

Pershing Boulevard Complete Streets

Draft Final Plan

Prepared by

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Prepared for
Cheyenne Metropolitan Planning Organization

July 2015



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Final Report

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EXECUTIVE SUMMARY

INTRODUCTION

The Pershing Boulevard Complete Streets Plan focuses on improvements to multimodal access and safety along Pershing Boulevard between Evans Avenue and Logan Avenue in Cheyenne, Wyoming. The plan identifies needs and prioritizes improvements to make it easier, safer and more appealing to walk and bike within and through the corridor.

The City of Cheyenne partnered with the Cheyenne Metropolitan Planning Organization (MPO) to engage residents, key stakeholders and partner agencies through a comprehensive Public Outreach. The outreach included handing out informational flyers along the corridor, individual business interviews, a walking audit of the corridor, a project website, two community outreach workshops, and presentations to the MPO Technical Committee. The public outreach component of this project helped identify the qualitative issues as experienced by local business owners and users of Pershing Boulevard.

EXISTING CONDITIONS ASSESSMENT

The vehicular Level of Service analysis indicates that the intersections along the corridor are operating without significant delay. Pedestrians and bicyclists traveling within and along Pershing Boulevard face significant challenges. Volumes of bicycles and pedestrians are relatively low along this corridor. This does not necessarily reflect a low demand by these modes, but rather insufficient infrastructure to create a comfortable and safe environment for people to walk or bicycle along Pershing. Particular issues for bicyclists and pedestrians include:

- Poor sidewalk quality
- ADA accessibility
- Lack of Access management
- Lack of pedestrian crossing opportunities
- Misaligned intersections
- Insufficient lighting, particularly pedestrian-scale
- Lack of street furniture
- Narrow and attached sidewalks
- Sidewalk slope exceeds 2% at driveways, making it difficult for mobility impaired users to navigate

CORRIDOR IMPROVEMENTS

Potential Opportunities

Based on results from the existing conditions analysis, walking audit, business interviews, project website, and community outreach, a number of baseline corridor improvements were identified to address basic pedestrian and bicycle safety and mobility in the corridor, and were considered in the development of all concept alternatives:

- Implement street furniture and additional pedestrian-scale lighting
- Widen sidewalks and add a landscaped buffer wherever feasible
- Jog the sidewalk back from the street at driveways in order to keep the sidewalk and driveway at grade and avoid the cross-slope
- When a diagonal curb ramp is used, provide 48 inches for users to maneuver into the crosswalk
- Line up intersections to create standard four-leg intersections for simpler crossings
- Consolidate access points whenever possible
- Add additional marked crossings with pedestrian refuge medians
- Restrict parking on side streets to begin 20' downstream of Pershing Boulevard for better sight line for turning and crossing vehicles
- Adjust pedestrian crossing time to allow for crossing speeds of 3.5 feet per second and provide pedestrian countdown signal indications.
- Study redevelopment opportunities throughout the corridor.

Initial Concept Plans

Three alternative cross-sections were developed to accommodate a variety of approaches to integrate pedestrian facilities and bike facilities in some manner.

- **Option A** maintains existing curbs integrates a 4' bike lane on either side of the road with a 1' stripe and reduces travel lanes to 10' – 6" while incorporating a 10' median/center turn lane. 5' attached walks on either side of the road are maintained.
- **Option B** maintains existing curbs, integrates a 9'-6" attached multi-use path for pedestrians and bikes and maintains existing travel lane widths. A planted median/center turn lane is incorporated into the cross-section.

- **Option C** integrates an 8' detached multi-use path with a planted parkway/tree-lawn adjacent to the road. 10'-6" travel lanes are incorporated with a 10' planted median/center turn lane. This alternative modifies the existing curb line and extends it in to the existing street cross section to incorporate the detached multi-use walk.

Preferred Concept Plan

The three options were evaluated in a workshop with City Staff and at the first public workshop. It was determined that the roadway width from curb to curb should remain as it is in the current existing condition. On-street bike lanes were seen as a less feasible means of integrating bike facilities, and it was determined that a multi-use pedestrian/bike path in a detached condition that integrates some street trees is most desirable.

