00		1	3	4						
11:00		0	1	1						
Total		155	104	259						
Percent		59.8%	40.2%							
AM Peak	-	10:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	11	10	-	-	-	-	-	-	16
PM Peak	-	15:00	12:00	-	-	-	-	-	-	15:00
Vol.	-	22	10	-	-	-	-	-	-	31
Total		330	247							577
Percent		57.2%	42.8%							
ADT		ADT 288	AADT 288							



Site Code: 20
 Station ID: 20
 33 RD N/O F RD (US 6)
 33 RD N/O F RD (US 6)

Start Time	12-Nov-1 Wed	NB	SB							Total
12:00 AM		6	5							11
01:00		3	3							6
02:00		3	3							6
03:00		1	2							3
04:00		5	12							17
05:00		10	38							48
06:00		13	85							98
07:00		45	150							195
08:00		63	162							225
09:00		74	94							168
10:00		79	93							172
11:00		75	90							165
12:00 PM		84	81							165
01:00		98	94							192
02:00		117	106							223
03:00		120	95							215
04:00		140	110							250
05:00		154	96							250
06:00		93	76							169
07:00		62	37							99
08:00		60	30							90
09:00		46	22							68
10:00		25	16							41
11:00		6	7							13
Total		1382	1507							2889
Percent		47.8%	52.2%							
AM Peak	-	10:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	79	162	-	-	-	-	-	-	225
PM Peak	-	17:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	154	110	-	-	-	-	-	-	250



Site Code: 20
 Station ID: 20
 33 RD N/O F RD (US 6)
 33 RD N/O F RD (US 6)

Start Time	13-Nov-1 Thu	NB	SB	Total						
12:00 AM		8	5	13						
01:00		5	3	8						
02:00		1	0	1						
03:00		2	2	4						
04:00		0	13	13						
05:00		10	39	49						
06:00		18	85	103						
07:00		40	140	180						
08:00		58	130	188						
09:00		53	88	141						
10:00		78	81	159						
11:00		66	99	165						
12:00 PM		86	83	169						
01:00		94	91	185						
02:00		120	93	213						
03:00		120	116	236						
04:00		153	90	243						
05:00		138	104	242						
06:00		88	79	167						
07:00		76	40	116						
08:00		60	23	83						
09:00		38	22	60						
10:00		19	10	29						
11:00		15	5	20						
Total		1346	1441	2787						
Percent		48.3%	51.7%							
AM Peak	-	10:00	07:00	-	-	-	-	-	-	08:00
Vol.	-	78	140	-	-	-	-	-	-	188
PM Peak	-	16:00	15:00	-	-	-	-	-	-	16:00
Vol.	-	153	116	-	-	-	-	-	-	243
Total		2728	2948							5676
Percent		48.1%	51.9%							
ADT		ADT 2,847	AADT 2,847							



Site Code: 21
 Station ID: 21
 F 1/2 RD E/O LOIS ST
 F 1/2 RD E/O LOIS ST

Start Time	12-Nov-1 Wed	EB	WB							Total
12:00 AM		0	1							1
01:00		2	0							2
02:00		1	0							1
03:00		1	2							3
04:00		1	0							1
05:00		18	3							21
06:00		17	7							24
07:00		37	15							52
08:00		19	10							29
09:00		24	16							40
10:00		14	9							23
11:00		13	14							27
12:00 PM		13	10							23
01:00		9	11							20
02:00		19	25							44
03:00		27	31							58
04:00		25	30							55
05:00		19	32							51
06:00		19	26							45
07:00		9	19							28
08:00		11	20							31
09:00		4	8							12
10:00		4	5							9
11:00		1	3							4
Total		307	297							604
Percent		50.8%	49.2%							
AM Peak	-	07:00	09:00	-	-	-	-	-	-	07:00
Vol.	-	37	16	-	-	-	-	-	-	52
PM Peak	-	15:00	17:00	-	-	-	-	-	-	15:00
Vol.	-	27	32	-	-	-	-	-	-	58

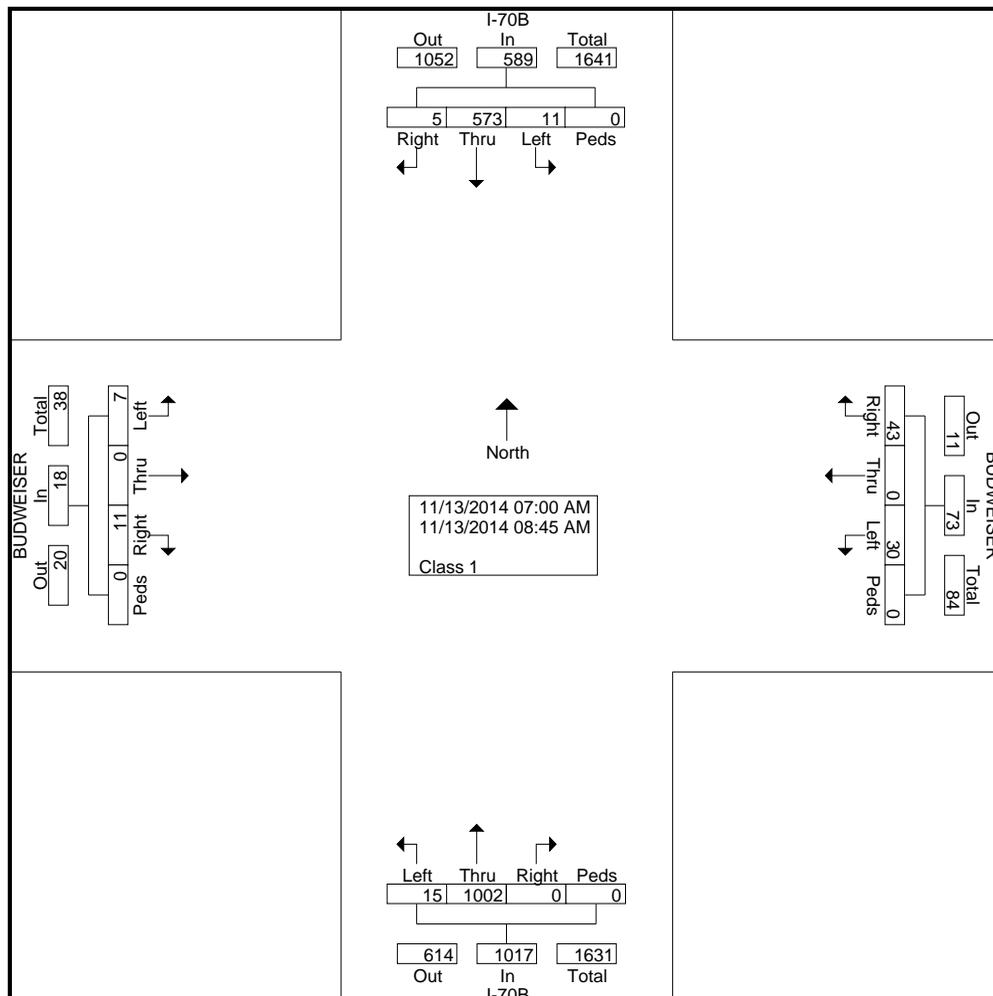


Site Code: 21
 Station ID: 21
 F 1/2 RD E/O LOIS ST
 F 1/2 RD E/O LOIS ST

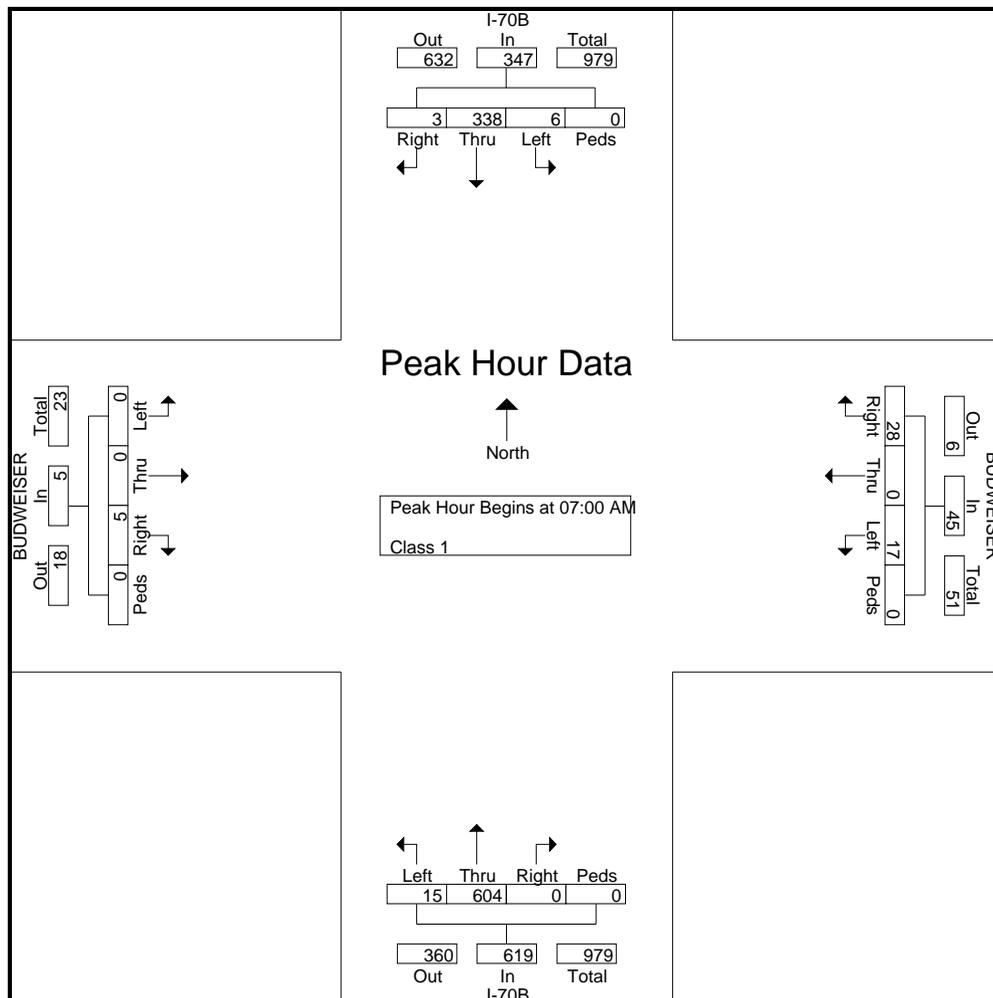
Start Time	13-Nov-1 Thu	EB	WB							Total
12:00 AM		0	1							1
01:00		0	1							1
02:00		0	0							0
03:00		1	0							1
04:00		5	0							5
05:00		5	2							7
06:00		30	6							36
07:00		42	17							59
08:00		32	18							50
09:00		24	7							31
10:00		10	13							23
11:00		13	12							25
12:00 PM		13	16							29
01:00		9	15							24
02:00		16	15							31
03:00		25	26							51
04:00		19	35							54
05:00		32	34							66
06:00		22	18							40
07:00		16	26							42
08:00		6	15							21
09:00		2	9							11
10:00		4	8							12
11:00		1	3							4
Total		327	297							624
Percent		52.4%	47.6%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	07:00
Vol.	-	42	18	-	-	-	-	-	-	59
PM Peak	-	17:00	16:00	-	-	-	-	-	-	17:00
Vol.	-	32	35	-	-	-	-	-	-	66
Total		634	594							1228
Percent		51.6%	48.4%							
ADT		ADT 591	AADT 591							

Groups Printed- Class 1

Start Time	I-70B Southbound				BUDWEISER Westbound				I-70B Northbound				BUDWEISER Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	1	80	0	0	9	0	4	0	0	139	4	0	0	0	0	0	237
07:15 AM	1	84	1	0	3	0	5	0	0	157	2	0	0	0	0	0	253
07:30 AM	1	90	3	0	11	0	4	0	0	163	5	0	3	0	0	0	280
07:45 AM	0	84	2	0	5	0	4	0	0	145	4	0	2	0	0	0	246
Total	3	338	6	0	28	0	17	0	0	604	15	0	5	0	0	0	1016
08:00 AM	2	62	1	0	6	0	1	0	0	117	0	0	1	0	6	0	196
08:15 AM	0	56	2	0	1	0	3	0	0	99	0	0	2	0	1	0	164
08:30 AM	0	56	0	0	6	0	2	0	0	100	0	0	0	0	0	0	164
08:45 AM	0	61	2	0	2	0	7	0	0	82	0	0	3	0	0	0	157
Total	2	235	5	0	15	0	13	0	0	398	0	0	6	0	7	0	681
Grand Total	5	573	11	0	43	0	30	0	0	1002	15	0	11	0	7	0	1697
Apprch %	0.8	97.3	1.9	0	58.9	0	41.1	0	0	98.5	1.5	0	61.1	0	38.9	0	
Total %	0.3	33.8	0.6	0	2.5	0	1.8	0	0	59	0.9	0	0.6	0	0.4	0	

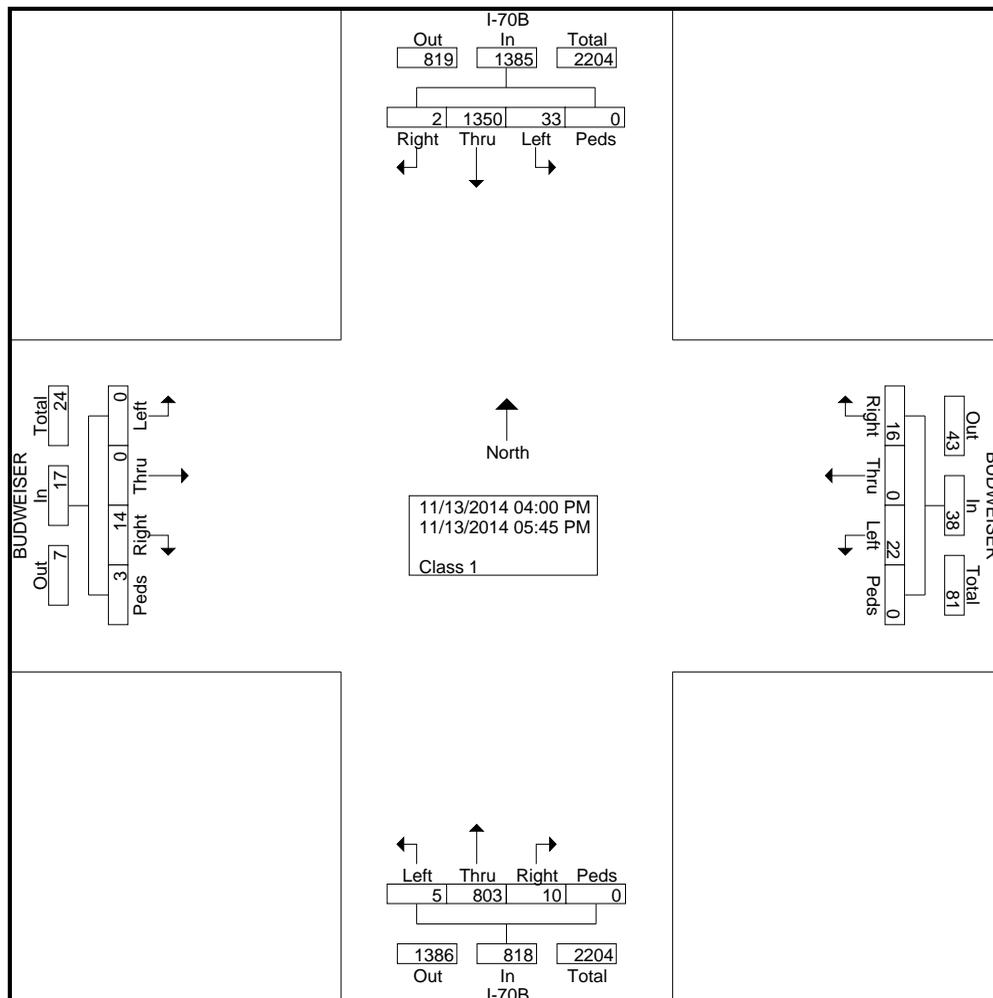


Start Time	I-70B Southbound					BUDWEISER Westbound					I-70B Northbound					BUDWEISER Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	80	0	0	81	9	0	4	0	13	0	139	4	0	143	0	0	0	0	0	237
07:15 AM	1	84	1	0	86	3	0	5	0	8	0	157	2	0	159	0	0	0	0	0	253
07:30 AM	1	90	3	0	94	11	0	4	0	15	0	163	5	0	168	3	0	0	0	3	280
07:45 AM	0	84	2	0	86	5	0	4	0	9	0	145	4	0	149	2	0	0	0	2	246
Total Volume	3	338	6	0	347	28	0	17	0	45	0	604	15	0	619	5	0	0	0	5	1016
% App. Total	0.9	97.4	1.7	0		62.2	0	37.8	0		0	97.6	2.4	0		100	0	0	0		
PHF	.750	.939	.500	.000	.923	.636	.000	.850	.000	.750	.000	.926	.750	.000	.921	.417	.000	.000	.000	.417	.907

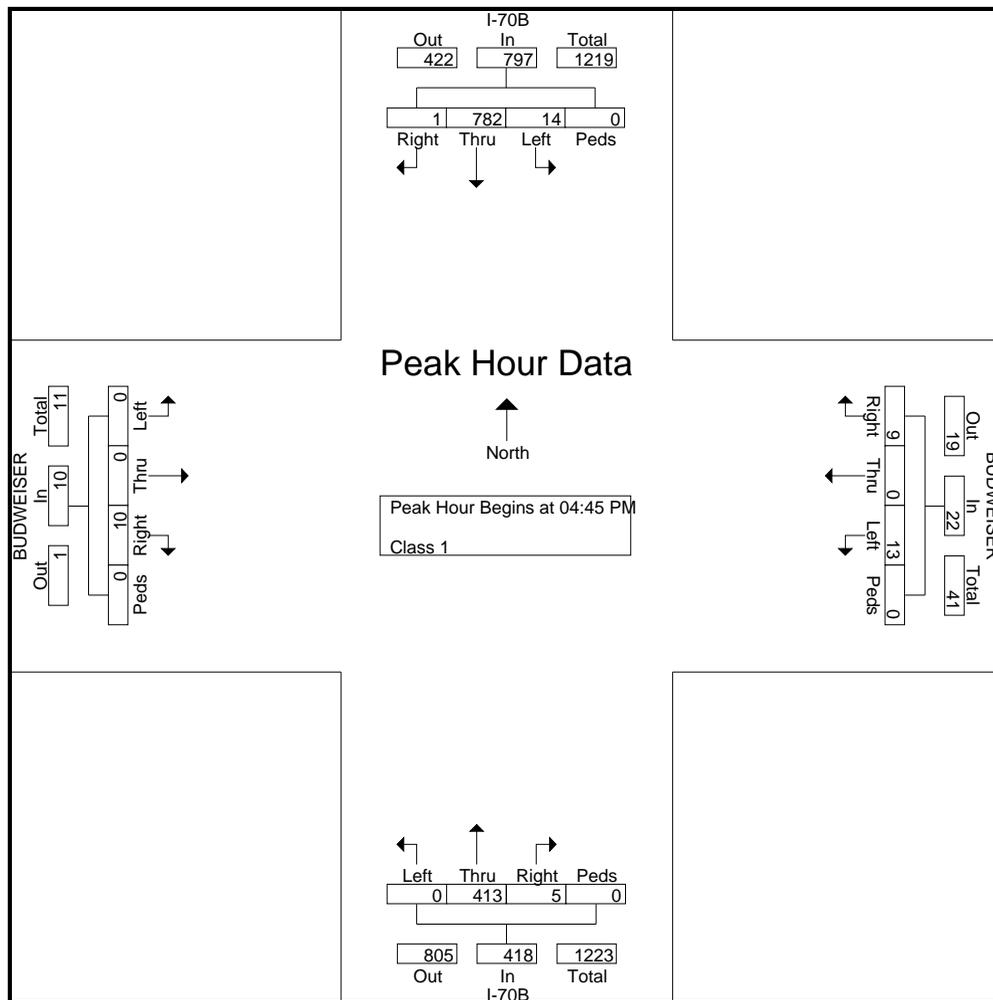


Groups Printed- Class 1

Start Time	I-70B Southbound				BUDWEISER Westbound				I-70B Northbound				BUDWEISER Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	138	5	0	1	0	3	0	0	104	3	0	3	0	0	0	257
04:15 PM	1	138	4	0	3	0	2	0	0	126	1	0	1	0	0	0	276
04:30 PM	0	141	7	0	1	0	3	0	0	91	1	0	0	0	0	3	247
04:45 PM	0	170	3	0	0	0	5	0	0	108	0	0	0	0	0	0	286
Total	1	587	19	0	5	0	13	0	0	429	5	0	4	0	0	3	1066
05:00 PM	0	208	5	0	5	0	3	0	0	106	0	0	9	0	0	0	336
05:15 PM	0	242	3	0	3	0	0	0	2	104	0	0	0	0	0	0	354
05:30 PM	1	162	3	0	1	0	5	0	3	95	0	0	1	0	0	0	271
05:45 PM	0	151	3	0	2	0	1	0	5	69	0	0	0	0	0	0	231
Total	1	763	14	0	11	0	9	0	10	374	0	0	10	0	0	0	1192
Grand Total	2	1350	33	0	16	0	22	0	10	803	5	0	14	0	0	3	2258
Apprch %	0.1	97.5	2.4	0	42.1	0	57.9	0	1.2	98.2	0.6	0	82.4	0	0	17.6	
Total %	0.1	59.8	1.5	0	0.7	0	1	0	0.4	35.6	0.2	0	0.6	0	0	0.1	

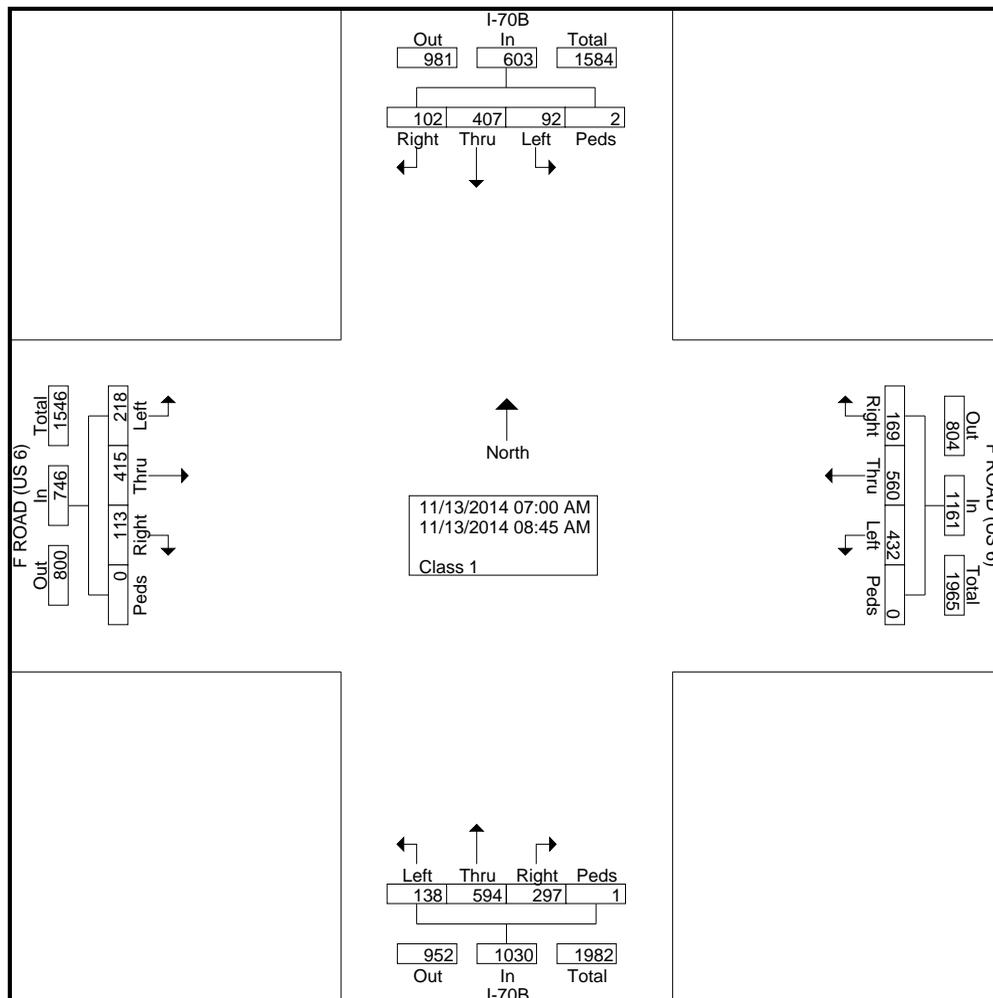


Start Time	I-70B Southbound					BUDWEISER Westbound					I-70B Northbound					BUDWEISER Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	170	3	0	173	0	0	5	0	5	0	108	0	0	108	0	0	0	0	0	286
05:00 PM	0	208	5	0	213	5	0	3	0	8	0	106	0	0	106	9	0	0	0	9	336
05:15 PM	0	242	3	0	245	3	0	0	0	3	2	104	0	0	106	0	0	0	0	0	354
05:30 PM	1	162	3	0	166	1	0	5	0	6	3	95	0	0	98	1	0	0	0	1	271
Total Volume	1	782	14	0	797	9	0	13	0	22	5	413	0	0	418	10	0	0	0	10	1247
% App. Total	0.1	98.1	1.8	0		40.9	0	59.1	0		1.2	98.8	0	0		100	0	0	0		
PHF	.250	.808	.700	.000	.813	.450	.000	.650	.000	.688	.417	.956	.000	.000	.968	.278	.000	.000	.000	.278	.881

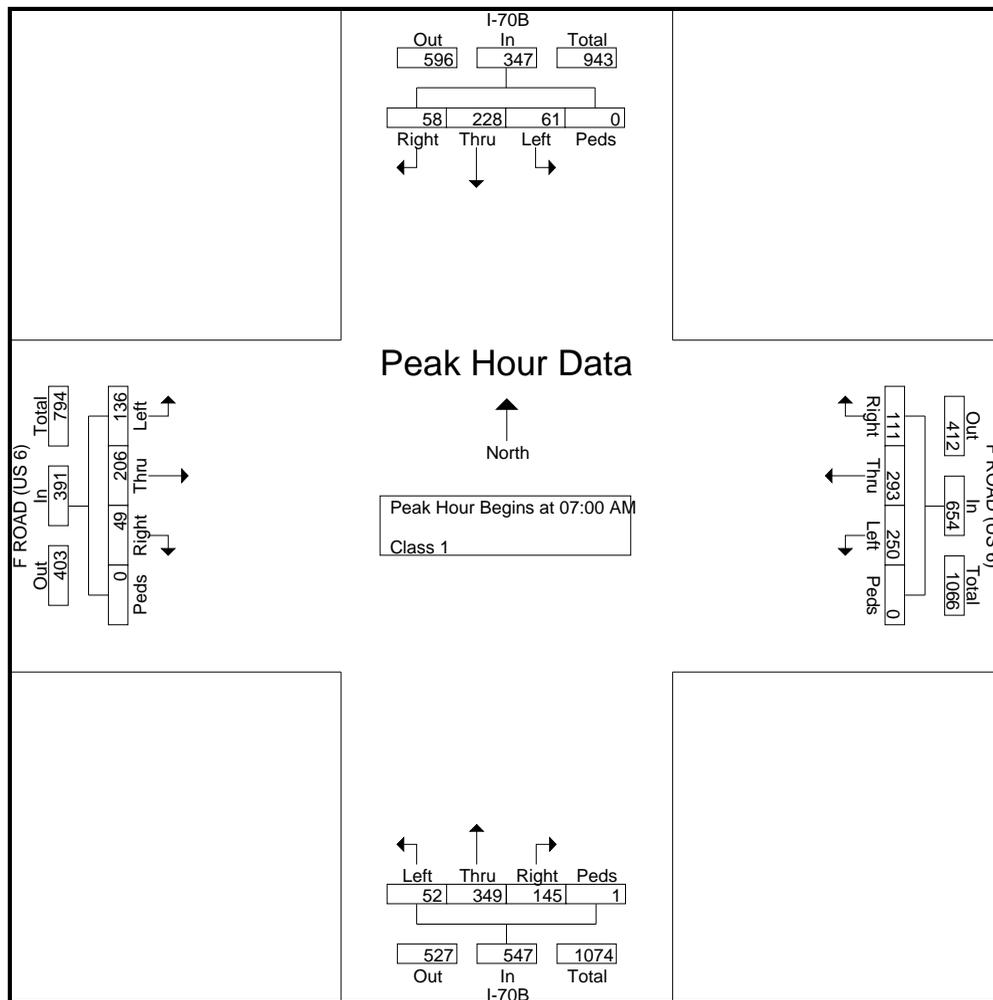


Groups Printed- Class 1

Start Time	I-70B Southbound				F ROAD (US 6) Westbound				I-70B Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	12	48	18	0	27	57	51	0	32	86	13	0	12	73	26	0	455
07:15 AM	20	59	11	0	30	96	70	0	31	78	13	1	10	39	44	0	502
07:30 AM	12	59	18	0	30	80	81	0	35	108	9	0	18	39	42	0	531
07:45 AM	14	62	14	0	24	60	48	0	47	77	17	0	9	55	24	0	451
Total	58	228	61	0	111	293	250	0	145	349	52	1	49	206	136	0	1939
08:00 AM	4	45	14	0	16	64	34	0	41	76	18	0	16	51	25	0	404
08:15 AM	15	39	6	0	17	67	53	0	43	61	25	0	9	41	13	0	389
08:30 AM	14	38	4	1	14	66	51	0	38	58	24	0	16	56	25	0	405
08:45 AM	11	57	7	1	11	70	44	0	30	50	19	0	23	61	19	0	403
Total	44	179	31	2	58	267	182	0	152	245	86	0	64	209	82	0	1601
Grand Total	102	407	92	2	169	560	432	0	297	594	138	1	113	415	218	0	3540
Apprch %	16.9	67.5	15.3	0.3	14.6	48.2	37.2	0	28.8	57.7	13.4	0.1	15.1	55.6	29.2	0	
Total %	2.9	11.5	2.6	0.1	4.8	15.8	12.2	0	8.4	16.8	3.9	0	3.2	11.7	6.2	0	

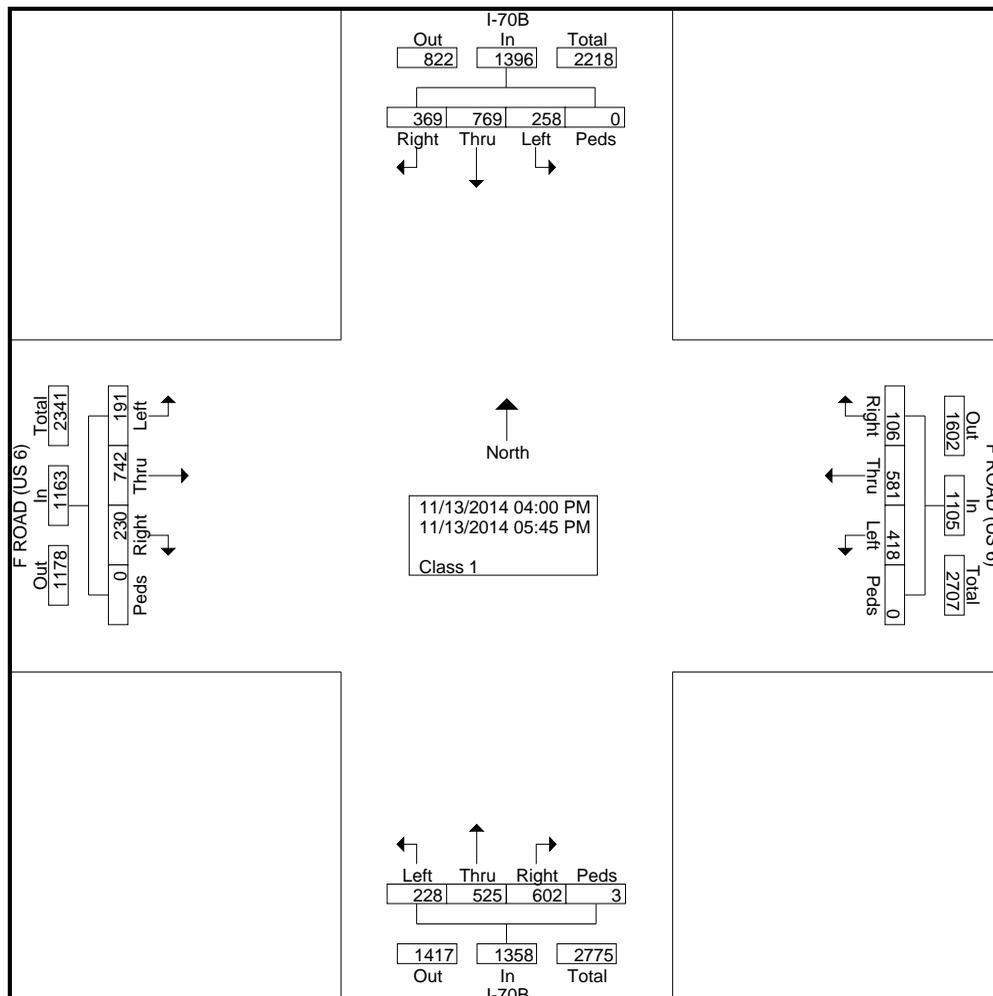


Start Time	I-70B Southbound					F ROAD (US 6) Westbound					I-70B Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	12	48	18	0	78	27	57	51	0	135	32	86	13	0	131	12	73	26	0	111	455
07:15 AM	20	59	11	0	90	30	96	70	0	196	31	78	13	1	123	10	39	44	0	93	502
07:30 AM	12	59	18	0	89	30	80	81	0	191	35	108	9	0	152	18	39	42	0	99	531
07:45 AM	14	62	14	0	90	24	60	48	0	132	47	77	17	0	141	9	55	24	0	88	451
Total Volume	58	228	61	0	347	111	293	250	0	654	145	349	52	1	547	49	206	136	0	391	1939
% App. Total	16.7	65.7	17.6	0		17	44.8	38.2	0		26.5	63.8	9.5	0.2		12.5	52.7	34.8	0		
PHF	.725	.919	.847	.000	.964	.925	.763	.772	.000	.834	.771	.808	.765	.250	.900	.681	.705	.773	.000	.881	.913

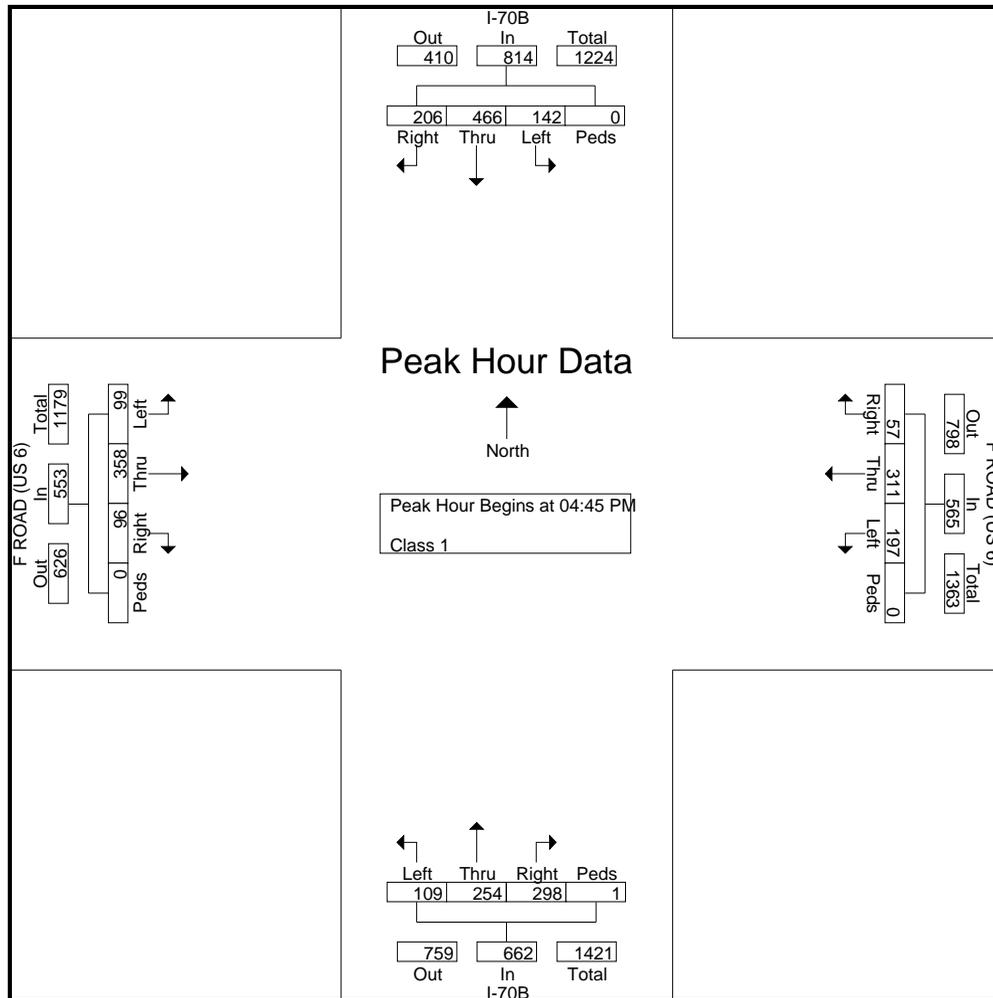


Groups Printed- Class 1

Start Time	I-70B Southbound				F ROAD (US 6) Westbound				I-70B Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	22	80	26	0	18	64	67	0	91	81	21	1	46	96	26	0	639
04:15 PM	38	79	27	0	13	65	48	0	84	84	36	1	29	96	21	0	621
04:30 PM	48	69	27	0	15	82	50	0	76	61	23	0	30	90	22	0	593
04:45 PM	46	111	19	0	21	96	59	0	75	56	31	0	11	82	17	0	624
Total	154	339	99	0	67	307	224	0	326	282	111	2	116	364	86	0	2477
05:00 PM	47	130	42	0	11	74	38	0	77	78	15	1	33	89	30	0	665
05:15 PM	60	130	42	0	11	80	48	0	67	56	29	0	23	102	24	0	672
05:30 PM	53	95	39	0	14	61	52	0	79	64	34	0	29	85	28	0	633
05:45 PM	55	75	36	0	3	59	56	0	53	45	39	0	29	102	23	0	575
Total	215	430	159	0	39	274	194	0	276	243	117	1	114	378	105	0	2545
Grand Total	369	769	258	0	106	581	418	0	602	525	228	3	230	742	191	0	5022
Apprch %	26.4	55.1	18.5	0	9.6	52.6	37.8	0	44.3	38.7	16.8	0.2	19.8	63.8	16.4	0	
Total %	7.3	15.3	5.1	0	2.1	11.6	8.3	0	12	10.5	4.5	0.1	4.6	14.8	3.8	0	

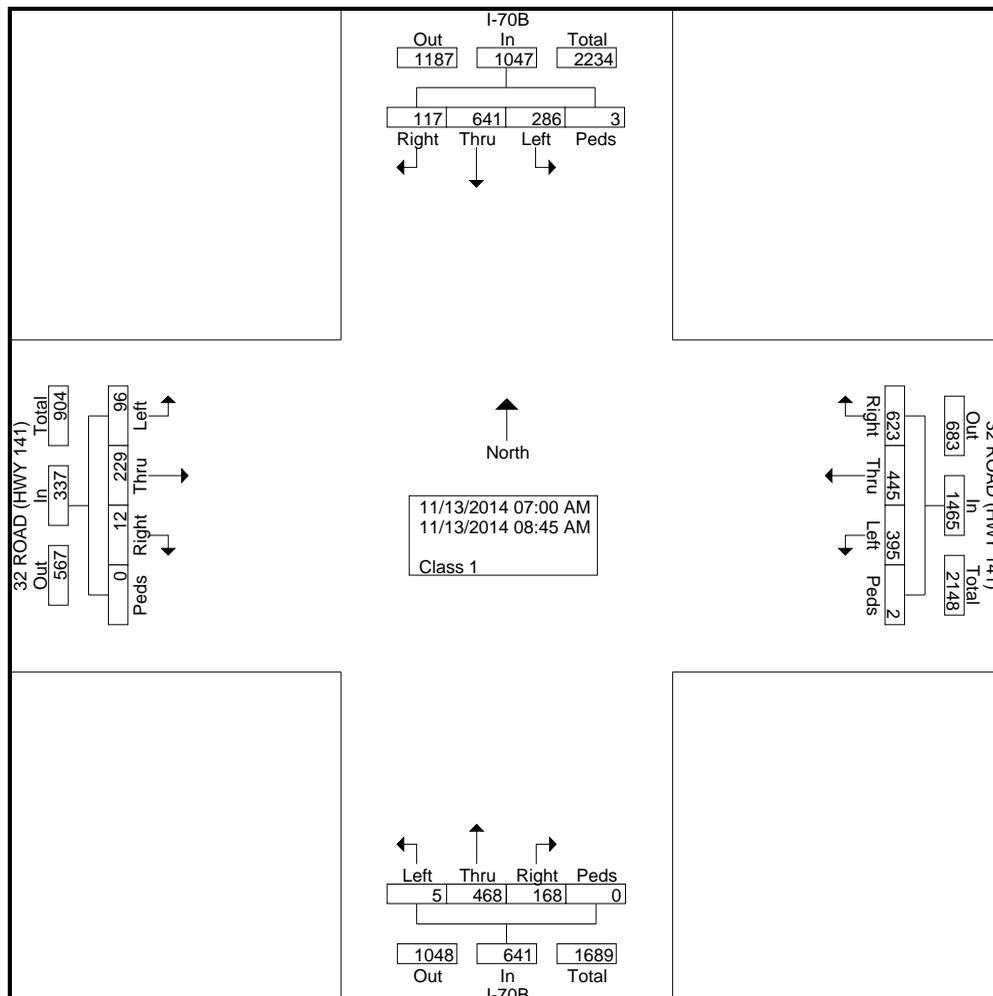


Start Time	I-70B Southbound					F ROAD (US 6) Westbound					I-70B Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	46	111	19	0	176	21	96	59	0	176	75	56	31	0	162	11	82	17	0	110	624
05:00 PM	47	130	42	0	219	11	74	38	0	123	77	78	15	1	171	33	89	30	0	152	665
05:15 PM	60	130	42	0	232	11	80	48	0	139	67	56	29	0	152	23	102	24	0	149	672
05:30 PM	53	95	39	0	187	14	61	52	0	127	79	64	34	0	177	29	85	28	0	142	633
Total Volume	206	466	142	0	814	57	311	197	0	565	298	254	109	1	662	96	358	99	0	553	2594
% App. Total	25.3	57.2	17.4	0		10.1	55	34.9	0		45	38.4	16.5	0.2		17.4	64.7	17.9	0		
PHF	.858	.896	.845	.000	.877	.679	.810	.835	.000	.803	.943	.814	.801	.250	.935	.727	.877	.825	.000	.910	.965