It was further determined that the ultimate preferred cross-section should be phased for project implementation based on priority as informed through public workshops and general pedestrian safety needs along the corridor.

Phase I – Pedestrian Safety – integration of a pedestrian crossing at Duff Avenue.

Phase II – Commercial Core – Airport Parkway to Dunn Ave.

Phase III – Commercial Core – Dunn Ave. to Logan Ave.

Phase IV – Multi-Use Path/Planted Medians – Evans Ave. to Airport Parkway

IMPLEMENTATION

The costs of implementing and maintaining these longer term improvements identified by the participating members of the community can often be expensive and burdensome to municipalities. As a result, this study breaks out these potential future improvements into phases which can be implemented through a variety of creative public and private funding sources in the future. The intent is however to have a plan or a road map for this area so that if and when funding opportunities arise, the City and community leaders have a vision and corresponding design ideas that they can utilize to move forward.

INTRODUCTION

Pershing Boulevard is a key commercial corridor in the heart of Cheyenne, serving residents and visitors of a range of ages and abilities. This corridor serves Miller Elementary School, Carey Junior High School, a number of small businesses, residential neighborhoods, a 12-screen movie theater, Gold's Gym, the Wyoming State Bank, three city cemeteries, and the Cheyenne Workforce Center. Pershing is also an important transportation connection in Cheyenne, as it is one of the few uninterrupted east-west corridors in the city.

The need for this plan became evident following concerns expressed by the neighboring businesses, general public and individuals with disabilities who frequently cross the intersection of Pershing Boulevard and Duff Avenue. In response to the concerns, the City of Cheyenne and the Cheyenne Metropolitan Planning Organization (MPO) recognized a need to explore Complete Streets options along this section of Pershing Boulevard to make it easier, safer and more appealing to walk and bike.

Complete Streets are designed and operated to enable safe access for all users, including people of all ages and abilities on foot, bikes, cars, and buses. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. Complete Streets essentially define the *character* of a street. A successful streetscape helps to create an inviting environment, encourage economic development, stimulate private sector investment and enhance the existing positive features. Each streetscape is unique and there is no one-size-fits-all description, but ingredients that may be found in a complete streetscape include sidewalks, bike lanes, parking lanes, crosswalks, pedestrian lighting and signals, and traffic calming measures such as curb extensions and medians. Everything that is found in the space between buildings on each side of the street can be considered part of the streetscape realm.

This report documents the review of existing and proposed plans for the Pershing corridor, existing conditions of the study area, bicycle and pedestrian issues, as well potential opportunities.

LITERATURE REVIEW

The Pershing Boulevard Complete Streets Plan began with a review of Cheyenne’s existing plans and studies. The reviewed plans date back to 2009 so some of the improvements identified in the summaries have already been implemented. A summary of each of the plans is below.

1) East Pershing Boulevard Corridor and Intersections Plan (July 2009)

This study looks at East Pershing Boulevard from Dunn Avenue to Converse Avenue and considered intersection improvements on this section of Pershing. At the intersection of Pershing Boulevard and Concord Road/ Logan Avenue, the study proposed to realign the intersection to a standard four-leg design. This will require acquiring right of way and razing a portion of the school building at the northeast corner. “This improvement is expected to improve traffic flow, safety, reduce traffic queuing and enhance pedestrian crossing of the intersection.” There were also some mixed use redevelopment concepts for the northwest side of this intersection which included buildings that faced the street with parking behind.

2) Intersection Safety Assessment (2010)

This analysis included a ranking of intersections in Cheyenne based on their Potential Crash Reduction Score—the intersection’s susceptibility to cost-effective safety improvements. Only one intersection in this study area was ranked in the top 36. That intersection is Pershing and Logan. It ranked 14th.

3) Cheyenne Metropolitan Area Safe Routes to School (August 2010)

This study explored safe routes to school for schools within the Laramie County School District #1. Schools within the Pershing Boulevard Complete Streets study area include Carey Junior High and Miller Elementary School, located at Pershing Boulevard and Concord Road and Pershing Boulevard and Evans Avenue, respectively.

Carey Junior High- As a large arterial with fast-moving traffic, Pershing Boulevard provides a challenging barrier for students. Students frequently need to travel on or across Pershing Boulevard to access activities after school, largely located to the east. Because of the few signalized crossing options, students often cross at uncontrolled locations, which create potential conflicts.