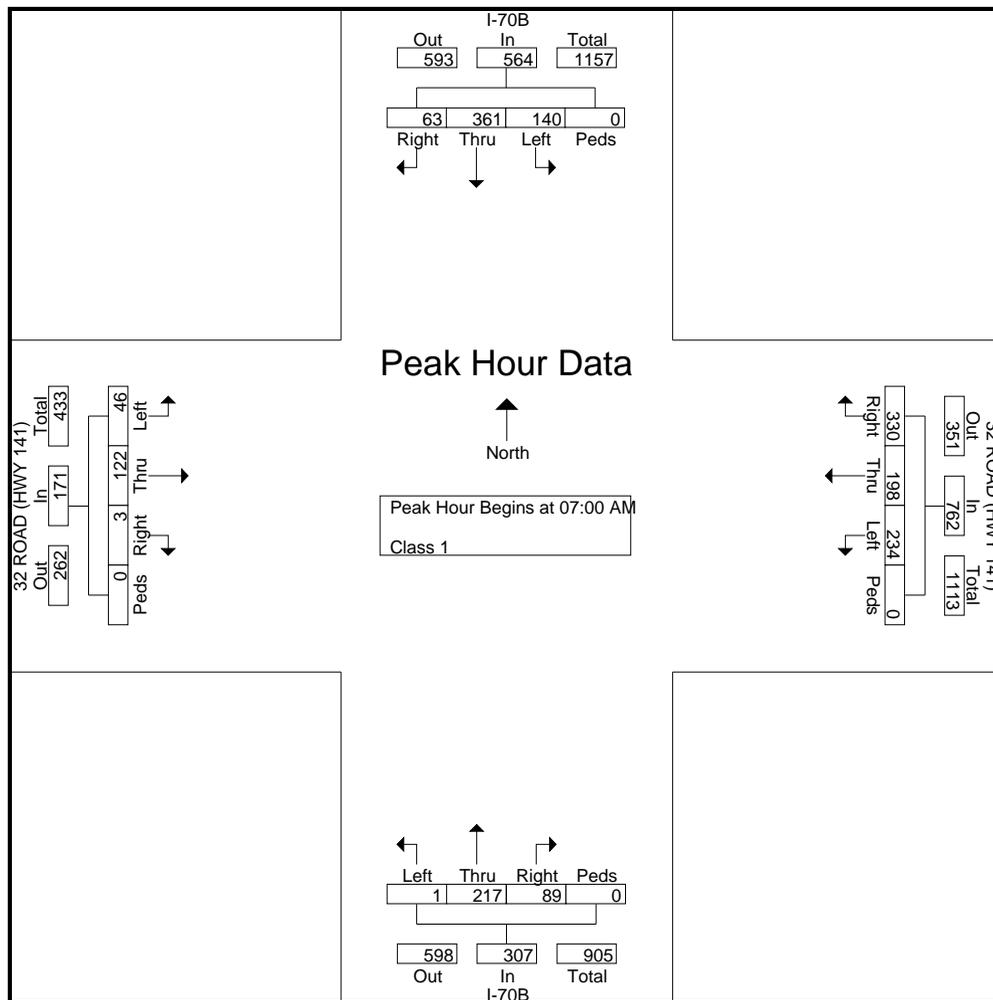


Groups Printed- Class 1

Start Time	I-70B Southbound				32 ROAD (HWY 141) Westbound				I-70B Northbound				32 ROAD (HWY 141) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	20	77	16	0	74	43	67	0	20	50	0	0	2	28	8	0	405
07:15 AM	18	86	34	0	79	47	38	0	23	63	0	0	0	32	13	0	433
07:30 AM	13	115	31	0	98	65	78	0	21	50	1	0	1	25	9	0	507
07:45 AM	12	83	59	0	79	43	51	0	25	54	0	0	0	37	16	0	459
Total	63	361	140	0	330	198	234	0	89	217	1	0	3	122	46	0	1804
08:00 AM	11	57	45	0	81	45	39	0	16	63	2	0	1	25	6	0	391
08:15 AM	15	73	27	1	64	74	35	0	27	69	0	0	4	33	18	0	440
08:30 AM	9	70	34	1	78	80	49	1	12	63	1	0	2	23	8	0	431
08:45 AM	19	80	40	1	70	48	38	1	24	56	1	0	2	26	18	0	424
Total	54	280	146	3	293	247	161	2	79	251	4	0	9	107	50	0	1686
Grand Total	117	641	286	3	623	445	395	2	168	468	5	0	12	229	96	0	3490
Apprch %	11.2	61.2	27.3	0.3	42.5	30.4	27	0.1	26.2	73	0.8	0	3.6	68	28.5	0	
Total %	3.4	18.4	8.2	0.1	17.9	12.8	11.3	0.1	4.8	13.4	0.1	0	0.3	6.6	2.8	0	

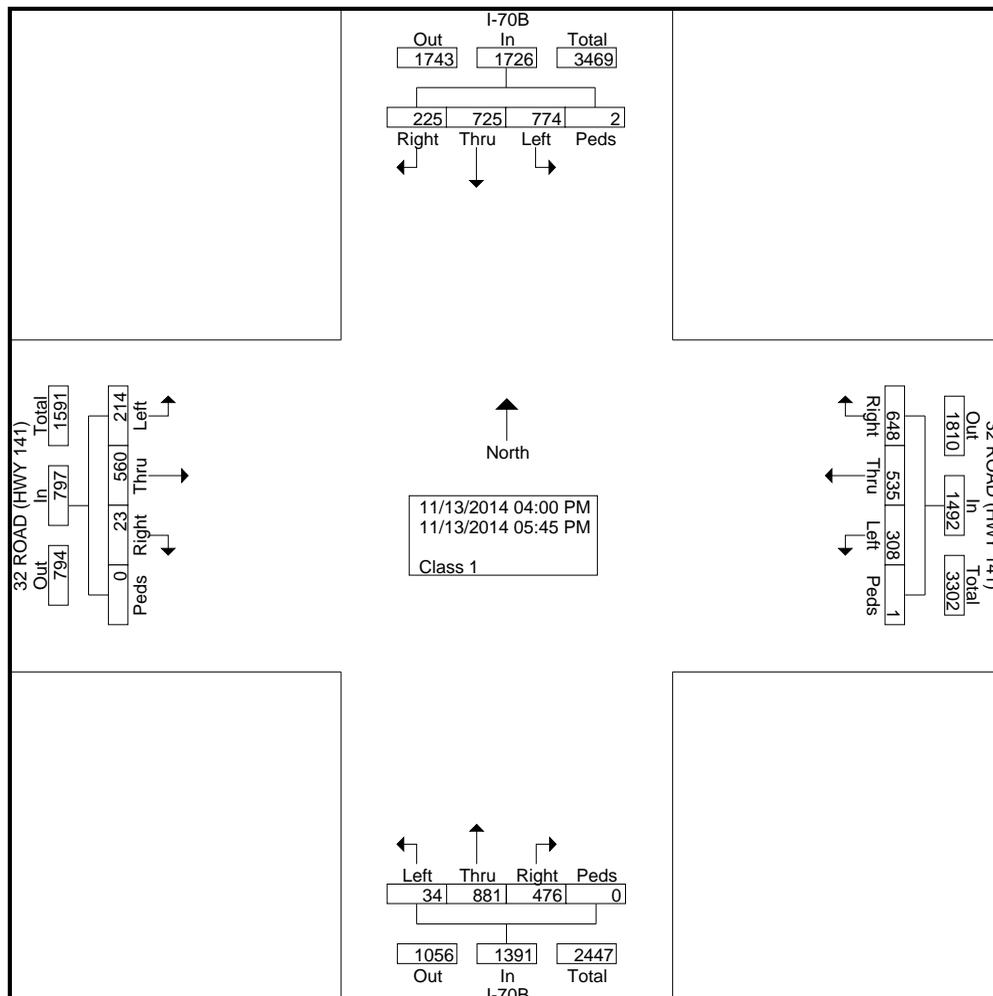


Start Time	I-70B Southbound					32 ROAD (HWY 141) Westbound					I-70B Northbound					32 ROAD (HWY 141) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	20	77	16	0	113	74	43	67	0	184	20	50	0	0	70	2	28	8	0	38	405
07:15 AM	18	86	34	0	138	79	47	38	0	164	23	63	0	0	86	0	32	13	0	45	433
07:30 AM	13	115	31	0	159	98	65	78	0	241	21	50	1	0	72	1	25	9	0	35	507
07:45 AM	12	83	59	0	154	79	43	51	0	173	25	54	0	0	79	0	37	16	0	53	459
Total Volume	63	361	140	0	564	330	198	234	0	762	89	217	1	0	307	3	122	46	0	171	1804
% App. Total	11.2	64	24.8	0		43.3	26	30.7	0		29	70.7	0.3	0		1.8	71.3	26.9	0		
PHF	.788	.785	.593	.000	.887	.842	.762	.750	.000	.790	.890	.861	.250	.000	.892	.375	.824	.719	.000	.807	.890

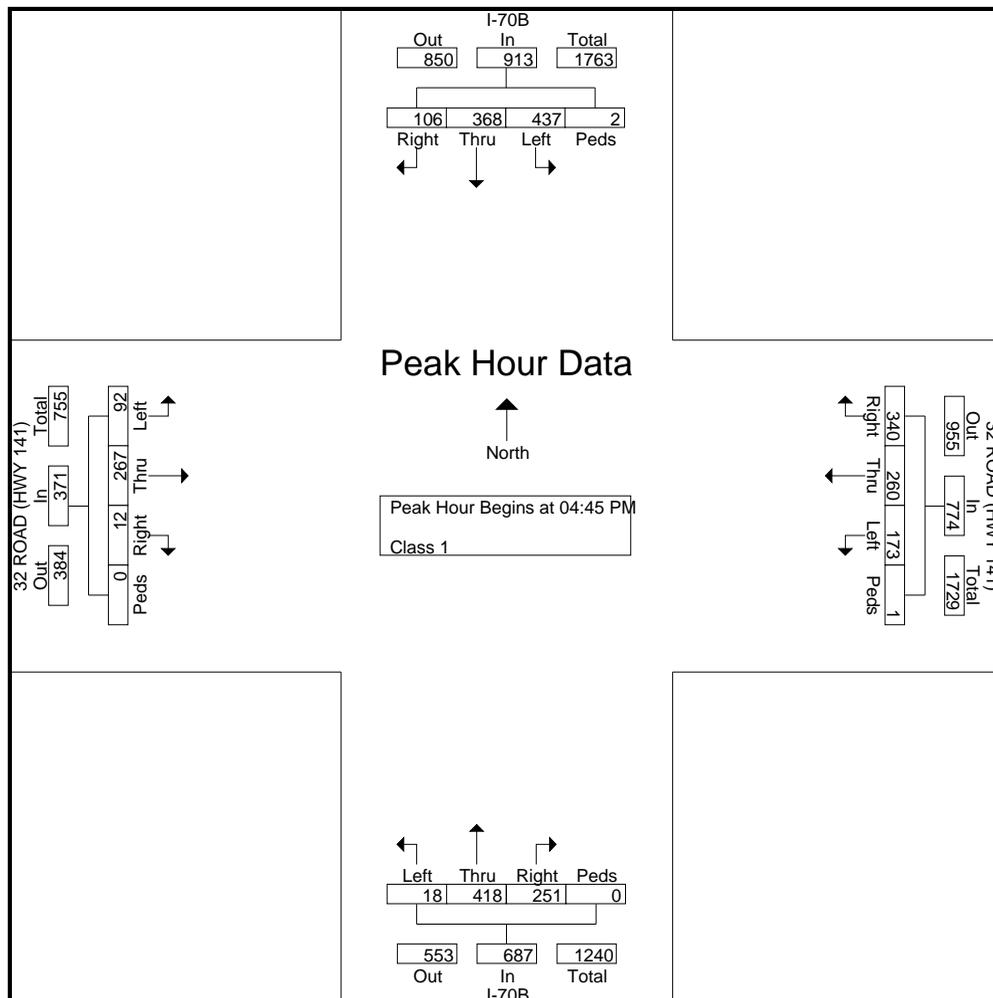


Groups Printed- Class 1

Start Time	I-70B Southbound				32 ROAD (HWY 141) Westbound				I-70B Northbound				32 ROAD (HWY 141) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	31	100	86	0	88	78	51	0	63	112	2	0	5	78	38	0	732
04:15 PM	30	84	69	0	79	61	27	0	53	151	6	0	3	75	32	0	670
04:30 PM	27	84	75	0	76	70	35	0	55	97	5	0	3	76	29	0	632
04:45 PM	27	94	79	0	76	67	41	0	53	107	4	0	10	60	27	0	645
Total	115	362	309	0	319	276	154	0	224	467	17	0	21	289	126	0	2679
05:00 PM	25	84	118	0	81	58	45	0	68	112	7	0	2	73	25	0	698
05:15 PM	29	94	135	1	83	64	38	1	80	109	6	0	0	68	20	0	728
05:30 PM	25	96	105	1	100	71	49	0	50	90	1	0	0	66	20	0	674
05:45 PM	31	89	107	0	65	66	22	0	54	103	3	0	0	64	23	0	627
Total	110	363	465	2	329	259	154	1	252	414	17	0	2	271	88	0	2727
Grand Total	225	725	774	2	648	535	308	1	476	881	34	0	23	560	214	0	5406
Apprch %	13	42	44.8	0.1	43.4	35.9	20.6	0.1	34.2	63.3	2.4	0	2.9	70.3	26.9	0	
Total %	4.2	13.4	14.3	0	12	9.9	5.7	0	8.8	16.3	0.6	0	0.4	10.4	4	0	

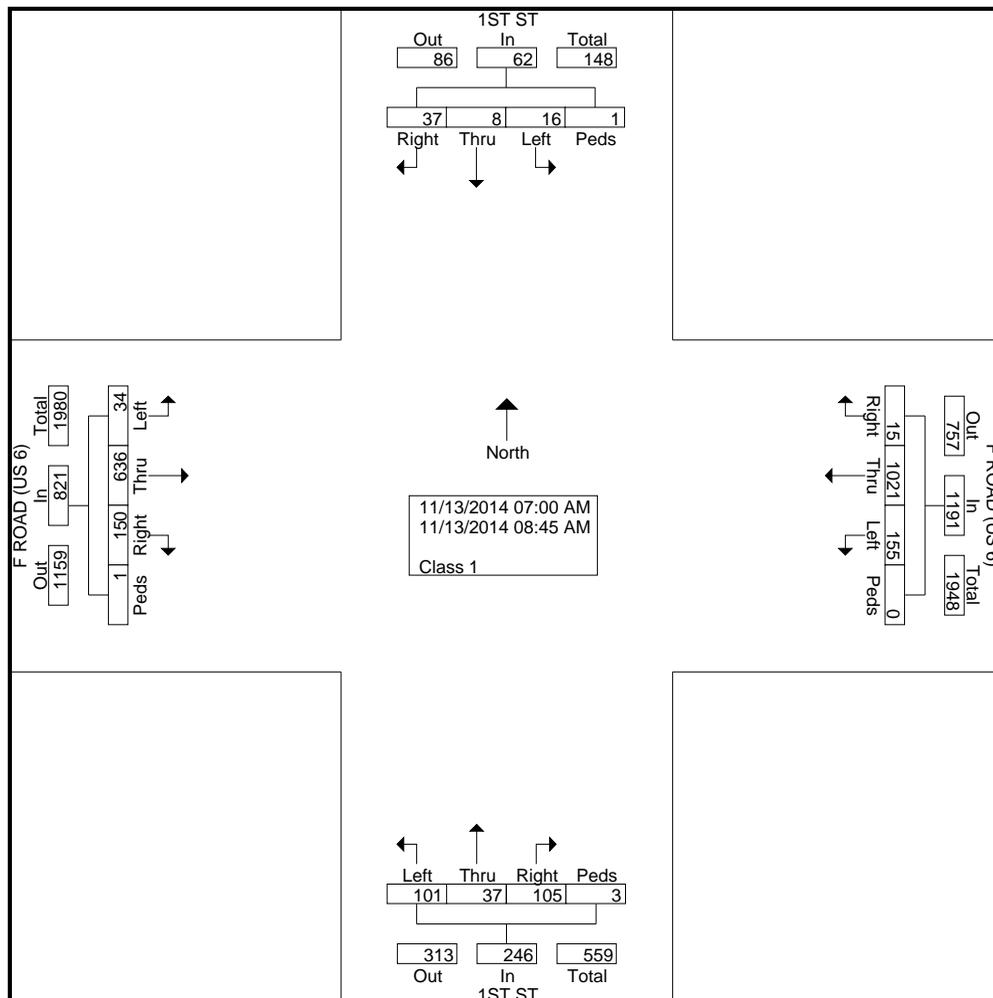


Start Time	I-70B Southbound					32 ROAD (HWY 141) Westbound					I-70B Northbound					32 ROAD (HWY 141) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	27	94	79	0	200	76	67	41	0	184	53	107	4	0	164	10	60	27	0	97	645
05:00 PM	25	84	118	0	227	81	58	45	0	184	68	112	7	0	187	2	73	25	0	100	698
05:15 PM	29	94	135	1	259	83	64	38	1	186	80	109	6	0	195	0	68	20	0	88	728
05:30 PM	25	96	105	1	227	100	71	49	0	220	50	90	1	0	141	0	66	20	0	86	674
Total Volume	106	368	437	2	913	340	260	173	1	774	251	418	18	0	687	12	267	92	0	371	2745
% App. Total	11.6	40.3	47.9	0.2		43.9	33.6	22.4	0.1		36.5	60.8	2.6	0		3.2	72	24.8	0		
PHF	.914	.958	.809	.500	.881	.850	.915	.883	.250	.880	.784	.933	.643	.000	.881	.300	.914	.852	.000	.928	.943

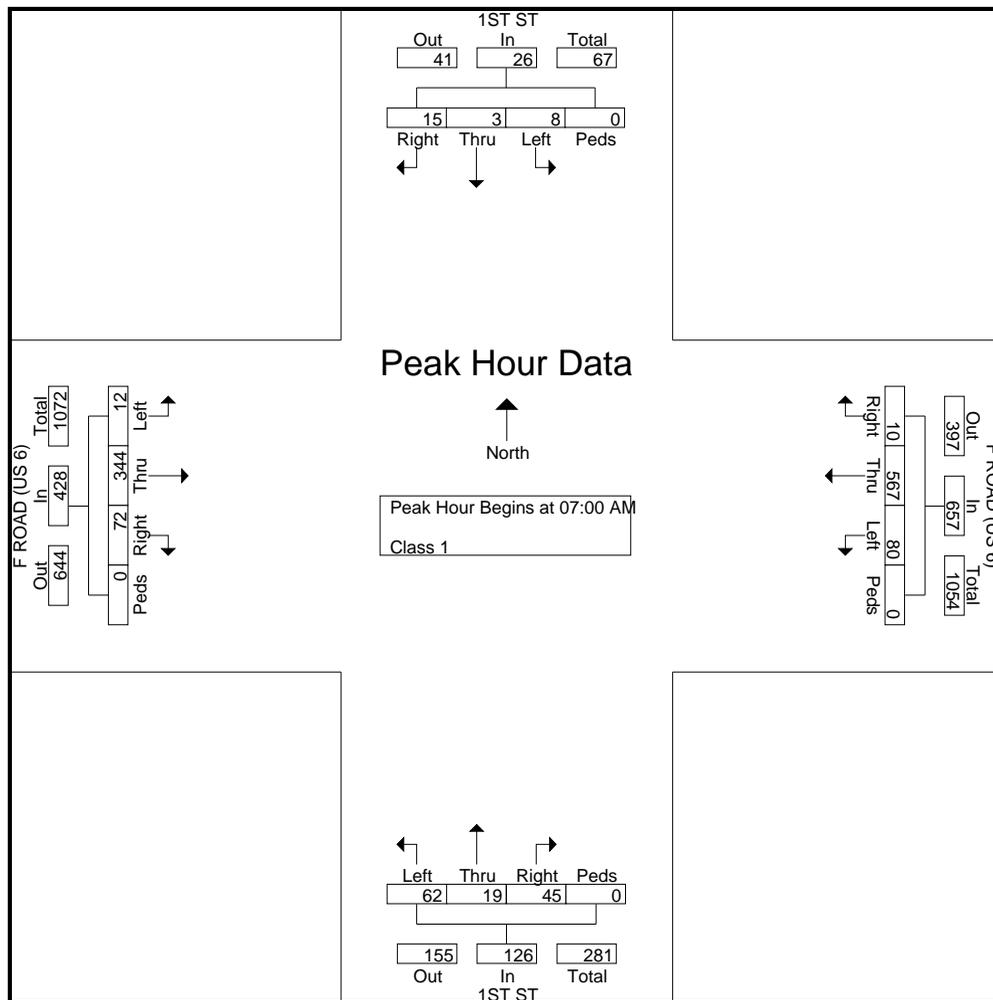


Groups Printed- Class 1

Start Time	1ST ST Southbound				F ROAD (US 6) Westbound				1ST ST Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	4	1	2	0	1	130	14	0	8	3	10	0	13	123	3	0	312
07:15 AM	5	0	0	0	2	176	29	0	3	5	11	0	16	64	1	0	312
07:30 AM	2	1	3	0	2	157	18	0	20	4	24	0	21	68	2	0	322
07:45 AM	4	1	3	0	5	104	19	0	14	7	17	0	22	89	6	0	291
Total	15	3	8	0	10	567	80	0	45	19	62	0	72	344	12	0	1237
08:00 AM	3	1	2	0	2	111	12	0	12	6	8	0	21	76	6	0	260
08:15 AM	6	1	2	0	2	113	19	0	17	7	13	0	15	75	3	0	273
08:30 AM	4	2	1	0	0	118	22	0	15	2	8	2	27	68	5	1	275
08:45 AM	9	1	3	1	1	112	22	0	16	3	10	1	15	73	8	0	275
Total	22	5	8	1	5	454	75	0	60	18	39	3	78	292	22	1	1083
Grand Total	37	8	16	1	15	1021	155	0	105	37	101	3	150	636	34	1	2320
Apprch %	59.7	12.9	25.8	1.6	1.3	85.7	13	0	42.7	15	41.1	1.2	18.3	77.5	4.1	0.1	
Total %	1.6	0.3	0.7	0	0.6	44	6.7	0	4.5	1.6	4.4	0.1	6.5	27.4	1.5	0	

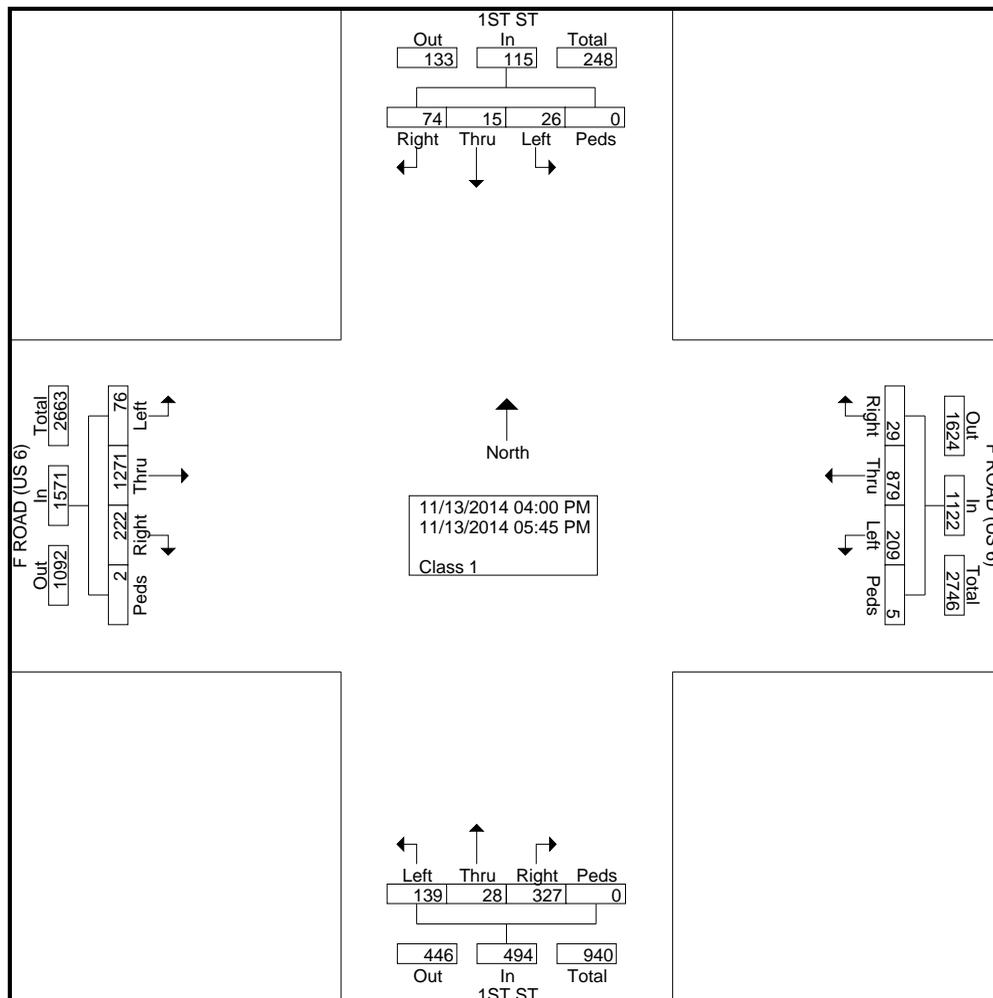


Start Time	1ST ST Southbound					F ROAD (US 6) Westbound					1ST ST Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	1	2	0	7	1	130	14	0	145	8	3	10	0	21	13	123	3	0	139	312
07:15 AM	5	0	0	0	5	2	176	29	0	207	3	5	11	0	19	16	64	1	0	81	312
07:30 AM	2	1	3	0	6	2	157	18	0	177	20	4	24	0	48	21	68	2	0	91	322
07:45 AM	4	1	3	0	8	5	104	19	0	128	14	7	17	0	38	22	89	6	0	117	291
Total Volume	15	3	8	0	26	10	567	80	0	657	45	19	62	0	126	72	344	12	0	428	1237
% App. Total	57.7	11.5	30.8	0		1.5	86.3	12.2	0		35.7	15.1	49.2	0		16.8	80.4	2.8	0		
PHF	.750	.750	.667	.000	.813	.500	.805	.690	.000	.793	.563	.679	.646	.000	.656	.818	.699	.500	.000	.770	.960

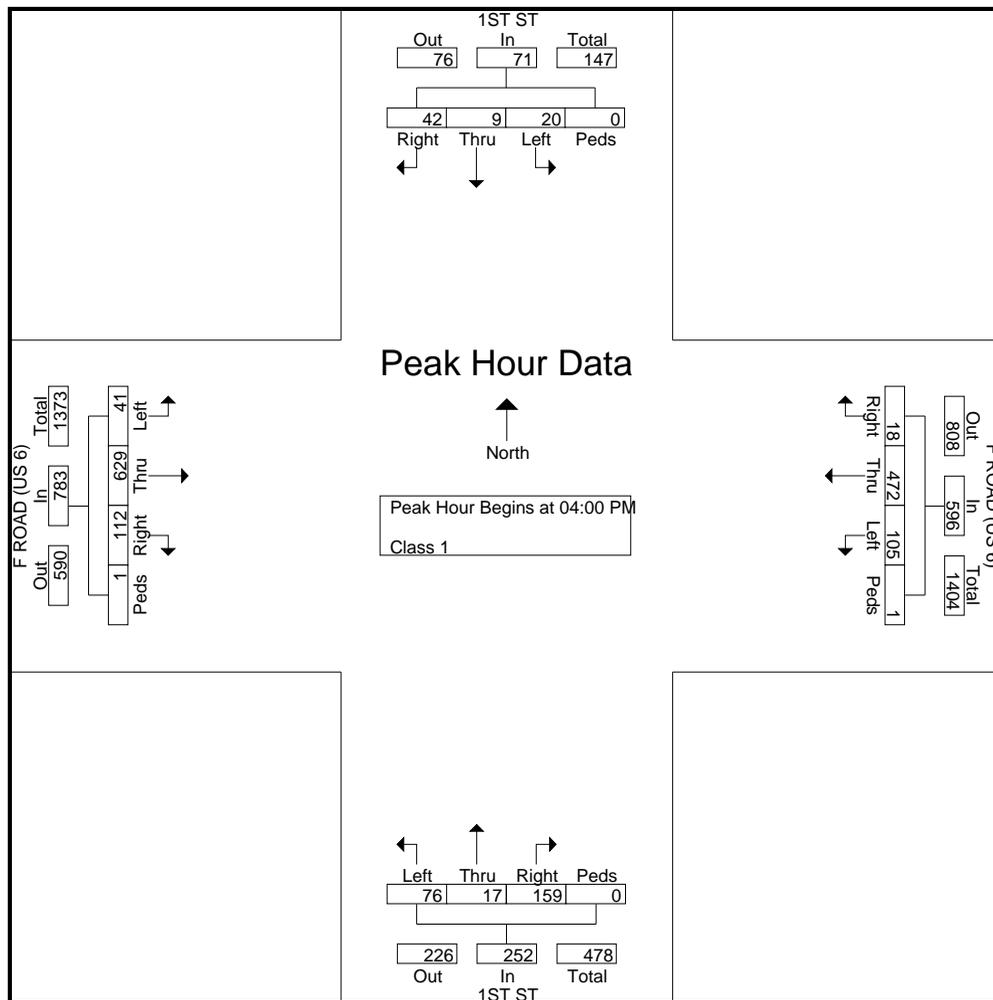


Groups Printed- Class 1

Start Time	1ST ST Southbound				F ROAD (US 6) Westbound				1ST ST Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	9	2	2	0	6	125	29	1	44	2	16	0	23	154	9	0	422
04:15 PM	8	3	7	0	4	94	22	0	38	7	14	0	27	188	11	0	423
04:30 PM	9	2	7	0	5	123	26	0	45	7	22	0	42	124	10	1	423
04:45 PM	16	2	4	0	3	130	28	0	32	1	24	0	20	163	11	0	434
Total	42	9	20	0	18	472	105	1	159	17	76	0	112	629	41	1	1702
05:00 PM	3	2	3	0	6	115	26	0	39	2	11	0	27	154	5	0	393
05:15 PM	12	0	1	0	1	109	27	0	45	3	16	0	30	169	9	0	422
05:30 PM	4	1	1	0	2	100	28	4	47	6	18	0	32	160	6	0	409
05:45 PM	13	3	1	0	2	83	23	0	37	0	18	0	21	159	15	1	376
Total	32	6	6	0	11	407	104	4	168	11	63	0	110	642	35	1	1600
Grand Total	74	15	26	0	29	879	209	5	327	28	139	0	222	1271	76	2	3302
Apprch %	64.3	13	22.6	0	2.6	78.3	18.6	0.4	66.2	5.7	28.1	0	14.1	80.9	4.8	0.1	
Total %	2.2	0.5	0.8	0	0.9	26.6	6.3	0.2	9.9	0.8	4.2	0	6.7	38.5	2.3	0.1	

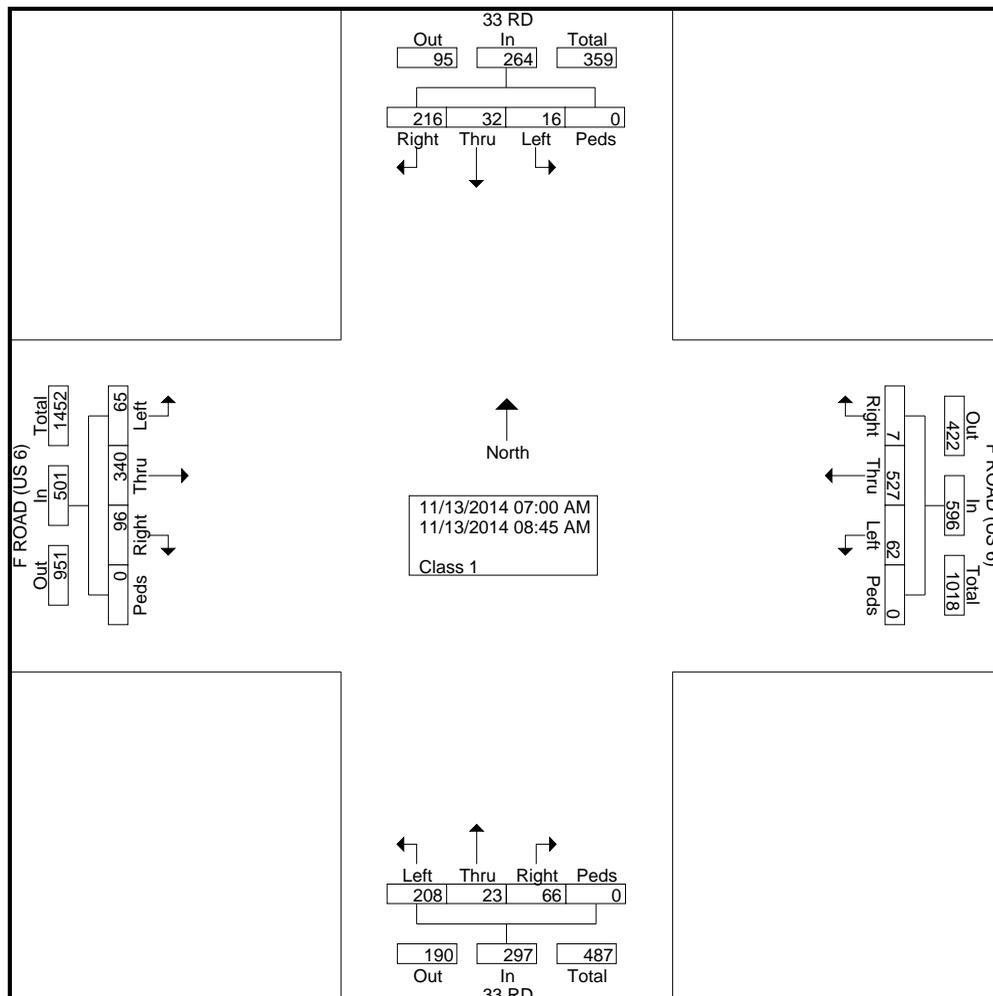


Start Time	1ST ST Southbound					F ROAD (US 6) Westbound					1ST ST Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	9	2	2	0	13	6	125	29	1	161	44	2	16	0	62	23	154	9	0	186	422
04:15 PM	8	3	7	0	18	4	94	22	0	120	38	7	14	0	59	27	188	11	0	226	423
04:30 PM	9	2	7	0	18	5	123	26	0	154	45	7	22	0	74	42	124	10	1	177	423
04:45 PM	16	2	4	0	22	3	130	28	0	161	32	1	24	0	57	20	163	11	0	194	434
Total Volume	42	9	20	0	71	18	472	105	1	596	159	17	76	0	252	112	629	41	1	783	1702
% App. Total	59.2	12.7	28.2	0		3	79.2	17.6	0.2		63.1	6.7	30.2	0		14.3	80.3	5.2	0.1		
PHF	.656	.750	.714	.000	.807	.750	.908	.905	.250	.925	.883	.607	.792	.000	.851	.667	.836	.932	.250	.866	.980



Groups Printed- Class 1

Start Time	33 RD Southbound				F ROAD (US 6) Westbound				33 RD Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	27	2	4	0	3	112	15	0	13	2	35	0	8	53	4	0	278
07:15 AM	34	2	1	0	1	87	10	0	8	1	39	0	15	41	9	0	248
07:30 AM	29	10	4	0	0	63	7	0	11	1	27	0	11	47	8	0	218
07:45 AM	24	7	2	0	0	44	6	0	5	4	24	0	7	30	11	0	164
Total	114	21	11	0	4	306	38	0	37	8	125	0	41	171	32	0	908
08:00 AM	31	1	1	0	1	42	5	0	5	4	35	0	14	42	7	0	188
08:15 AM	30	6	1	0	0	51	5	0	14	2	24	0	16	39	10	0	198
08:30 AM	26	1	2	0	1	56	13	0	8	7	13	0	13	47	8	0	195
08:45 AM	15	3	1	0	1	72	1	0	2	2	11	0	12	41	8	0	169
Total	102	11	5	0	3	221	24	0	29	15	83	0	55	169	33	0	750
Grand Total	216	32	16	0	7	527	62	0	66	23	208	0	96	340	65	0	1658
Apprch %	81.8	12.1	6.1	0	1.2	88.4	10.4	0	22.2	7.7	70	0	19.2	67.9	13	0	
Total %	13	1.9	1	0	0.4	31.8	3.7	0	4	1.4	12.5	0	5.8	20.5	3.9	0	

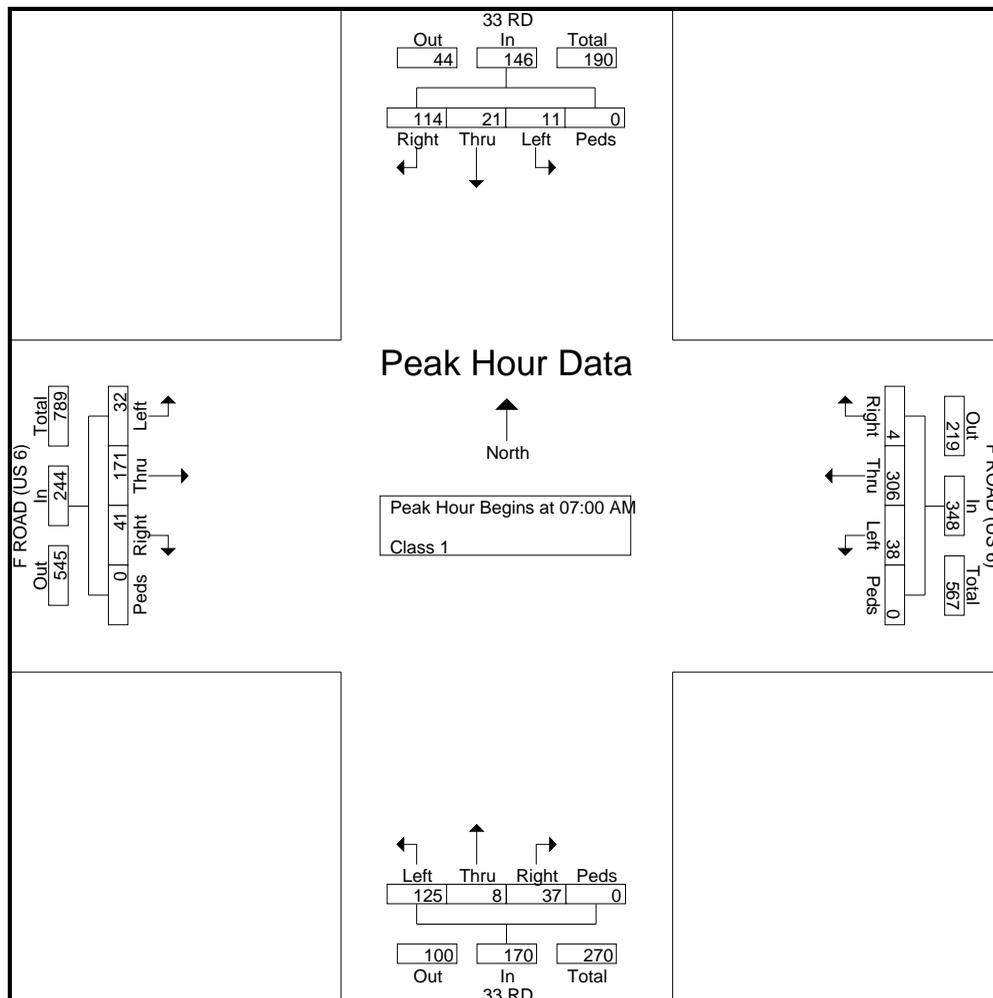


Start Time	33 RD Southbound					F ROAD (US 6) Westbound					33 RD Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

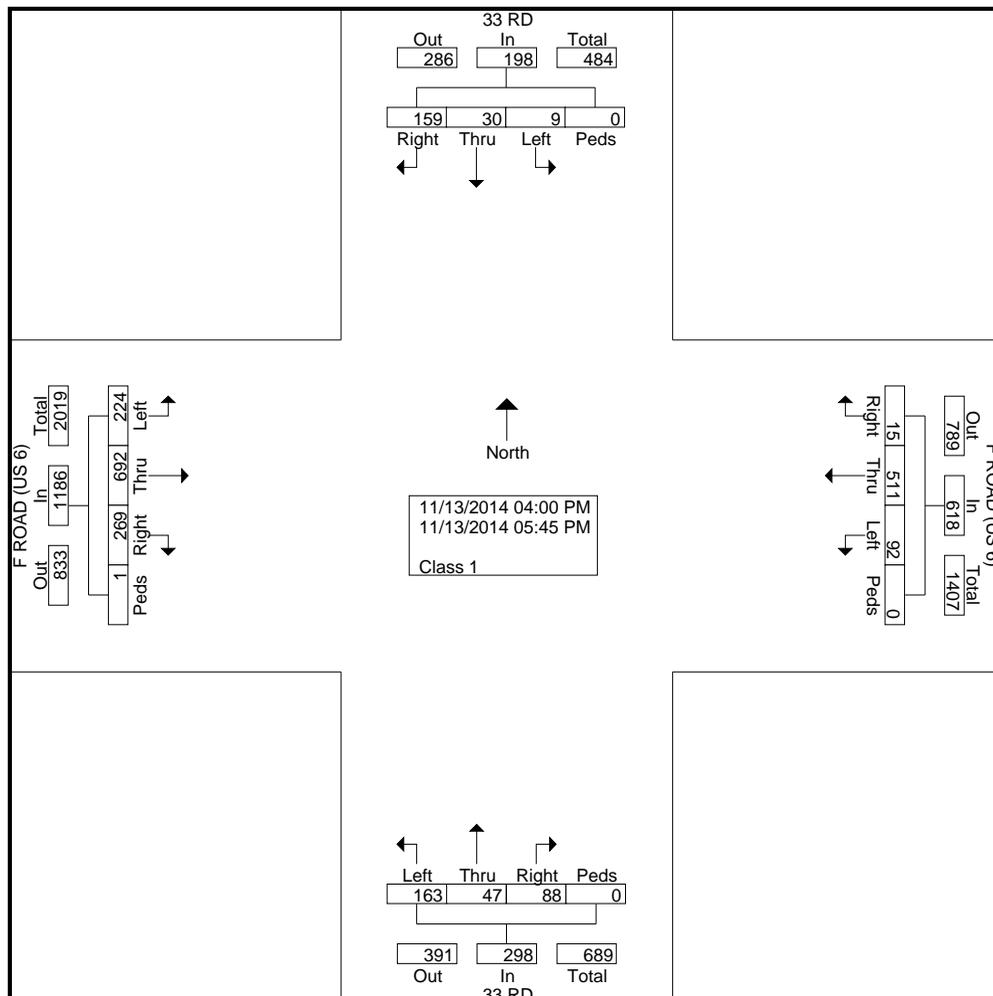
Peak Hour for Entire Intersection Begins at 07:00 AM