Miller Elementary School- Since the school is adjacent to Pershing Boulevard, students traveling from the southeast face a challenging crossing. It should be noted that Miller Elementary School’s boundaries only extend east to Seymour and only as far south as 23rd, limiting the number of students potentially trying to

cross from the southeast. School advance warning signs currently exist on Pershing Boulevard in the vicinity of Miller Elementary School.

4) Cheyenne Metropolitan Area Pedestrian Plan (August 2010)

This existing conditions component of the plan listed Pershing Boulevard as a barrier to pedestrians created by a major roadway and noted that the curb ramps are in poor condition. No specific recommendations were made in this plan to Pershing Boulevard within the Complete Streets study area.

5) Cheyenne Area On-Street Bicycle Plan and Greenway Plan Update (June 2012)

The Cheyenne Bicycle Plan proposes a greenway along Pershing Boulevard for the .75 miles from Dunn Avenue to Converse Avenue and from Evans Avenue to the Airport Parkway. Many of these sections have been built; specifically the section between Rayor and Converse is completed.

DATA COLLECTION

In addition to reviewing the relevant documents cited above and initial existing conditions, the team compiled and analyzed the following quantitative, qualitative, and spatial data:

- Roadway network
- Peak Hour vehicular, bicycle, and pedestrian volumes
- Pedestrian and bicycle facilities
- Transit facilities and service

STUDY AREA

This study area encompasses Pershing Boulevard from Evans Avenue on the west to Logan Avenue on the east, with a deeper look at the two blocks between Duff Avenue and Dunn Avenue. The Pershing Boulevard Corridor can be seen as three distinct character areas between Evans Ave. and Logan Ave. The western portion of the corridor is influenced by the intersection of Evans Ave. and Pershing Blvd. from Evans Ave. to Seymour Ave. Land Use in this area is primarily institutional with Wyoming National Guard and Laramie County School District Parcels occupying approximately 50% of the adjacent parcels, with two additional commercial parcels and residential parcels on the south side of Pershing Blvd.

The Lake View Cemetery on the south side of Pershing and the Mt. Olivet and Beth El cemeteries on the north are the only influencing land use from Seymour Ave. to Morrie Ave. /Airport Parkway with a park-like character and open space fronting Pershing Blvd. here. The eastern portion of Pershing Blvd. descends a significant grade in this location and transitions to a Commercial zone at Airport Parkway.

The area from Airport Parkway to Logan Ave. is primarily commercial/retail in nature with multiple access points fronting Pershing Blvd. Most parcels have parking fronting Pershing Blvd. A number of residential parcels also front the corridor through this area as well. Streets along the south portion of the corridor are oriented northwest/southeast and southwest/northeast in a grid pattern. Street intersections along the south of the corridor are misaligned to the north and enter at an angle, creating visibility issues for turning movements.

EXISTING FACILITIES

Pershing Boulevard is a five-lane arterial, with two travel lanes in each direction and a two-way center turn lane for the majority of the study area, except at the approach to signalized intersections. The speed limit along the corridor through the study area is 35 miles per hour. The majority of intersections in the study area along Pershing Boulevard are two-way stop-controlled, except for the intersections serving as the

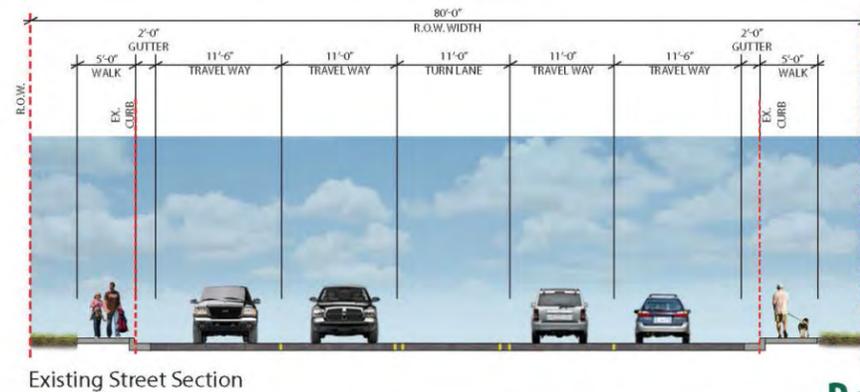
east and west study boundary, Evans Avenue and Logan Avenue, and Morrie Avenue/ Airport Parkway and Concord Road, which are signalized.