07:00 AM	27	2	4	0	33	3	112	15	0	130	13	2	35	0	50	8	53	4	0	65	278
07:15 AM	34	2	1	0	37	1	87	10	0	98	8	1	39	0	48	15	41	9	0	65	248
07:30 AM	29	10	4	0	43	0	63	7	0	70	11	1	27	0	39	11	47	8	0	66	218
07:45 AM	24	7	2	0	33	0	44	6	0	50	5	4	24	0	33	7	30	11	0	48	164
Total Volume	114	21	11	0	146	4	306	38	0	348	37	8	125	0	170	41	171	32	0	244	908
% App. Total	78.1	14.4	7.5	0		1.1	87.9	10.9	0		21.8	4.7	73.5	0		16.8	70.1	13.1	0		
PHF	.838	.525	.688	.000	.849	.333	.683	.633	.000	.669	.712	.500	.801	.000	.850	.683	.807	.727	.000	.924	.817

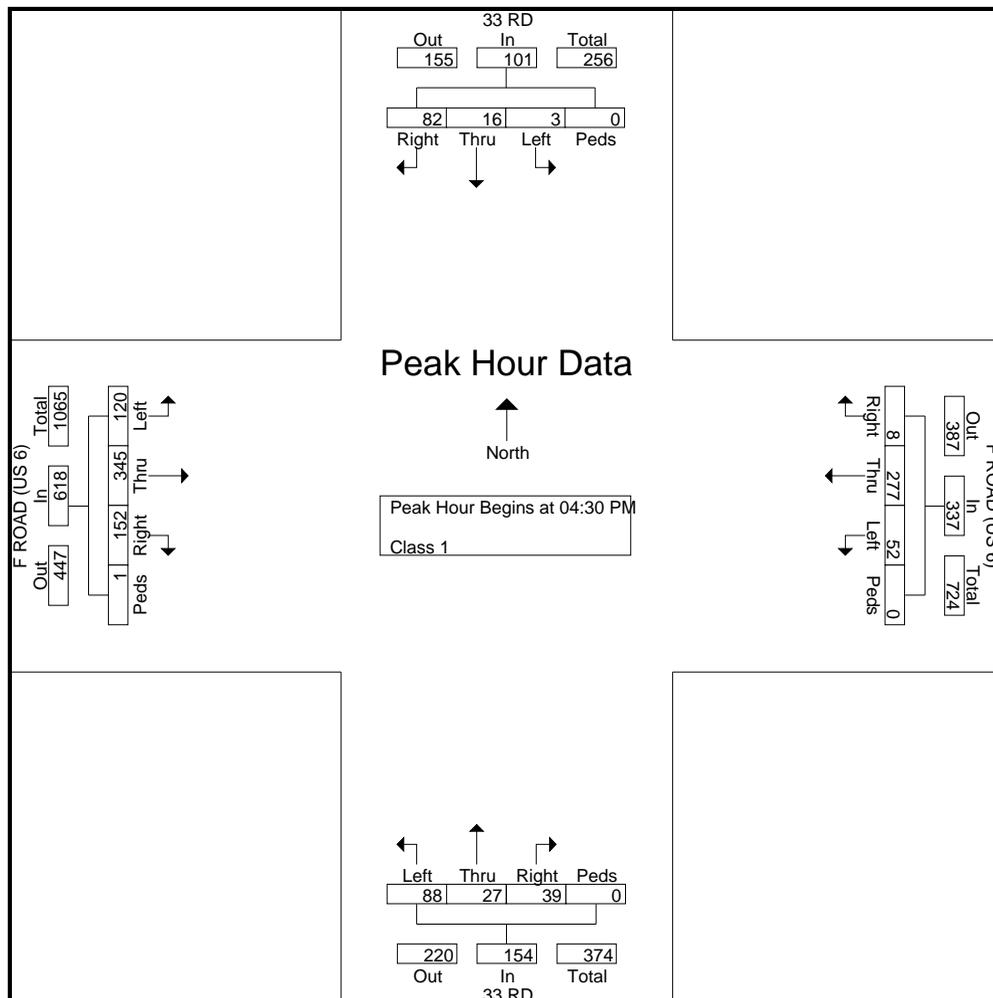


Groups Printed- Class 1

Start Time	33 RD Southbound				F ROAD (US 6) Westbound				33 RD Northbound				F ROAD (US 6) Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	17	4	4	0	1	54	10	0	9	9	17	0	22	102	28	0	277
04:15 PM	17	3	1	0	0	67	10	0	17	6	23	0	31	84	27	0	286
04:30 PM	20	3	0	0	2	90	15	0	4	13	20	0	27	77	27	0	298
04:45 PM	19	2	1	0	3	69	8	0	18	6	23	0	38	80	29	1	297
Total	73	12	6	0	6	280	43	0	48	34	83	0	118	343	111	1	1158
05:00 PM	23	2	1	0	1	61	21	0	7	3	21	0	38	108	27	0	313
05:15 PM	20	9	1	0	2	57	8	0	10	5	24	0	49	80	37	0	302
05:30 PM	16	6	0	0	1	51	7	0	15	3	20	0	31	90	25	0	265
05:45 PM	27	1	1	0	5	62	13	0	8	2	15	0	33	71	24	0	262
Total	86	18	3	0	9	231	49	0	40	13	80	0	151	349	113	0	1142
Grand Total	159	30	9	0	15	511	92	0	88	47	163	0	269	692	224	1	2300
Apprch %	80.3	15.2	4.5	0	2.4	82.7	14.9	0	29.5	15.8	54.7	0	22.7	58.3	18.9	0.1	
Total %	6.9	1.3	0.4	0	0.7	22.2	4	0	3.8	2	7.1	0	11.7	30.1	9.7	0	



Start Time	33 RD Southbound					F ROAD (US 6) Westbound					33 RD Northbound					F ROAD (US 6) Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	20	3	0	0	23	2	90	15	0	107	4	13	20	0	37	27	77	27	0	131	298
04:45 PM	19	2	1	0	22	3	69	8	0	80	18	6	23	0	47	38	80	29	1	148	297
05:00 PM	23	2	1	0	26	1	61	21	0	83	7	3	21	0	31	38	108	27	0	173	313
05:15 PM	20	9	1	0	30	2	57	8	0	67	10	5	24	0	39	49	80	37	0	166	302
Total Volume	82	16	3	0	101	8	277	52	0	337	39	27	88	0	154	152	345	120	1	618	1210
% App. Total	81.2	15.8	3	0		2.4	82.2	15.4	0		25.3	17.5	57.1	0		24.6	55.8	19.4	0.2		
PHF	.891	.444	.750	.000	.842	.667	.769	.619	.000	.787	.542	.519	.917	.000	.819	.776	.799	.811	.250	.893	.966





APPENDIX C
INTERSECTION AND CORRIDOR ANALYSIS
REPORTS

HCM 2010 Signalized Intersection Summary
1: I-70B & US 6C

2014 Existing AM
1/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	135	215	50	250	295	110	50	350	150	60	230	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	147	234	0	272	321	0	54	380	0	65	250	65
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	459	0	445	678	0	455	1490	667	436	1493	668
Arrive On Green	0.09	0.13	0.00	0.16	0.19	0.00	0.07	0.84	0.00	0.02	0.42	0.42
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	147	234	0	272	321	0	54	380	0	65	250	65
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.6	4.9	0.0	9.9	6.4	0.0	1.5	1.7	0.0	0.0	3.5	2.0
Cycle Q Clear(g_c), s	5.6	4.9	0.0	9.9	6.4	0.0	1.5	1.7	0.0	0.0	3.5	2.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	459	0	445	678	0	455	1490	667	436	1493	668
V/C Ratio(X)	0.39	0.51	0.00	0.61	0.47	0.00	0.12	0.25	0.00	0.15	0.17	0.10
Avail Cap(c_a), veh/h	542	1246	0	614	1468	0	806	1490	667	774	1493	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	32.3	0.0	22.7	28.6	0.0	14.9	3.8	0.0	19.2	14.3	13.9
Incr Delay (d2), s/veh	0.7	0.9	0.0	1.4	0.5	0.0	0.1	0.4	0.0	0.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.5	0.0	4.9	3.2	0.0	0.7	0.8	0.0	1.0	1.8	0.9
LnGrp Delay(d),s/veh	26.8	33.1	0.0	24.1	29.1	0.0	15.0	4.2	0.0	19.4	14.5	14.2
LnGrp LOS	C	C		C	C		B	A		B	B	B
Approach Vol, veh/h		381			593			434			380	
Approach Delay, s/veh		30.7			26.8			5.5			15.3	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	48.3	39.0	16.4	16.3	7.3	80.0	11.5	21.2				
Change Period (Y+Rc), s	6.0	5.5	4.0	6.0	4.5	6.0	4.0	6.0				
Max Green Setting (Gmax), s	17.0	33.5	20.0	28.0	18.5	33.0	15.0	33.0				
Max Q Clear Time (g_c+I1), s	2.0	3.7	11.9	6.9	3.5	5.5	7.6	8.4				
Green Ext Time (p_c), s	0.2	2.3	0.5	3.4	0.1	1.7	0.2	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			20.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
5: I-70B & 32 Rd

2014 Existing AM
1/5/2015

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	45	120	5	235	200	330	5	215	90	140	360	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	49	130	0	263	206	0	5	234	0	152	391	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	237	106	1134	595	506	250	1052	471	796	1279	572
Arrive On Green	0.07	0.07	0.00	0.32	0.32	0.00	0.00	0.10	0.00	0.05	0.36	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	49	130	0	263	206	0	5	234	0	152	391	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.4	3.2	0.0	4.9	7.5	0.0	0.2	5.4	0.0	0.0	7.1	0.0
Cycle Q Clear(g_c), s	2.4	3.2	0.0	4.9	7.5	0.0	0.2	5.4	0.0	0.0	7.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	237	106	1134	595	506	250	1052	471	796	1279	572
V/C Ratio(X)	0.41	0.55	0.00	0.23	0.35	0.00	0.02	0.22	0.00	0.19	0.31	0.00
Avail Cap(c_a), veh/h	527	1052	471	1134	595	506	410	1052	471	1195	1370	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.99	0.99	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.9	40.3	0.0	22.3	23.2	0.0	24.4	30.7	0.0	26.2	20.4	0.0
Incr Delay (d2), s/veh	2.3	2.0	0.0	0.5	1.6	0.0	0.0	0.5	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.6	0.0	2.4	4.2	0.0	0.1	2.7	0.0	1.5	3.4	0.0
LnGrp Delay(d),s/veh	42.2	42.2	0.0	22.8	24.8	0.0	24.5	31.2	0.0	26.3	20.6	0.0
LnGrp LOS	D	D		C	C		C	C		C	C	
Approach Vol, veh/h		179			469			239			543	
Approach Delay, s/veh		42.2			23.6			31.0			22.2	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	41.5	33.0		11.5	5.0	69.6		34.0				
Change Period (Y+Rc), s	6.5	6.5		5.5	4.5	6.5		5.5				
Max Green Setting (Gmax), s	14.5	26.5		26.5	8.5	34.5		28.5				
Max Q Clear Time (g_c+I1), s	2.0	7.4		5.2	2.2	9.1		9.5				
Green Ext Time (p_c), s	2.3	1.2		0.9	0.0	2.9		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				26.7								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
 23: 33 Rd & US 6C

2014 Existing AM
 1/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	170	40	40	305	5	125	10	35	10	20	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	185	43	43	332	5	136	11	38	11	22	125
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	444	103	394	565	480	741	190	657	840	125	712
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1039	1463	340	1148	1863	1583	1236	368	1271	1351	242	1377
Grp Volume(v), veh/h	33	0	228	43	332	5	136	0	49	11	0	147
Grp Sat Flow(s),veh/h/ln	1039	0	1803	1148	1863	1583	1236	0	1639	1351	0	1620
Q Serve(g_s), s	1.2	0.0	4.5	1.4	6.7	0.1	2.9	0.0	0.7	0.2	0.0	2.1
Cycle Q Clear(g_c), s	8.0	0.0	4.5	5.9	6.7	0.1	5.1	0.0	0.7	0.8	0.0	2.1
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.78	1.00		0.85
Lane Grp Cap(c), veh/h	320	0	547	394	565	480	741	0	847	840	0	837
V/C Ratio(X)	0.10	0.00	0.42	0.11	0.59	0.01	0.18	0.00	0.06	0.01	0.00	0.18
Avail Cap(c_a), veh/h	682	0	1175	794	1214	1032	741	0	847	840	0	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	12.4	14.7	13.1	10.8	7.1	0.0	5.4	5.6	0.0	5.7
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.1	1.0	0.0	0.5	0.0	0.1	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.3	0.4	3.6	0.0	1.1	0.0	0.3	0.1	0.0	1.0
LnGrp Delay(d),s/veh	16.7	0.0	12.9	14.8	14.1	10.8	7.6	0.0	5.5	5.6	0.0	6.2
LnGrp LOS	B		B	B	B	B	A		A	A		A
Approach Vol, veh/h		261			380			185			158	
Approach Delay, s/veh		13.3			14.2			7.0			6.1	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		17.5		27.0		17.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		23.0		29.0		23.0		29.0				
Max Q Clear Time (g_c+I1), s		7.1		10.0		4.1		8.7				
Green Ext Time (p_c), s		1.4		3.5		1.5		3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			11.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 28: 1st St/32 1/2 Rd & US 6C

2014 Existing AM
 1/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	345	70	80	580	10	60	20	45	10	5	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	11	375	0	87	630	11	65	22	0	11	5	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	621	528	401	688	12	619	641	0	603	641	0
Arrive On Green	0.01	0.33	0.00	0.05	0.38	0.38	0.34	0.34	0.00	0.34	0.34	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1825	32	1405	1863	0	1384	1863	0
Grp Volume(v), veh/h	11	375	0	87	0	641	65	22	0	11	5	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1857	1405	1863	0	1384	1863	0
Q Serve(g_s), s	0.2	8.8	0.0	1.6	0.0	17.2	1.7	0.4	0.0	0.3	0.1	0.0
Cycle Q Clear(g_c), s	0.2	8.8	0.0	1.6	0.0	17.2	1.8	0.4	0.0	0.7	0.1	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	196	621	528	401	0	700	619	641	0	603	641	0
V/C Ratio(X)	0.06	0.60	0.00	0.22	0.00	0.92	0.11	0.03	0.00	0.02	0.01	0.00
Avail Cap(c_a), veh/h	447	712	605	575	0	710	619	641	0	603	641	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.5	14.6	0.0	11.0	0.0	15.5	11.9	11.4	0.0	11.6	11.3	0.0
Incr Delay (d2), s/veh	0.1	1.1	0.0	0.3	0.0	16.5	0.3	0.1	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.7	0.0	0.8	0.0	11.9	0.7	0.2	0.0	0.1	0.1	0.0
LnGrp Delay(d),s/veh	13.6	15.7	0.0	11.2	0.0	32.0	12.2	11.5	0.0	11.7	11.3	0.0
LnGrp LOS	B	B		B		C	B	B		B	B	
Approach Vol, veh/h		386			728			87				16
Approach Delay, s/veh		15.6			29.5			12.0				11.6
Approach LOS		B			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.7	6.9	22.4		30.7	4.6	24.7				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	20.0		18.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s		3.8	3.6	10.8		2.7	2.2	19.2				
Green Ext Time (p_c), s		0.2	0.1	4.4		0.2	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Intersection									
Int Delay, s/veh	0.9								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	5	15	0	30	15	605	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	65	-	-	-	170	-	170
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	16	0	33	16	658	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	741	1070	185	886	1070	329	370	0	0
Stage 1	380	380	-	690	690	-	-	-	-
Stage 2	361	690	-	196	380	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-
Pot Cap-1 Maneuver	305	220	826	239	220	667	1185	-	-
Stage 1	614	612	-	401	444	-	-	-	-
Stage 2	630	444	-	787	612	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	286	216	826	234	216	667	1185	-	-
Mov Cap-2 Maneuver	286	216	-	234	216	-	-	-	-
Stage 1	606	608	-	396	438	-	-	-	-
Stage 2	591	438	-	776	608	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.4	14.9	0.2
HCM LOS	A	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1185	-	-	-	826	413	926	-	-
HCM Lane V/C Ratio	0.014	-	-	-	0.007	0.118	0.006	-	-
HCM Control Delay (s)	8.1	-	-	0	9.4	14.9	8.9	0	-
HCM Lane LOS	A	-	-	A	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	340	5
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	160
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	5	370	5

Major/Minor Major2

Conflicting Flow All	658	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	926	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	926	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 1: I-70B & F Rd/US 6C

2014 Existing PM
 1/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	360	95	195	310	55	110	255	300	140	465	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	109	391	0	212	337	0	120	277	0	152	505	223
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	601	0	360	781	0	343	1468	657	475	1457	652
Arrive On Green	0.07	0.17	0.00	0.12	0.22	0.00	0.02	0.14	0.00	0.05	0.41	0.41
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	109	391	0	212	337	0	120	277	0	152	505	223
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.4	9.1	0.0	8.2	7.2	0.0	3.9	6.1	0.0	0.0	8.6	8.5
Cycle Q Clear(g_c), s	4.4	9.1	0.0	8.2	7.2	0.0	3.9	6.1	0.0	0.0	8.6	8.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	601	0	360	781	0	343	1468	657	475	1457	652
V/C Ratio(X)	0.31	0.65	0.00	0.59	0.43	0.00	0.35	0.19	0.00	0.32	0.35	0.34
Avail Cap(c_a), veh/h	508	1006	0	531	1207	0	620	1468	657	747	1457	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.92	0.92	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	34.1	0.0	24.5	29.5	0.0	19.4	24.8	0.0	23.2	17.8	17.7
Incr Delay (d2), s/veh	0.5	1.2	0.0	1.5	0.4	0.0	0.6	0.3	0.0	0.4	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.6	0.0	4.1	3.6	0.0	2.0	3.0	0.0	2.9	4.3	4.0
LnGrp Delay(d),s/veh	27.7	35.3	0.0	26.1	29.9	0.0	20.0	25.1	0.0	23.6	18.4	19.2
LnGrp LOS	C	D		C	C		B	C		C	B	B
Approach Vol, veh/h		500			549			397			880	
Approach Delay, s/veh		33.6			28.4			23.6			19.5	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.5	42.0	14.5	20.9	10.3	74.2	10.1	25.4				
Change Period (Y+Rc), s	6.0	5.5	4.0	6.0	4.5	6.0	4.0	6.0				
Max Green Setting (Gmax), s	18.0	36.5	19.0	25.0	19.5	36.0	14.0	30.0				
Max Q Clear Time (g_c+I1), s	2.0	8.1	10.2	11.1	5.9	10.6	6.4	9.2				
Green Ext Time (p_c), s	2.6	1.6	0.4	3.9	0.2	4.1	0.1	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
5: I-70B & 32 Rd

2014 Existing PM
1/5/2015

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	90	265	10	175	260	340	20	420	250	435	370	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	98	288	0	158	328	0	22	457	0	473	402	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	404	181	526	1104	469	200	865	387	659	1212	542
Arrive On Green	0.11	0.11	0.00	0.30	0.30	0.00	0.01	0.08	0.00	0.10	0.34	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3725	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	98	288	0	158	328	0	22	457	0	473	402	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	5.0	7.5	0.0	6.6	6.5	0.0	0.9	11.9	0.0	3.2	8.1	0.0
Cycle Q Clear(g_c), s	5.0	7.5	0.0	6.6	6.5	0.0	0.9	11.9	0.0	3.2	8.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	404	181	526	1104	469	200	865	387	659	1212	542
V/C Ratio(X)	0.48	0.71	0.00	0.30	0.30	0.00	0.11	0.53	0.00	0.72	0.33	0.00
Avail Cap(c_a), veh/h	341	681	304	526	1104	469	324	865	387	1242	1563	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.99	0.99	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.9	41.1	0.0	26.2	26.1	0.0	30.7	38.9	0.0	37.8	23.5	0.0
Incr Delay (d2), s/veh	1.8	2.3	0.0	1.5	0.7	0.0	0.2	2.3	0.0	1.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.8	0.0	3.5	3.5	0.0	0.5	6.1	0.0	6.0	4.0	0.0
LnGrp Delay(d),s/veh	41.7	43.4	0.0	27.6	26.8	0.0	30.9	41.2	0.0	39.3	23.6	0.0
LnGrp LOS	D	D		C	C		C	D		D	C	
Approach Vol, veh/h		386			486			479			875	
Approach Delay, s/veh		43.0			27.1			40.7			32.1	
Approach LOS		D			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.5	30.0		16.5	6.3	63.2		34.0				
Change Period (Y+Rc), s	6.5	6.5		5.5	4.5	6.5		5.5				
Max Green Setting (Gmax), s	25.5	23.5		18.5	8.5	42.5		28.5				
Max Q Clear Time (g_c+I1), s	5.2	13.9		9.5	2.9	10.1		8.6				
Green Ext Time (p_c), s	4.0	1.9		1.4	0.0	4.4		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				34.8								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
23: 33 Rd & US 6C

2014 Existing PM
1/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	360	155	45	240	5	90	15	50	5	20	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	130	391	168	49	261	5	98	16	54	5	22	87
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	557	239	307	838	712	588	147	497	626	129	512
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1109	1237	532	847	1863	1583	1279	375	1265	1325	330	1303
Grp Volume(v), veh/h	130	0	559	49	261	5	98	0	70	5	0	109
Grp Sat Flow(s),veh/h/ln	1109	0	1769	847	1863	1583	1279	0	1640	1325	0	1633
Q Serve(g_s), s	4.3	0.0	12.9	2.5	4.6	0.1	2.7	0.0	1.4	0.1	0.0	2.2
Cycle Q Clear(g_c), s	8.9	0.0	12.9	15.5	4.6	0.1	5.0	0.0	1.4	1.5	0.0	2.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.77	1.00		0.80
Lane Grp Cap(c), veh/h	541	0	796	307	838	712	588	0	644	626	0	641
V/C Ratio(X)	0.24	0.00	0.70	0.16	0.31	0.01	0.17	0.00	0.11	0.01	0.00	0.17
Avail Cap(c_a), veh/h	739	0	1112	459	1171	995	588	0	644	626	0	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	11.3	17.5	9.0	7.7	11.7	0.0	9.8	10.3	0.0	10.1
Incr Delay (d2), s/veh	0.2	0.0	1.2	0.2	0.2	0.0	0.6	0.0	0.3	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.5	0.6	2.4	0.0	1.1	0.0	0.7	0.0	0.0	1.1
LnGrp Delay(d),s/veh	12.0	0.0	12.4	17.7	9.2	7.7	12.3	0.0	10.1	10.3	0.0	10.6
LnGrp LOS	B		B	B	A	A	B		B	B		B
Approach Vol, veh/h		689			315			168				114
Approach Delay, s/veh		12.3			10.5			11.4				10.6
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		26.9		24.0		26.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		20.0		32.0		20.0		32.0				
Max Q Clear Time (g_c+I1), s		7.0		14.9		4.2		17.5				
Green Ext Time (p_c), s		1.1		5.9		1.2		5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			11.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 28: 1st St/32 1/2 Rd & US 6C

2014 Existing PM
 1/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	660	110	110	455	10	70	10	165	10	5	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	33	717	0	120	495	11	76	11	0	11	5	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	669	568	247	721	16	581	602	0	575	602	0
Arrive On Green	0.03	0.36	0.00	0.07	0.40	0.40	0.32	0.32	0.00	0.32	0.32	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1815	40	1405	1863	0	1398	1863	0
Grp Volume(v), veh/h	33	717	0	120	0	506	76	11	0	11	5	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1856	1405	1863	0	1398	1863	0
Q Serve(g_s), s	0.6	20.0	0.0	2.3	0.0	12.6	2.2	0.2	0.0	0.3	0.1	0.0
Cycle Q Clear(g_c), s	0.6	20.0	0.0	2.3	0.0	12.6	2.3	0.2	0.0	0.5	0.1	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	332	669	568	247	0	737	581	602	0	575	602	0
V/C Ratio(X)	0.10	1.07	0.00	0.48	0.00	0.69	0.13	0.02	0.00	0.02	0.01	0.00
Avail Cap(c_a), veh/h	536	669	568	384	0	737	581	602	0	575	602	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.7	17.9	0.0	13.4	0.0	13.9	13.6	12.8	0.0	13.0	12.8	0.0
Incr Delay (d2), s/veh	0.1	55.8	0.0	1.5	0.0	2.7	0.5	0.1	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	20.4	0.0	1.2	0.0	6.9	0.9	0.1	0.0	0.1	0.1	0.0
LnGrp Delay(d),s/veh	11.8	73.6	0.0	14.9	0.0	16.6	14.0	12.9	0.0	13.1	12.8	0.0
LnGrp LOS	B	F		B		B	B	B		B	B	
Approach Vol, veh/h		750			626			87				16
Approach Delay, s/veh		70.9			16.3			13.9				13.0
Approach LOS		E			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.3	7.7	25.0		27.3	5.6	27.1				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	20.0		18.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s		4.3	4.3	22.0		2.5	2.6	14.6				
Green Ext Time (p_c), s		0.2	0.1	0.0		0.2	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			43.8									
HCM 2010 LOS			D									

Intersection										
Int Delay, s/veh	0.6									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	
Vol, veh/h	0	0	10	15	0	10	0	415	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	65	-	-	-	170	-	170	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	
Mvmt Flow	0	0	11	16	0	11	0	451	5	

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1106	1331	424	908	1331	226	848	0	0
Stage 1	880	880	-	451	451	-	-	-	-
Stage 2	226	451	-	457	880	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-
Pot Cap-1 Maneuver	165	153	579	230	153	777	785	-	-
Stage 1	308	363	-	557	569	-	-	-	-
Stage 2	756	569	-	553	363	-	-	-	-
Platoon blocked, %	-								
Mov Cap-1 Maneuver	159	149	579	221	149	777	785	-	-
Mov Cap-2 Maneuver	159	149	-	221	149	-	-	-	-
Stage 1	308	353	-	557	569	-	-	-	-
Stage 2	745	569	-	527	353	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	11.3	17.7	0
HCM LOS	B	C	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	785	-	-	-	579	310	1106	-	-
HCM Lane V/C Ratio	-	-	-	-	0.019	0.088	0.015	-	-
HCM Control Delay (s)	0	-	-	0	11.3	17.7	8.3	0.1	-
HCM Lane LOS	A	-	-	A	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	15	780	5
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	160
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	16	848	5

Major/Minor Major2

Conflicting Flow All	451	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1106	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1106	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s 0.3
 HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - AM
 1: I-70B & F Rd/US 6C 6/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	300	280	105	415	405	200	105	990	245	110	680	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	326	304	0	451	440	0	114	1076	0	120	739	152
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	445	529	0	529	717	0	238	1263	565	228	1251	560
Arrive On Green	0.16	0.15	0.00	0.21	0.20	0.00	0.13	0.71	0.00	0.05	0.35	0.35
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	326	304	0	451	440	0	114	1076	0	120	739	152
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	14.6	7.5	0.0	19.7	10.6	0.0	4.3	20.8	0.0	0.0	16.0	6.4
Cycle Q Clear(g_c), s	14.6	7.5	0.0	19.7	10.6	0.0	4.3	20.8	0.0	0.0	16.0	6.4
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	445	529	0	529	717	0	238	1263	565	228	1251	560
V/C Ratio(X)	0.73	0.58	0.00	0.85	0.61	0.00	0.48	0.85	0.00	0.53	0.59	0.27
Avail Cap(c_a), veh/h	445	1056	0	529	1244	0	471	1263	565	457	1251	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.58	0.58	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	37.2	0.0	24.7	34.1	0.0	22.9	11.6	0.0	39.6	24.8	21.7
Incr Delay (d2), s/veh	6.2	1.0	0.0	12.7	0.9	0.0	0.9	4.5	0.0	1.9	2.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	3.7	0.0	11.3	5.3	0.0	2.1	10.4	0.0	3.1	8.2	3.0
LnGrp Delay(d),s/veh	33.9	38.1	0.0	37.4	34.9	0.0	23.7	16.1	0.0	41.5	26.8	22.9
LnGrp LOS	C	D		D	C		C	B		D	C	C
Approach Vol, veh/h		630			891			1190			1011	
Approach Delay, s/veh		35.9			36.2			16.8			28.0	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.0	39.0	24.0	20.0	10.7	65.3	19.0	25.0				
Change Period (Y+Rc), s	6.0	5.5	4.0	6.0	4.5	6.0	4.0	6.0				
Max Green Setting (Gmax), s	17.0	33.5	20.0	28.0	18.5	33.0	15.0	33.0				
Max Q Clear Time (g_c+I1), s	2.0	22.8	21.7	9.5	6.3	18.0	16.6	12.6				
Green Ext Time (p_c), s	3.1	5.0	0.0	4.5	0.2	4.6	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.7									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - AM
 5: I-70B & 32 Rd 6/5/2015

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	45	150	10	380	255	540	10	355	135	265	480	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	49	163	0	413	277	0	11	386	0	288	522	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	276	123	1105	580	493	202	1025	458	679	1273	569
Arrive On Green	0.08	0.08	0.00	0.31	0.31	0.00	0.00	0.10	0.00	0.06	0.36	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	49	163	0	413	277	0	11	386	0	288	522	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.4	4.1	0.0	8.3	11.0	0.0	0.4	9.4	0.0	0.0	10.1	0.0
Cycle Q Clear(g_c), s	2.4	4.1	0.0	8.3	11.0	0.0	0.4	9.4	0.0	0.0	10.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	276	123	1105	580	493	202	1025	458	679	1273	569
V/C Ratio(X)	0.35	0.59	0.00	0.37	0.48	0.00	0.05	0.38	0.00	0.42	0.41	0.00
Avail Cap(c_a), veh/h	514	1025	458	1105	580	493	348	1025	458	1021	1334	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.99	0.99	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.0	40.8	0.0	24.6	25.5	0.0	26.1	33.6	0.0	32.4	22.0	0.0
Incr Delay (d2), s/veh	1.5	2.0	0.0	1.0	2.8	0.0	0.1	1.0	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.1	0.0	4.2	6.1	0.0	0.2	4.7	0.0	3.4	5.0	0.0
LnGrp Delay(d),s/veh	41.6	42.8	0.0	25.5	28.3	0.0	26.2	34.7	0.0	32.8	22.2	0.0
LnGrp LOS	D	D		C	C		C	C		C	C	
Approach Vol, veh/h		212			690			397			810	
Approach Delay, s/veh		42.5			26.6			34.5			26.0	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.4	33.0		12.6	5.5	67.9		34.0				
Change Period (Y+Rc), s	6.5	6.5		5.5	4.5	6.5		5.5				
Max Green Setting (Gmax), s	14.5	26.5		26.5	8.5	34.5		28.5				
Max Q Clear Time (g_c+I1), s	2.0	11.4		6.1	2.4	12.1		13.0				
Green Ext Time (p_c), s	3.4	1.9		1.1	0.0	4.2		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				29.5								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - AM
 23: 33 Rd & US 6C 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	190	60	95	340	10	210	30	90	20	55	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	43	207	65	103	370	11	228	33	98	22	60	168
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	459	144	394	628	534	625	204	605	716	213	597
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	998	1360	427	1103	1863	1583	1148	415	1231	1254	434	1215
Grp Volume(v), veh/h	43	0	272	103	370	11	228	0	131	22	0	228
Grp Sat Flow(s),veh/h/ln	998	0	1787	1103	1863	1583	1148	0	1646	1254	0	1648
Q Serve(g_s), s	1.7	0.0	5.6	3.8	7.7	0.2	6.8	0.0	2.1	0.5	0.0	3.8
Cycle Q Clear(g_c), s	9.4	0.0	5.6	9.3	7.7	0.2	10.6	0.0	2.1	2.5	0.0	3.8
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.75	1.00		0.74
Lane Grp Cap(c), veh/h	326	0	603	394	628	534	625	0	809	716	0	811
V/C Ratio(X)	0.13	0.00	0.45	0.26	0.59	0.02	0.36	0.00	0.16	0.03	0.00	0.28
Avail Cap(c_a), veh/h	609	0	1108	707	1155	982	625	0	809	716	0	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	12.1	15.8	12.8	10.3	10.1	0.0	6.6	7.3	0.0	7.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.3	0.9	0.0	1.6	0.0	0.4	0.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.8	1.2	4.1	0.1	2.4	0.0	1.0	0.2	0.0	1.9
LnGrp Delay(d),s/veh	16.9	0.0	12.6	16.1	13.7	10.4	11.8	0.0	7.0	7.3	0.0	7.9
LnGrp LOS	B		B	B	B	B	B		A	A		A
Approach Vol, veh/h		315			484			359			250	
Approach Delay, s/veh		13.2			14.1			10.0			7.8	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		19.8		27.0		19.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		23.0		29.0		23.0		29.0				
Max Q Clear Time (g_c+I1), s		12.6		11.4		5.8		11.3				
Green Ext Time (p_c), s		2.4		4.3		3.0		4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			11.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - AM
 28: 1st St/32 1/2 Rd & US 6C 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	515	105	120	900	15	100	30	65	15	10	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	16	560	0	130	978	16	109	33	0	16	11	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	625	531	303	716	12	594	621	0	573	621	0
Arrive On Green	0.02	0.34	0.00	0.07	0.39	0.39	0.33	0.33	0.00	0.33	0.33	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1828	30	1398	1863	0	1370	1863	0
Grp Volume(v), veh/h	16	560	0	130	0	994	109	33	0	16	11	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1857	1398	1863	0	1370	1863	0
Q Serve(g_s), s	0.3	15.4	0.0	2.4	0.0	21.2	3.1	0.6	0.0	0.4	0.2	0.0
Cycle Q Clear(g_c), s	0.3	15.4	0.0	2.4	0.0	21.2	3.3	0.6	0.0	1.1	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	161	625	531	303	0	728	594	621	0	573	621	0
V/C Ratio(X)	0.10	0.90	0.00	0.43	0.00	1.37	0.18	0.05	0.00	0.03	0.02	0.00
Avail Cap(c_a), veh/h	396	690	586	438	0	728	594	621	0	573	621	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.5	17.1	0.0	12.5	0.0	16.4	13.2	12.2	0.0	12.6	12.1	0.0
Incr Delay (d2), s/veh	0.3	13.6	0.0	1.0	0.0	173.4	0.7	0.2	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.1	0.0	1.2	0.0	45.8	1.3	0.4	0.0	0.2	0.1	0.0
LnGrp Delay(d),s/veh	14.8	30.6	0.0	13.5	0.0	189.9	13.9	12.4	0.0	12.7	12.1	0.0
LnGrp LOS	B	C		B		F	B	B		B	B	
Approach Vol, veh/h		576			1124			142				27
Approach Delay, s/veh		30.2			169.5			13.5				12.5
Approach LOS		C			F			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	7.9	23.1		29.0	4.9	26.2				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	20.0		18.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s		5.3	4.4	17.4		3.1	2.3	23.2				
Green Ext Time (p_c), s		0.4	0.1	0.7		0.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			112.4									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - AM
 17: I-70B & Budweiser Access 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	15	30	0	40	50	1500	5	10	855	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	190.0	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Adj Flow Rate, veh/h	5	0	16	33	0	43	54	1630	5	11	929	11
Adj No. of Lanes	0	1	1	0	1	0	1	2	1	0	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	0	114	154	1	59	549	2687	1202	85	2594	1202
Arrive On Green	0.07	0.00	0.07	0.07	0.00	0.07	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1541	0	1583	623	11	825	594	3539	1583	9	3416	1583
Grp Volume(v), veh/h	5	0	16	76	0	0	54	1630	5	498	442	11
Grp Sat Flow(s),veh/h/ln	1541	0	1583	1458	0	0	594	1770	1583	1815	1610	1583
Q Serve(g_s), s	0.0	0.0	0.4	2.3	0.0	0.0	1.6	9.7	0.0	0.0	4.3	0.1
Cycle Q Clear(g_c), s	0.1	0.0	0.4	2.4	0.0	0.0	5.9	9.7	0.0	4.2	4.3	0.1
Prop In Lane	1.00		1.00	0.43		0.57	1.00		1.00	0.02		1.00
Lane Grp Cap(c), veh/h	263	0	114	214	0	0	549	2687	1202	1456	1223	1202
V/C Ratio(X)	0.02	0.00	0.14	0.36	0.00	0.00	0.10	0.61	0.00	0.34	0.36	0.01
Avail Cap(c_a), veh/h	623	0	534	611	0	0	549	2687	1202	1456	1223	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	20.6	21.6	0.0	0.0	2.9	2.5	1.4	1.9	1.9	1.4
Incr Delay (d2), s/veh	0.0	0.0	0.6	1.0	0.0	0.0	0.4	1.0	0.0	0.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.0	0.0	0.0	0.3	4.9	0.0	2.3	2.1	0.0
LnGrp Delay(d),s/veh	20.5	0.0	21.2	22.6	0.0	0.0	3.2	3.6	1.4	2.5	2.7	1.4
LnGrp LOS	C		C	C			A	A	A	A	A	A
Approach Vol, veh/h		21			76			1689			951	
Approach Delay, s/veh		21.0			22.6			3.6			2.6	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.6		7.4		52.6		7.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		11.7		2.4		6.3		4.4				
Green Ext Time (p_c), s		18.5		0.3		21.6		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			3.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - PM
 1: I-70B & F Rd/US 6C 6/5/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	210	450	180	305	395	105	215	720	495	245	1240	420
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	228	489	0	332	429	0	234	783	0	266	1348	457
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	651	0	408	807	0	288	1193	534	344	1190	532
Arrive On Green	0.12	0.18	0.00	0.17	0.23	0.00	0.04	0.11	0.00	0.12	0.34	0.34
Sat Flow, veh/h	1774	3632	0	1774	3632	0	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	228	489	0	332	429	0	234	783	0	266	1348	457
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	0	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	11.1	14.2	0.0	15.8	11.5	0.0	11.2	23.0	0.0	6.9	36.4	29.2
Cycle Q Clear(g_c), s	11.1	14.2	0.0	15.8	11.5	0.0	11.2	23.0	0.0	6.9	36.4	29.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	651	0	408	807	0	288	1193	534	344	1190	532
V/C Ratio(X)	0.57	0.75	0.00	0.81	0.53	0.00	0.81	0.66	0.00	0.77	1.13	0.86
Avail Cap(c_a), veh/h	412	817	0	426	980	0	386	1193	534	435	1190	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.37	0.37	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	41.8	0.0	28.4	36.7	0.0	34.3	42.1	0.0	42.1	35.9	33.5
Incr Delay (d2), s/veh	1.8	3.0	0.0	11.1	0.5	0.0	3.7	1.1	0.0	6.6	70.7	16.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.2	0.0	8.8	5.7	0.0	5.8	11.5	0.0	8.2	29.4	15.1
LnGrp Delay(d),s/veh	32.1	44.8	0.0	39.6	37.3	0.0	38.0	43.2	0.0	48.6	106.6	49.9
LnGrp LOS	C	D		D	D		D	D		D	F	D
Approach Vol, veh/h		717			761			1017			2071	
Approach Delay, s/veh		40.8			38.3			42.0			86.6	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.2	42.0	21.9	25.9	18.0	54.1	17.1	30.7				
Change Period (Y+Rc), s	6.0	5.5	4.0	6.0	4.5	6.0	4.0	6.0				
Max Green Setting (Gmax), s	18.0	36.5	19.0	25.0	19.5	36.0	14.0	30.0				
Max Q Clear Time (g_c+I1), s	8.9	25.0	17.8	16.2	13.2	38.4	13.1	13.5				
Green Ext Time (p_c), s	3.6	3.8	0.1	3.8	0.3	0.0	0.1	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			61.4									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - PM
 5: I-70B & 32 Rd 6/5/2015

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	360	15	300	340	590	25	610	425	790	485	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Adj Flow Rate, veh/h	109	391	0	232	502	0	27	663	0	859	527	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	474	212	431	906	385	132	710	318	872	1470	657
Arrive On Green	0.13	0.13	0.00	0.24	0.24	0.00	0.01	0.07	0.00	0.22	0.42	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3725	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	109	391	0	232	502	0	27	663	0	859	527	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	6.6	12.6	0.0	13.3	13.8	0.0	1.5	21.9	0.0	24.9	12.0	0.0
Cycle Q Clear(g_c), s	6.6	12.6	0.0	13.3	13.8	0.0	1.5	21.9	0.0	24.9	12.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	474	212	431	906	385	132	710	318	872	1470	657
V/C Ratio(X)	0.46	0.83	0.00	0.54	0.55	0.00	0.21	0.93	0.00	0.99	0.36	0.00
Avail Cap(c_a), veh/h	280	559	250	431	906	385	225	710	318	872	1470	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.99	0.99	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.8	49.4	0.0	38.6	38.8	0.0	41.5	53.9	0.0	43.8	23.5	0.0
Incr Delay (d2), s/veh	1.4	8.6	0.0	4.7	2.4	0.0	0.8	20.8	0.0	26.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.7	0.0	7.1	7.4	0.0	0.8	12.8	0.0	17.1	5.9	0.0
LnGrp Delay(d),s/veh	48.2	58.0	0.0	43.4	41.2	0.0	42.3	74.8	0.0	70.6	23.7	0.0
LnGrp LOS	D	E		D	D		D	E		E	C	
Approach Vol, veh/h		500			734			690			1386	
Approach Delay, s/veh		55.8			41.9			73.5			52.8	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.8	30.0		21.2	6.8	58.0		34.0				
Change Period (Y+Rc), s	6.5	6.5		5.5	4.5	6.5		5.5				
Max Green Setting (Gmax), s	25.5	23.5		18.5	8.5	42.5		28.5				
Max Q Clear Time (g_c+I1), s	26.9	23.9		14.6	3.5	14.0		15.8				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	7.4		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			55.2									
HCM 2010 LOS			E									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - PM
 23: 33 Rd & US 6C 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	420	265	130	275	15	145	55	140	10	70	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	196	457	288	141	299	16	158	60	152	11	76	120
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	591	570	360	252	993	844	410	156	395	394	217	343
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1060	1070	674	713	1863	1583	1182	468	1186	1165	652	1029
Grp Volume(v), veh/h	196	0	745	141	299	16	158	0	212	11	0	196
Grp Sat Flow(s),veh/h/ln	1060	0	1744	713	1863	1583	1182	0	1654	1165	0	1681
Q Serve(g_s), s	7.6	0.0	20.9	11.1	5.4	0.3	7.0	0.0	5.9	0.4	0.0	5.3
Cycle Q Clear(g_c), s	12.9	0.0	20.9	32.0	5.4	0.3	12.3	0.0	5.9	6.3	0.0	5.3
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.72	1.00		0.61
Lane Grp Cap(c), veh/h	591	0	930	252	993	844	410	0	551	394	0	560
V/C Ratio(X)	0.33	0.00	0.80	0.56	0.30	0.02	0.39	0.00	0.38	0.03	0.00	0.35
Avail Cap(c_a), veh/h	591	0	930	252	993	844	410	0	551	394	0	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	11.4	24.8	7.8	6.6	19.7	0.0	15.3	17.7	0.0	15.1
Incr Delay (d2), s/veh	0.3	0.0	5.1	2.8	0.2	0.0	2.7	0.0	2.0	0.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	11.2	2.5	2.8	0.1	2.6	0.0	3.0	0.2	0.0	2.7
LnGrp Delay(d),s/veh	11.7	0.0	16.5	27.6	8.0	6.6	22.4	0.0	17.3	17.8	0.0	16.8
LnGrp LOS	B		B	C	A	A	C		B	B		B
Approach Vol, veh/h		941			456			370			207	
Approach Delay, s/veh		15.5			14.0			19.5			16.9	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		36.0		24.0		36.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		20.0		32.0		20.0		32.0				
Max Q Clear Time (g_c+I1), s		14.3		22.9		8.3		34.0				
Green Ext Time (p_c), s		1.6		5.7		2.4		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - PM
 28: 1st St/32 1/2 Rd & US 6C 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	985	160	160	650	15	105	15	245	15	5	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Adj Flow Rate, veh/h	49	1071	0	174	707	16	114	16	0	16	5	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	652	554	286	730	17	566	587	0	556	587	0
Arrive On Green	0.04	0.35	0.00	0.09	0.40	0.40	0.32	0.32	0.00	0.32	0.32	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1814	41	1405	1863	0	1392	1863	0
Grp Volume(v), veh/h	49	1071	0	174	0	723	114	16	0	16	5	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1855	1405	1863	0	1392	1863	0
Q Serve(g_s), s	1.0	20.0	0.0	3.4	0.0	21.8	3.5	0.3	0.0	0.5	0.1	0.0
Cycle Q Clear(g_c), s	1.0	20.0	0.0	3.4	0.0	21.8	3.6	0.3	0.0	0.8	0.1	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	208	652	554	286	0	746	566	587	0	556	587	0
V/C Ratio(X)	0.24	1.64	0.00	0.61	0.00	0.97	0.20	0.03	0.00	0.03	0.01	0.00
Avail Cap(c_a), veh/h	389	652	554	374	0	746	566	587	0	556	587	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	18.6	0.0	13.2	0.0	16.7	14.7	13.5	0.0	13.8	13.4	0.0
Incr Delay (d2), s/veh	0.6	296.1	0.0	2.1	0.0	25.4	0.8	0.1	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	63.8	0.0	1.8	0.0	16.3	1.5	0.2	0.0	0.2	0.1	0.0
LnGrp Delay(d),s/veh	14.9	314.7	0.0	15.3	0.0	42.1	15.5	13.6	0.0	13.9	13.5	0.0
LnGrp LOS	B	F		B		D	B	B		B	B	
Approach Vol, veh/h		1120			897			130			21	
Approach Delay, s/veh		301.5			36.9			15.2			13.8	
Approach LOS		F			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.9	9.1	25.0		25.9	6.2	28.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		18.0	8.0	20.0		18.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s		5.6	5.4	22.0		2.8	3.0	23.8				
Green Ext Time (p_c), s		0.3	0.1	0.0		0.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			172.1									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary 2040 No Action + Budweiser Access Signal - PM
 17: I-70B & Budweiser Access 6/5/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	0	30	25	0	10	5	1020	10	20	1960	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	190.0	186.3	186.3	190.0	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Adj Flow Rate, veh/h	5	0	33	27	0	11	5	1109	11	22	2130	5
Adj No. of Lanes	0	1	1	0	1	0	1	2	1	0	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	0	85	184	0	21	231	2740	1226	88	2654	1226
Arrive On Green	0.05	0.00	0.05	0.05	0.00	0.05	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1644	0	1583	965	0	393	188	3539	1583	12	3428	1583
Grp Volume(v), veh/h	5	0	33	38	0	0	5	1109	11	1155	997	5
Grp Sat Flow(s),veh/h/ln	1644	0	1583	1358	0	0	188	1770	1583	1830	1610	1583
Q Serve(g_s), s	0.0	0.0	0.9	1.2	0.0	0.0	0.8	4.8	0.1	0.0	17.1	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.9	1.3	0.0	0.0	17.8	4.8	0.1	17.1	17.1	0.0
Prop In Lane	1.00		1.00	0.71		0.29	1.00		1.00	0.02		1.00
Lane Grp Cap(c), veh/h	243	0	85	205	0	0	231	2740	1226	1496	1247	1226
V/C Ratio(X)	0.02	0.00	0.39	0.18	0.00	0.00	0.02	0.40	0.01	0.77	0.80	0.00
Avail Cap(c_a), veh/h	649	0	545	619	0	0	231	2740	1226	1496	1247	1226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	21.3	21.5	0.0	0.0	8.4	1.7	1.2	3.1	3.1	1.2
Incr Delay (d2), s/veh	0.0	0.0	2.9	0.4	0.0	0.0	0.2	0.4	0.0	3.9	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.5	0.5	0.0	0.0	0.0	2.3	0.0	10.0	9.1	0.0
LnGrp Delay(d),s/veh	20.9	0.0	24.1	21.9	0.0	0.0	8.6	2.2	1.2	7.0	8.6	1.2
LnGrp LOS	C		C	C			A	A	A	A	A	A
Approach Vol, veh/h		38			38			1125			2157	
Approach Delay, s/veh		23.7			21.9			2.2			7.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.5		6.5		53.5		6.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		19.8		2.9		19.1		3.3				
Green Ext Time (p_c), s		15.0		0.2		15.7		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			6.2									
HCM 2010 LOS			A									

Arterial Level of Service: EB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
I-70B	1	40.7	64.5	0.3	18	16	52.7
	38	2.8	12.4	0.1	22	23	2.4
1st St	28	22.3	32.7	0.1	10	9	26.8
2nd St	34	2.9	7.6	0.0	20	18	3.6
	49	1.1	5.2	0.0	23	21	1.6
Lois St	30	0.7	12.0	0.1	28	27	0.8
Holland St	25	0.4	7.3	0.1	29	29	0.3
5th St	46	0.4	5.1	0.0	28	29	0.3
33 Rd	23	11.9	37.7	0.2	22	22	12.0
Total		83.0	184.5	1.0	20	18	100.5

Arterial Level of Service: EB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
I-70B	15	52.9	19	38.4	20	35.0	21
	20	3.3	21	2.7	21	3.0	22
1st St	11	19.9	9	25.6	11	20.1	11
2nd St	21	2.5	20	2.6	19	3.0	20
	24	0.8	24	1.1	23	1.0	24
Lois St	29	0.6	30	0.6	28	0.6	29
Holland St	28	0.3	29	0.4	29	0.3	29
5th St	28	0.4	28	0.6	29	0.3	28
33 Rd	21	14.0	22	12.4	24	9.7	24
Total	18	94.8	19	84.3	21	73.1	21

Arterial Level of Service: WB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
33 Rd	23	12.9	29.0	0.2	20	19	14.7
Clifton Elementary	46	2.9	28.6	0.2	30	30	3.1
Holland St	25	0.4	5.0	0.0	29	29	0.4
Lois St	30	0.7	7.7	0.1	28	28	0.8
Smallwood Lane	49	1.1	12.4	0.1	28	27	1.5
2nd St	34	2.5	6.6	0.0	18	15	3.8
32 1/2 Rd	28	13.4	18.1	0.0	8	7	16.3
	38	1.9	12.9	0.1	26	25	2.3
I-70B	1	45.7	52.2	0.1	5	6	37.5
Total		81.6	172.4	0.8	17	18	80.3

Arterial Level of Service: WB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
33 Rd	20	13.1	21	11.9	20	12.8	21
Clifton Elementary	31	2.7	29	2.9	29	3.2	30
Holland St	29	0.4	29	0.3	27	0.4	28
Lois St	28	0.8	29	0.4	26	0.9	28
Smallwood Lane	28	1.1	28	1.1	28	1.0	28
2nd St	21	1.7	18	2.5	18	2.4	20
32 1/2 Rd	10	10.7	9	12.9	9	11.9	8
	27	1.7	26	2.0	26	1.7	25
I-70B	5	48.1	5	44.9	5	52.5	5
Total	18	80.2	18	78.8	17	86.8	17

Arterial Level of Service: EB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
I-70B	1	44.4	69.2	0.3	17	19	37.2
	38	5.1	14.9	0.1	18	19	4.0
1st St	28	33.8	43.9	0.1	8	7	39.9
2nd St	34	4.0	9.0	0.0	17	15	4.9
	49	1.2	5.3	0.0	23	22	1.4
Lois St	30	0.7	12.2	0.1	28	27	0.9
Holland St	25	0.5	7.5	0.1	28	27	0.7
5th St	46	0.4	4.8	0.0	28	27	0.7
33 Rd	23	11.5	38.1	0.2	22	23	9.1
Total		101.4	204.9	1.0	18	18	98.8

Arterial Level of Service: EB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
I-70B	18	42.5	18	43.0	16	48.7	16
	17	5.9	19	4.2	18	5.4	17
1st St	6	45.6	10	23.9	12	18.0	7
2nd St	17	3.6	17	3.9	18	3.5	17
	24	0.9	23	1.0	23	1.2	22
Lois St	28	0.7	28	0.5	28	0.7	28
Holland St	28	0.5	28	0.4	29	0.4	29
5th St	28	0.4	29	0.3	28	0.3	29
33 Rd	23	10.6	22	11.7	20	15.3	24
Total	17	110.6	19	88.9	18	93.5	17

Arterial Level of Service: WB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
33 Rd	23	9.3	24.1	0.2	24	23	9.9
Clifton Elementary	46	2.5	27.3	0.2	31	29	2.5
Holland St	25	0.4	4.6	0.0	30	30	0.3
Lois St	30	0.6	7.5	0.1	28	30	0.4
Smallwood Lane	49	0.9	12.2	0.1	28	29	0.7
2nd St	34	1.5	5.7	0.0	21	22	1.2
32 1/2 Rd	28	12.6	17.0	0.0	9	9	11.9
	38	1.7	12.5	0.1	27	27	1.7
I-70B	1	38.3	44.7	0.1	6	7	34.0
Total		67.8	155.5	0.8	19	20	62.5

Arterial Level of Service: WB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
33 Rd	22	11.9	24	9.8	24	8.8	28
Clifton Elementary	30	3.4	33	2.1	32	2.6	36
Holland St	29	0.6	30	0.3	29	0.3	30
Lois St	29	0.6	28	0.6	28	0.8	28
Smallwood Lane	27	1.1	29	0.7	28	1.2	28
2nd St	21	1.7	22	1.3	18	2.7	24
32 1/2 Rd	10	10.6	8	15.4	8	13.7	10
	27	1.4	27	1.8	27	2.1	26
I-70B	6	39.6	5	45.2	7	32.3	6
Total	19	70.9	18	77.0	20	64.6	20

Arterial Level of Service: EB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
I-70B	1	43.3	67.4	0.3	18	20	37.5
	38	3.2	13.0	0.1	21	22	2.3
1st St	28	28.6	39.4	0.1	8	9	27.5
2nd St	34	2.9	7.8	0.0	19	20	2.7
	49	0.9	5.1	0.0	24	24	1.0
Lois St	30	0.8	12.0	0.1	28	29	0.7
Holland St	25	0.5	7.4	0.1	28	28	0.4
5th St	46	0.6	4.9	0.0	28	28	0.6
33 Rd	23	9.5	34.8	0.2	25	23	12.0
Total		90.2	191.9	1.0	19	20	84.6

Arterial Level of Service: EB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
I-70B	16	48.1	17	44.9	17	43.2	17
	24	2.4	20	3.5	19	4.3	21
1st St	11	20.4	8	32.0	8	33.4	9
2nd St	20	2.6	18	3.4	19	3.1	21
	24	0.7	23	1.1	23	1.0	25
Lois St	28	0.7	28	0.7	28	0.7	28
Holland St	29	0.3	28	0.5	27	0.6	29
5th St	28	0.4	27	0.6	26	0.9	30
33 Rd	24	8.7	24	9.5	28	5.8	24
Total	19	84.3	18	96.2	18	93.0	19

Arterial Level of Service
 2040 No Action + Budweiser Access Signal - AM

6/4/2015

Arterial Level of Service: WB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
33 Rd	23	12.0	27.5	0.2	21	21	12.4
Clifton Elementary	46	3.0	27.5	0.2	31	30	3.3
Holland St	25	1.1	5.3	0.0	26	28	0.6
Lois St	30	3.5	10.3	0.1	20	23	2.6
Smallwood Lane	49	22.0	33.5	0.1	10	9	26.4
2nd St	34	10.5	14.6	0.0	8	8	11.8
32 1/2 Rd	28	15.7	20.3	0.0	7	8	15.3
	38	2.4	13.3	0.1	25	25	2.4
I-70B	1	42.9	49.3	0.1	5	5	45.8
Total		113.3	201.6	0.8	15	14	120.6

Arterial Level of Service: WB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
33 Rd	22	10.8	21	12.2	19	14.4	23
Clifton Elementary	33	2.9	30	3.1	32	2.6	31
Holland St	20	2.5	28	0.6	29	0.6	28
Lois St	13	9.8	27	1.0	27	1.1	22
Smallwood Lane	8	33.1	14	14.6	14	12.9	10
2nd St	7	12.1	8	11.1	10	7.8	9
32 1/2 Rd	7	16.8	7	16.3	7	15.7	8
	25	2.3	25	2.2	24	3.2	26
I-70B	6	41.9	6	39.9	5	43.5	6
Total	14	132.2	16	101.0	16	101.7	15

Arterial Level of Service: EB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
I-70B	1	103.6	127.4	0.3	9	9	111.9
	38	31.9	40.4	0.1	7	6	37.6
1st St	28	65.2	74.7	0.1	4	4	69.7
2nd St	34	4.5	9.3	0.0	16	16	4.8
	48	1.5	5.6	0.0	21	21	1.6
Lois St	30	0.7	12.0	0.1	29	29	0.7
Holland St	44	0.4	7.5	0.1	29	29	0.4
5th St	45	0.4	4.9	0.0	29	29	0.3
33 Rd	23	12.0	38.8	0.2	22	25	7.7
Total		220.2	320.6	1.0	11	11	234.6

Arterial Level of Service: EB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
I-70B	9	107.5	10	95.7	9	108.0	10
	8	25.2	6	35.5	8	25.9	6
1st St	5	54.3	4	78.4	5	61.3	4
2nd St	15	5.1	18	3.7	17	4.0	15
	21	1.7	23	1.2	22	1.4	21
Lois St	29	0.7	29	0.6	28	0.9	28
Holland St	29	0.5	29	0.4	28	0.6	28
5th St	29	0.4	30	0.3	28	0.5	28
33 Rd	23	11.0	22	12.5	20	15.3	21
Total	12	206.4	11	228.3	11	218.0	11

Arterial Level of Service: WB US 6C

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed	Run 1 Speed	Run 1 Delay
33 Rd	23	8.9	24.6	0.2	24	25	6.8
Clifton Elementary	45	2.3	27.2	0.2	31	32	1.9
Holland St	44	0.5	4.9	0.0	28	29	0.4
Lois St	30	0.7	7.7	0.1	28	28	0.8
Smallwood Lane	48	3.2	14.4	0.1	24	18	7.3
2nd St	34	3.7	7.8	0.0	15	11	6.9
32 1/2 Rd	28	12.6	17.2	0.0	9	8	14.4
	38	2.0	13.0	0.1	26	25	2.1
I-70B	1	37.9	44.2	0.1	6	6	40.8
Total		71.7	160.9	0.8	19	17	81.6

Arterial Level of Service: WB US 6C

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
33 Rd	23	10.4	22	10.2	26	6.6	24
Clifton Elementary	31	2.6	29	2.7	35	1.9	31
Holland St	28	0.5	28	0.5	28	0.5	29
Lois St	28	0.7	27	0.8	29	0.6	27
Smallwood Lane	26	2.1	27	1.8	28	1.1	23
2nd St	22	1.3	15	4.1	20	1.7	15
32 1/2 Rd	10	10.1	8	14.4	9	12.0	9
	27	1.7	26	2.2	26	1.7	26
I-70B	6	35.0	6	42.1	6	38.1	7
Total	20	64.3	18	78.7	20	64.2	19

Queuing and Blocking Report
 2014 Existing AM

2/2/2015

Intersection: 1: I-70B & US 6C

Movement	EB	EB	EB	WB	WB	WB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	TR	L	T	TR	L	T	T	L	T	T
Maximum Queue (ft)	109	148	143	181	164	218	22	9	22	19	20	17
Average Queue (ft)	75	97	72	132	99	143	6	3	7	6	8	5
95th Queue (ft)	117	166	156	208	168	226	27	13	28	25	23	22
Link Distance (ft)		1644	1644		279	279		491	491	249	249	249
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200			240			200					
Storage Blk Time (%)				0	0							
Queuing Penalty (veh)				0	0							

Intersection: 2: Front St & 33 Rd

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
2014 Existing AM

2/2/2015

Intersection: 5: I-70B & 32 Rd

Movement	SE	SE	SE	NW	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	L	LT	T	L	T	T	L	L	T
Maximum Queue (ft)	81	124	68	99	111	61	19	104	80	88	93	164
Average Queue (ft)	41	85	18	63	70	19	4	61	49	49	72	121
95th Queue (ft)	92	151	81	107	125	71	22	111	94	93	100	172
Link Distance (ft)		358	358		508	508		716	716			461
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	135			550			195			400	400	
Storage Blk Time (%)		2	0									
Queuing Penalty (veh)		1	0									

Intersection: 5: I-70B & 32 Rd

Movement	SW
Directions Served	T
Maximum Queue (ft)	179
Average Queue (ft)	141
95th Queue (ft)	203
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: I-70B & Peach Tree

Movement	SE	NE	NE	SW	SW
Directions Served	LTR	T	T	T	T
Maximum Queue (ft)	51	159	181	124	142
Average Queue (ft)	24	102	130	89	98
95th Queue (ft)	56	172	204	141	159
Link Distance (ft)	114	710	710	491	491
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: I-70B

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: 11: Old 32 Rd & I-70B

Movement

	NE	NE	SW	SW
Directions Served	T	T	T	T
Maximum Queue (ft)	65	79	91	98
Average Queue (ft)	33	49	62	52
95th Queue (ft)	68	97	104	106
Link Distance (ft)	277	277	716	716
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 17: I-70B & Budweiser Access

Movement

	EB	WB	NB
Directions Served	R	LTR	L
Maximum Queue (ft)	16	42	8
Average Queue (ft)	4	25	2
95th Queue (ft)	20	49	11
Link Distance (ft)		8	
Upstream Blk Time (%)		9	
Queuing Penalty (veh)		4	
Storage Bay Dist (ft)	65		170
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
2014 Existing AM

2/2/2015

Intersection: 20: Frontage Rd

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	12	22
Average Queue (ft)	2	8
95th Queue (ft)	16	31
Link Distance (ft)	8	426
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: 33 Rd & US 6C

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	65	134	68	136	22	82	41	26	44
Average Queue (ft)	26	76	33	96	6	49	16	6	22
95th Queue (ft)	76	143	73	157	24	90	47	26	51
Link Distance (ft)		1180		800					450
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	115		260		180	180		140	
Storage Blk Time (%)		2		0					
Queuing Penalty (veh)		1		0					

Intersection: 25: US 6C & Holland St

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	24	24
Average Queue (ft)	5	6
95th Queue (ft)	23	26
Link Distance (ft)		295
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
2014 Existing AM

2/2/2015

Intersection: 28: 1st St/32 1/2 Rd & US 6C

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	32	236	11	122	178	44	34	24	22
Average Queue (ft)	11	184	2	51	146	27	10	10	7
95th Queue (ft)	37	283	20	120	195	54	41	32	29
Link Distance (ft)		427	427	151	151	353	353		409
Upstream Blk Time (%)				0	10				
Queuing Penalty (veh)				1	32				
Storage Bay Dist (ft)	400							80	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 29: 32 1/2 Rd/1st St & Front 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: 30: US 6C & Lois St

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	25	54
Average Queue (ft)	6	36
95th Queue (ft)	26	61
Link Distance (ft)		298
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
2014 Existing AM

2/2/2015

Intersection: 33: Front St & 2nd 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: 34: 2nd St & US 6C

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	24	116	63
Average Queue (ft)	7	48	42
95th Queue (ft)	27	125	74
Link Distance (ft)		126	
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		7	
Storage Bay Dist (ft)	45		
Storage Blk Time (%)	0	6	
Queuing Penalty (veh)	1	1	

Intersection: 46: 5th St/Clifton Elementary & US 6C

Movement	EB	SB
Directions Served	L	LTR
Maximum Queue (ft)	34	24
Average Queue (ft)	10	7
95th Queue (ft)	35	27
Link Distance (ft)		262
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 49: US 6C & Smallwood Lane

Movement	EB	WB	WB	SB
Directions Served	L	L	TR	LTR
Maximum Queue (ft)	12	12	26	6
Average Queue (ft)	2	2	5	1
95th Queue (ft)	16	16	29	11
Link Distance (ft)			450	330
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	45	100		
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Network Summary

Network wide Queuing Penalty: 49

Queuing and Blocking Report
2014 Existing PM

2/2/2015

Intersection: 1: I-70B & US 6C

Movement	EB	EB	EB	WB	WB	WB	NE	NE	NE	SW	SW	SW
Directions Served	L	T	TR	L	T	TR	L	T	T	L	T	T
Maximum Queue (ft)	68	224	168	154	116	147	89	63	59	86	127	85
Average Queue (ft)	40	146	116	88	84	103	31	16	17	42	74	34
95th Queue (ft)	72	225	191	166	129	154	91	72	74	98	143	88
Link Distance (ft)		1644	1644		279	279		491	491	249	249	249
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200			240			200					
Storage Blk Time (%)		3										
Queuing Penalty (veh)		3										

Intersection: 1: I-70B & US 6C

Movement	SW
Directions Served	R
Maximum Queue (ft)	20
Average Queue (ft)	5
95th Queue (ft)	27
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	250
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Front St & 33 Rd

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
2014 Existing PM

2/2/2015

Intersection: 5: I-70B & 32 Rd

Movement	SE	SE	SE	NW	NW	NW	NE	NE	NE	NE	SW	SW
Directions Served	L	T	T	L	LT	T	L	T	T	R	L	L
Maximum Queue (ft)	117	160	141	114	150	118	37	148	186	34	180	185
Average Queue (ft)	63	111	69	72	118	40	18	111	136	7	132	145
95th Queue (ft)	131	179	158	135	164	111	44	163	203	62	200	207
Link Distance (ft)		358	358		508	508		716	716	716		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	135			550			195				400	400
Storage Blk Time (%)	1	6	0									
Queuing Penalty (veh)	1	5	0									

Intersection: 5: I-70B & 32 Rd

Movement	SW	SW
Directions Served	T	T
Maximum Queue (ft)	130	148
Average Queue (ft)	81	103
95th Queue (ft)	137	157
Link Distance (ft)	461	461
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: I-70B & Peach Tree

Movement	SE	NW	NE	NE	SW	SW
Directions Served	LTR	L	T	T	T	T
Maximum Queue (ft)	66	64	216	265	226	153
Average Queue (ft)	41	40	168	222	167	117
95th Queue (ft)	79	73	267	300	264	181
Link Distance (ft)	114		710	710	491	491
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			0		1	
Queuing Penalty (veh)			0		0	

Intersection: 9: I-70B

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: 11: Old 32 Rd & I-70B

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: 17: I-70B & Budweiser Access

Movement	EB	WB	SB
Directions Served	R	LTR	LT
Maximum Queue (ft)	20	36	18
Average Queue (ft)	8	17	4
95th Queue (ft)	28	46	17
Link Distance (ft)		8	1363
Upstream Blk Time (%)		6	
Queuing Penalty (veh)		3	
Storage Bay Dist (ft)	65		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
2014 Existing PM

2/2/2015

Intersection: 20: Frontage Rd

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	11	12
Average Queue (ft)	2	4
95th Queue (ft)	15	20
Link Distance (ft)	8	426
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: 33 Rd & US 6C

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	104	158	48	85	21	69	47	15	37
Average Queue (ft)	47	105	31	63	4	42	27	3	21
95th Queue (ft)	108	197	60	103	20	75	58	16	40
Link Distance (ft)		1190		800					450
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	115		260		180	180		140	
Storage Blk Time (%)		5							
Queuing Penalty (veh)		6							

Intersection: 25: US 6C & Holland St

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	18	25
Average Queue (ft)	5	7
95th Queue (ft)	23	29
Link Distance (ft)		296
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
2014 Existing PM

2/2/2015

Intersection: 28: 1st St/32 1/2 Rd & US 6C

Movement	EB	EB	EB	B38	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	T	L	TR	L	TR	L	TR
Maximum Queue (ft)	52	427	11	19	113	168	52	12	6	12
Average Queue (ft)	25	327	2	5	69	134	32	5	1	4
95th Queue (ft)	59	489	19	30	127	193	63	22	11	20
Link Distance (ft)		427	427	279	151	151	353	353		409
Upstream Blk Time (%)		6			0	6				
Queuing Penalty (veh)		24			1	17				
Storage Bay Dist (ft)	400								80	
Storage Blk Time (%)		7								
Queuing Penalty (veh)		2								

Intersection: 29: 32 1/2 Rd/1st St & Front 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: 30: US 6C & Lois St

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	50
Average Queue (ft)	14	34
95th Queue (ft)	39	57
Link Distance (ft)		298
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: Front St & 2nd 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: 34: 2nd St & US 6C

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	9	56	74	87
Average Queue (ft)	2	31	24	61
95th Queue (ft)	12	66	78	103
Link Distance (ft)	151		126	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		45		
Storage Blk Time (%)		3	2	
Queuing Penalty (veh)		13	1	

Intersection: 46: 5th St/Clifton Elementary & US 6C

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	24	18	25
Average Queue (ft)	8	4	14
95th Queue (ft)	29	20	39
Link Distance (ft)		327	273
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 49: US 6C & Smallwood Lane

Movement	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (ft)	30	11	31	31
Average Queue (ft)	6	2	20	12
95th Queue (ft)	26	20	44	36
Link Distance (ft)		450	315	397
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	45			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	1			

Network Summary

Network wide Queuing Penalty: 78

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - AM

6/4/2015

Intersection: 1: I-70B & US 6C

Movement	EB	EB	EB	WB	WB	WB	B38	NE	NE	NE	NE	SW
Directions Served	L	T	TR	L	T	TR	T	L	T	T	R	L
Maximum Queue (ft)	203	222	224	264	325	265	23	162	349	372	175	90
Average Queue (ft)	166	155	108	234	214	190	5	80	180	190	35	60
95th Queue (ft)	246	292	238	301	381	300	41	210	434	441	230	105
Link Distance (ft)		1644	1644		279	279	427		491	491	491	249
Upstream Blk Time (%)				1	8	1			0	1		
Queuing Penalty (veh)				0	41	7			1	2		
Storage Bay Dist (ft)	200			240				200				
Storage Blk Time (%)	9	1		17	4			0	11			
Queuing Penalty (veh)	12	4		34	18			0	11			

Intersection: 1: I-70B & US 6C

Movement	SW	SW	SW
Directions Served	T	T	R
Maximum Queue (ft)	163	170	3
Average Queue (ft)	116	103	1
95th Queue (ft)	190	192	6
Link Distance (ft)	249	249	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			250
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 2: Front St & 33 Rd

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
 2040 No Action + Budweiser Access Signal - AM

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Intersection: 5: I-70B & 32 Rd

Movement	SE	SE	SE	NW	NW	NW	NE	NE	NE	SW	SW	SW
Directions Served	L	T	T	L	LT	T	L	T	T	L	L	T
Maximum Queue (ft)	90	130	101	192	198	113	20	157	145	118	134	170
Average Queue (ft)	41	92	39	136	132	43	7	117	93	78	96	131
95th Queue (ft)	95	144	113	220	223	126	26	172	153	141	154	190
Link Distance (ft)		358	358		508	508		716	716			461
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	135			550			195			400	400	
Storage Blk Time (%)	2	2						0				
Queuing Penalty (veh)	1	1						0				

Intersection: 5: I-70B & 32 Rd

Movement	SW
Directions Served	T
Maximum Queue (ft)	198
Average Queue (ft)	149
95th Queue (ft)	215
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: I-70B & Peach Tree

Movement	SE	NE	NE	SW	SW
Directions Served	LTR	T	T	T	T
Maximum Queue (ft)	34	354	383	348	349
Average Queue (ft)	18	294	307	253	254
95th Queue (ft)	44	402	420	396	395
Link Distance (ft)	114	710	710	491	491
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)		6		11	
Queuing Penalty (veh)		0		0	

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - AM

6/4/2015

Intersection: 9: I-70B

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: 11: Old 32 Rd & I-70B

Movement	NE	NE	SW	SW
Directions Served	T	T	T	T
Maximum Queue (ft)	88	81	83	90
Average Queue (ft)	51	43	39	38
95th Queue (ft)	98	92	92	99
Link Distance (ft)	277	277	716	716
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 17: I-70B & Budweiser Access

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	T	T	LT	T
Maximum Queue (ft)	11	21	49	35	76	64	77	26
Average Queue (ft)	3	8	33	19	30	35	28	12
95th Queue (ft)	18	28	63	46	98	97	80	41
Link Distance (ft)	339		8		834	834	1363	1363
Upstream Blk Time (%)			26					
Queuing Penalty (veh)			18					
Storage Bay Dist (ft)		65		170				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - AM

6/4/2015

Intersection: 20: Frontage Rd

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	24	38
Average Queue (ft)	11	18
95th Queue (ft)	34	60
Link Distance (ft)	8	426
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: 33 Rd & US 6C

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	40	113	72	135	11	120	58	30	69
Average Queue (ft)	19	71	48	91	2	78	34	11	36
95th Queue (ft)	50	118	83	142	15	130	71	34	74
Link Distance (ft)		1194		800					450
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	115		260		180	180		140	
Storage Blk Time (%)		1							
Queuing Penalty (veh)		0							

Intersection: 25: US 6C & Holland St

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	31	28	28
Average Queue (ft)	19	10	8
95th Queue (ft)	42	65	33
Link Distance (ft)		138	297
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - AM

6/4/2015

Intersection: 28: 1st St/32 1/2 Rd & US 6C

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	39	300	10	141	181	86	31	24	26
Average Queue (ft)	15	234	2	75	168	54	12	7	8
95th Queue (ft)	46	371	19	153	184	95	36	28	32
Link Distance (ft)		427	427	151	151	353	353		409
Upstream Blk Time (%)		0		3	33				
Queuing Penalty (veh)		1		14	172				
Storage Bay Dist (ft)	400							80	
Storage Blk Time (%)		1							
Queuing Penalty (veh)		0							

Intersection: 29: 32 1/2 Rd/1st St & Front 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: 30: US 6C & Lois St

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	43	106	81
Average Queue (ft)	27	39	49
95th Queue (ft)	57	168	89
Link Distance (ft)		251	298
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		3	
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - AM

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Intersection: 33: Front St & 2nd 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: 34: 2nd St & US 6C

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	4	46	146	93
Average Queue (ft)	1	20	140	53
95th Queue (ft)	8	55	149	94
Link Distance (ft)	151		125	
Upstream Blk Time (%)			27	
Queuing Penalty (veh)			268	
Storage Bay Dist (ft)		45		
Storage Blk Time (%)		0	36	
Queuing Penalty (veh)		3	11	

Intersection: 46: 5th St/Clifton Elementary & US 6C

Movement	EB	WB	SB
Directions Served	L	TR	LTR
Maximum Queue (ft)	36	10	35
Average Queue (ft)	19	2	17
95th Queue (ft)	46	19	44
Link Distance (ft)		1194	274
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1		
Queuing Penalty (veh)	2		

Queuing and Blocking Report
2040 No Action + Budweiser Access Signal - AM

6/4/2015

Intersection: 49: US 6C & Smallwood Lane

Movement	EB	WB	NB	SB
Directions Served	L	LTR	LTR	LTR
Maximum Queue (ft)	30	410	48	40
Average Queue (ft)	11	283	24	20
95th Queue (ft)	35	517	59	54
Link Distance (ft)		450	351	302
Upstream Blk Time (%)		2		
Queuing Penalty (veh)		20		
Storage Bay Dist (ft)	45			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	1			

Network Summary

Network wide Queuing Penalty: 648

Queuing and Blocking Report
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Intersection: 1: I-70B & US 6C

Movement	EB	EB	EB	WB	WB	WB	NE	NE	NE	NE	SW	SW
Directions Served	L	T	TR	L	T	TR	L	T	T	R	L	T
Maximum Queue (ft)	224	453	461	243	190	177	214	303	301	45	222	328
Average Queue (ft)	192	326	305	177	116	132	149	196	199	10	134	314
95th Queue (ft)	290	501	494	268	222	197	250	325	329	54	268	351
Link Distance (ft)		1644	1644		279	279		491	491	491	249	249
Upstream Blk Time (%)				0	0						6	44
Queuing Penalty (veh)				0	1						38	295
Storage Bay Dist (ft)	200			240			200					
Storage Blk Time (%)	0	51		5			3	17				
Queuing Penalty (veh)	0	108		10			11	37				

Intersection: 1: I-70B & US 6C

Movement	SW	SW	B39	B39	B39	B40	B40
Directions Served	T	R	T	T	T	T	T
Maximum Queue (ft)	320	249	22	309	319	132	119
Average Queue (ft)	303	223	4	175	184	30	24
95th Queue (ft)	363	336	30	357	385	155	135
Link Distance (ft)	249		256	256	256	873	873
Upstream Blk Time (%)	32	2		6	9		
Queuing Penalty (veh)	214	0		39	57		
Storage Bay Dist (ft)		250					
Storage Blk Time (%)	32	2					
Queuing Penalty (veh)	134	14					

Intersection: 2: Front St & 33 Rd

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
 2040 No Action + Budweiser Access Signal - PM

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Intersection: 5: I-70B & 32 Rd

Movement	SE	SE	SE	NW	NW	NW	NE	NE	NE	NE	SW	SW
Directions Served	L	T	T	L	LT	T	L	T	T	R	L	L
Maximum Queue (ft)	154	242	168	200	217	162	126	296	271	127	263	241
Average Queue (ft)	84	168	105	151	184	109	76	231	215	49	195	191
95th Queue (ft)	171	258	205	230	237	201	214	336	325	172	284	261
Link Distance (ft)		358	358		508	508		716	716	716		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	135			550			195				400	400
Storage Blk Time (%)	2	23	1				0	20				
Queuing Penalty (veh)	4	23	0				0	5				

Intersection: 5: I-70B & 32 Rd

Movement	SW	SW
Directions Served	T	T
Maximum Queue (ft)	100	127
Average Queue (ft)	55	80
95th Queue (ft)	118	136
Link Distance (ft)	461	461
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: I-70B & Peach Tree

Movement	NE	NE	SW	SW	SW
Directions Served	T	T	T	T	R
Maximum Queue (ft)	441	466	352	285	75
Average Queue (ft)	368	416	167	135	15
95th Queue (ft)	466	502	341	282	136
Link Distance (ft)	710	710	491	491	491
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)	19		2		
Queuing Penalty (veh)	0		0		

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - PM

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Intersection: 9: I-70B

Movement	NE	NE
Directions Served	T	T
Maximum Queue (ft)	92	95
Average Queue (ft)	18	37
95th Queue (ft)	168	243
Link Distance (ft)	461	461
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Old 32 Rd & I-70B

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: 17: I-70B & Budweiser Access

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	T	T	LT	T
Maximum Queue (ft)	11	38	29	9	8	27	143	112
Average Queue (ft)	2	19	15	4	2	7	57	54
95th Queue (ft)	15	47	38	17	11	29	152	131
Link Distance (ft)	339		8		834	834	1363	1363
Upstream Blk Time (%)			25					
Queuing Penalty (veh)			11					
Storage Bay Dist (ft)		65		170				
Storage Blk Time (%)		0						0
Queuing Penalty (veh)		0						0

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - PM

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Intersection: 20: Frontage Rd

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	22	24
Average Queue (ft)	6	5
95th Queue (ft)	24	24
Link Distance (ft)	8	426
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: 33 Rd & US 6C

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	90	200	119	116	23	125	105	29	72
Average Queue (ft)	54	120	75	66	9	74	56	9	44
95th Queue (ft)	110	234	125	124	30	137	110	31	80
Link Distance (ft)		1185		800					450
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	115		260		180	180		140	
Storage Blk Time (%)		6		0		1			
Queuing Penalty (veh)		10		0		1			

Intersection: 28: 1st St/32 1/2 Rd & US 6C

Movement	EB	EB	EB	B38	B38	B38	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	T	T		L	TR	L	TR	L	TR
Maximum Queue (ft)	350	509	472	338	366	379	141	173	74	76	28	18
Average Queue (ft)	133	486	273	243	256	152	88	141	41	30	9	4
95th Queue (ft)	434	555	621	455	486	463	159	192	82	101	34	21
Link Distance (ft)		427	427	279	279	279	151	151	353	353		409
Upstream Blk Time (%)	0	58	6	21	20	10	2	11				
Queuing Penalty (veh)	0	344	33	83	81	40	7	47				
Storage Bay Dist (ft)	400											80
Storage Blk Time (%)	0	58										
Queuing Penalty (veh)	0	26										

Queuing and Blocking Report
 2040 No Action + Budweiser Access Signal - PM

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Intersection: 29: 32 1/2 Rd/1st St & Front 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: 30: US 6C & Lois St

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	39	4	51
Average Queue (ft)	23	1	38
95th Queue (ft)	49	8	61
Link Distance (ft)		256	298
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 33: Front St & 2nd 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
 2040 No Action + Budweiser Access Signal - PM

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Intersection: 34: 2nd St & US 6C

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	25	64	124	325
Average Queue (ft)	5	43	69	226
95th Queue (ft)	26	77	167	372
Link Distance (ft)	151		124	
Upstream Blk Time (%)			4	
Queuing Penalty (veh)			31	
Storage Bay Dist (ft)		45		
Storage Blk Time (%)		13	9	
Queuing Penalty (veh)		88	6	

Intersection: 44: US 6C & Holland St

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	18	31
Average Queue (ft)	8	24
95th Queue (ft)	29	45
Link Distance (ft)		286
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 45: 5th St/Clifton Elementary & US 6C

Movement	EB	WB	NB	SB
Directions Served	L	LTR	LTR	LTR
Maximum Queue (ft)	18	12	35	35
Average Queue (ft)	7	2	14	16
95th Queue (ft)	28	16	41	43
Link Distance (ft)		1185	302	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
2040 No Action + Budweiser Access Signal - PM

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Intersection: 48: US 6C & Smallwood Lane

Movement	EB	WB	NB	SB
Directions Served	L	LTR	LTR	LTR
Maximum Queue (ft)	34	122	35	43
Average Queue (ft)	20	44	23	26
95th Queue (ft)	45	172	47	54
Link Distance (ft)		452	323	404
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	45			
Storage Blk Time (%)	2			
Queuing Penalty (veh)	15			

Network Summary

Network wide Queuing Penalty: 1815



APPENDIX D
TRAVEL DEMAND FORECASTING
METHODOLOGY AND FORECAST VOLUMES

The GVMPO utilizes a travel demand forecast model to estimate future transportation demand in the region. A travel demand model is a planning tool for assessing alternative improvements to a transportation system, given projected future demand. This model uses future population and economic forecasts and other variables, including land use patterns and estimates of future activity from local governments. The model provides output in the form of estimated traffic volumes on the roadway system.

Due to the complexity of real-world driver behavior and individual roadway characteristics, travel demand forecasting models cannot be expected to result in precise representations of traffic volumes on each roadway. A common technique used to improve the reliability of travel demand forecasts is referred to as post-processing adjustment. This technique uses comparisons of the base year model's predicted traffic volumes versus actual traffic counts. These comparisons provide estimations of the error associated with the model's representation of travel conditions. The model-produced forecasts can then be adjusted to account for the errors found in the model to provide more reliable forecasts. This post-processing adjustment methodology, as prescribed in the National Cooperative Highway Research Program (NCHRP) Report 255 and NCHRP Report 765 (an update to 255), was applied to the US 6C Clifton Transportation Study traffic forecasts.

The traffic forecast data, calculations, and results were coordinated directly with GVMPO. The attached table includes daily traffic counts, seasonally adjusted daily counts, the raw model outputs for base and future year daily volumes, and the 2040 daily forecast volumes. At the far right of the table are the Mesa County 2040 daily forecast volumes and the adjusted 2040 forecast volumes based on traffic counts performed for this study and the NCHRP methodologies. The differences between these two columns were reviewed and a recommended 2040 daily forecast volume, shown in the blue column, was developed with approval from GVMPO.

Travel Demand Forecasts - Daily Volumes

Roadway		2010 Unadjusted Travel Model Volumes	2014 Raw Count	Seasonally Adjusted 2014 Traffic Counts	% Difference (2014 Counts vs 2010 Model)	2009-2011 Counts from Mesa County/ CDOT	Seasonally Adj. 2009-2011 Counts from Mesa County/ CDOT	2040 Unadjusted Travel Model Vols	% Annual Growth (2010 Model to 2040 Model)	2040 Forecast Daily Volumes			
Roadway	Location	2010 2-Way Model Volumes	2014 2-Way Count					2040 2-Way Model Volumes		Mesa County 2040 Forecast	DEA Adjusted 2040 Forecast*	RECOMMENDED 2040 for US 6C Study	% Annual Growth vs 2014 Count
I-70 B	South of I-70 Interchange	20,070	13,609	14,072	-29.89%	18,913	17,721	39,000	2.24%	39,000	36,650	37,000	3.8%
	South of Budweiser Access	20,170	13,174	13,622	-32.46%			41,903	2.47%	39,094	-	37,000	3.9%
	South of Old 32 Road	21,125	14,890	15,396	-27.12%	18,438	17,276	32,231	1.42%	28,572	28,380	28,000	2.3%
F Road / US 6C	West of 32 Road	13,745	13,675	14,454	5.16%	15,925	14,094	17,513	0.81%	22,351	17,960	21,000	1.4%
	West of I-70 B	11,075				17,942	15,879	15,614	1.15%	23,159	22,390	22,000	NA
	East of I-70 B	17,463	14,140	14,946	-14.41%	17,192	15,215	22,419	0.84%	21,854	20,170	21,000	1.3%
	Between 1st and 2nd Streets	18,153						23,790	0.91%	22,459	-	22,000	NA
	West of Lois Street	17,733				13,315	11,784	21,931	0.71%	16,543	15,980	16,000	NA
	West of 33 Road	14,676	11,515	12,171	-17.07%	11,855	10,492	17,175	0.53%	14,115	12,990	15,000	0.8%
	East of 33 Road	9,721	7,935	8,387	-13.72%	7,575	6,704	11,722	0.63%	9,253	8,700	11,000	1.0%
2nd St	South of F Road (US6C)	490	3,280	3,280	569.39%	2,397	2,397	2,516	5.60%	2,516	4,420	4,000	0.8%
Front St	West of 33 Road	NA	290	290	NA	289	289	NA	NA	NA	NA	500	2.0%
33 Rd	North of F Rd (US 6C)	3,008	2,840	2,840	-5.59%	3,161	3,161	5,467	2.01%	5,467	5,620	5,000	2.2%
	South of F Rd (US 6C)	3,825	3,785	3,785	-1.05%	3,827	3,827	7,871	2.43%	7,871	7,870	8,000	2.9%

Source: Mesa County 2010 and 2040 Travel Demand Models, All Traffic Data

Seasonally adjusted for November (1.057 for US 6C and 1.034 for I-70B) per CDOT 2011-2013 factors.

Seasonally adjusted for summer (0.885 for US 6C and 0.937 for I-70B) per CDOT 2011-2013 factors.

*DEA Adjustments based on '09-'11 counts, unadjusted model volumes, & NCHRP ratio/numerical adjustment methodology.

Recommended 2040 forecasts for US 6C Transportation Study Estimate of annual growth

NA = Not Applicable. No existing counts were available.