Pershing Boulevard has attached sidewalks along the entire length of the study area. Sidewalks range in width from 3.5 feet to 12 feet. The only marked crosswalks in the study area are at signalized intersections—Evans Avenue, Morrie Avenue/ Airport Parkway, Concord Road and Logan Avenue. The corridor does not have any bicycle facilities.

Right - of - Way

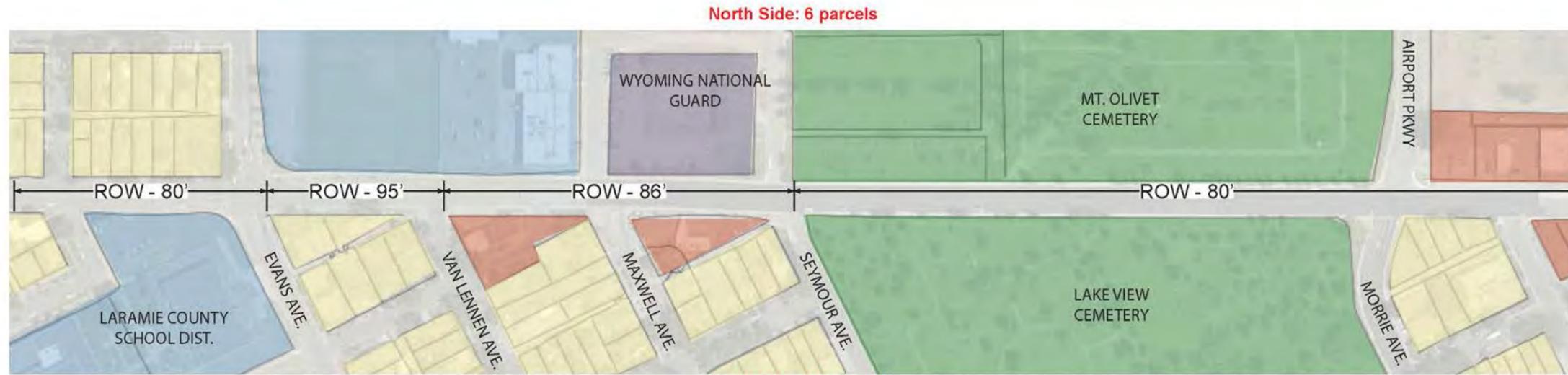
The existing Right of Way throughout this portion of the corridor is typically 80' in width with some variation ranging from 80' to 95' on the west end of the corridor and 84' from Alexander Ave. to Logan Ave. on the east end of the corridor. The existing street cross section throughout the corridor typically has a 5' walk on either side, 2' curb and gutter on either side, 11'-6" outer travel lanes, 11' inner travel lanes and an 11' striped turn lane throughout. There is typically an additional 8-10' of Right - of - Way remaining beyond what is utilized for existing facilities.

The existing cross section, right-of-way, and parcel information is shown on the following figures.



Existing Street Section

Pershing Boulevard Complete Streets Existing Conditions



South Side: 10 parcels



South Side: 14 parcels

*Existing Right-of-Way widths estimated from as-built drawings

TOTAL NUMBER OF PARCELS:
 North Side: 20 parcels
 South Side: 24 parcels

LEGEND:

- Residential
- Municipal/City
- Commercial/Mixed Use
- State/Federal
- Cemetery



Pershing Boulevard Complete Streets Right of Way Width and Parcel Diagram

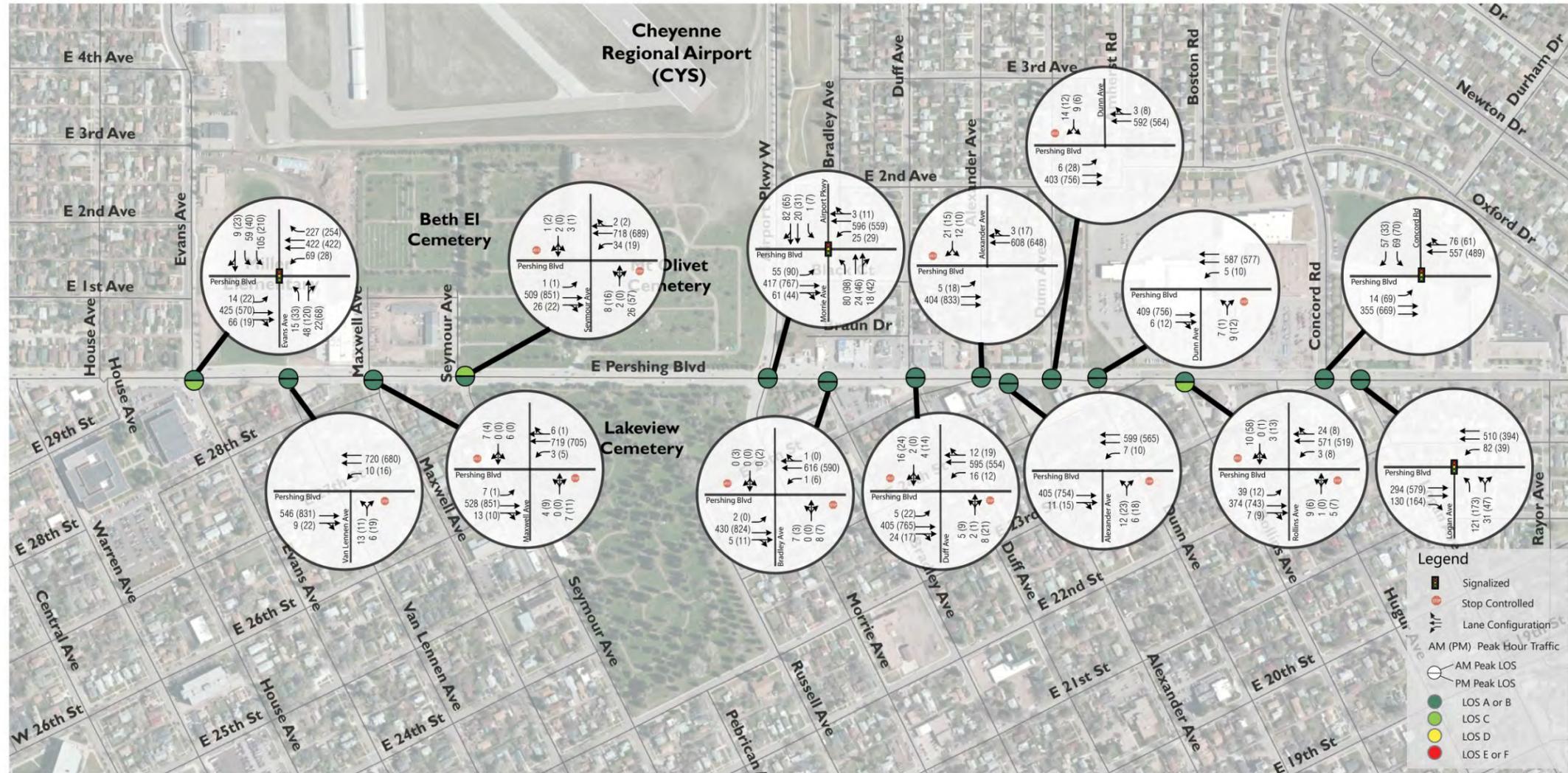


Vehicular Volumes

The following figure shows vehicle turning movement counts at intersections along Pershing Boulevard where data was available. Data was collected by the Cheyenne MPO and All Traffic Data for the AM peak (7:00-9:00 AM) and PM Peak (4:00-6:00 PM) on May 29, 2014.

Vehicular Crashes

Crash data for was provided by the Cheyenne MPO and indicates the total number of crashes within the study area as 191 total between the years of 2005 and 2014. The highest number of accidents in one year was 32 and that was in 2010. The lowest number of accidents in one year was nine and that was in 2012.



Pershing Boulevard Complete Streets Existing Intersections: Volumes and LOS

Pedestrian and Bicycle Volumes

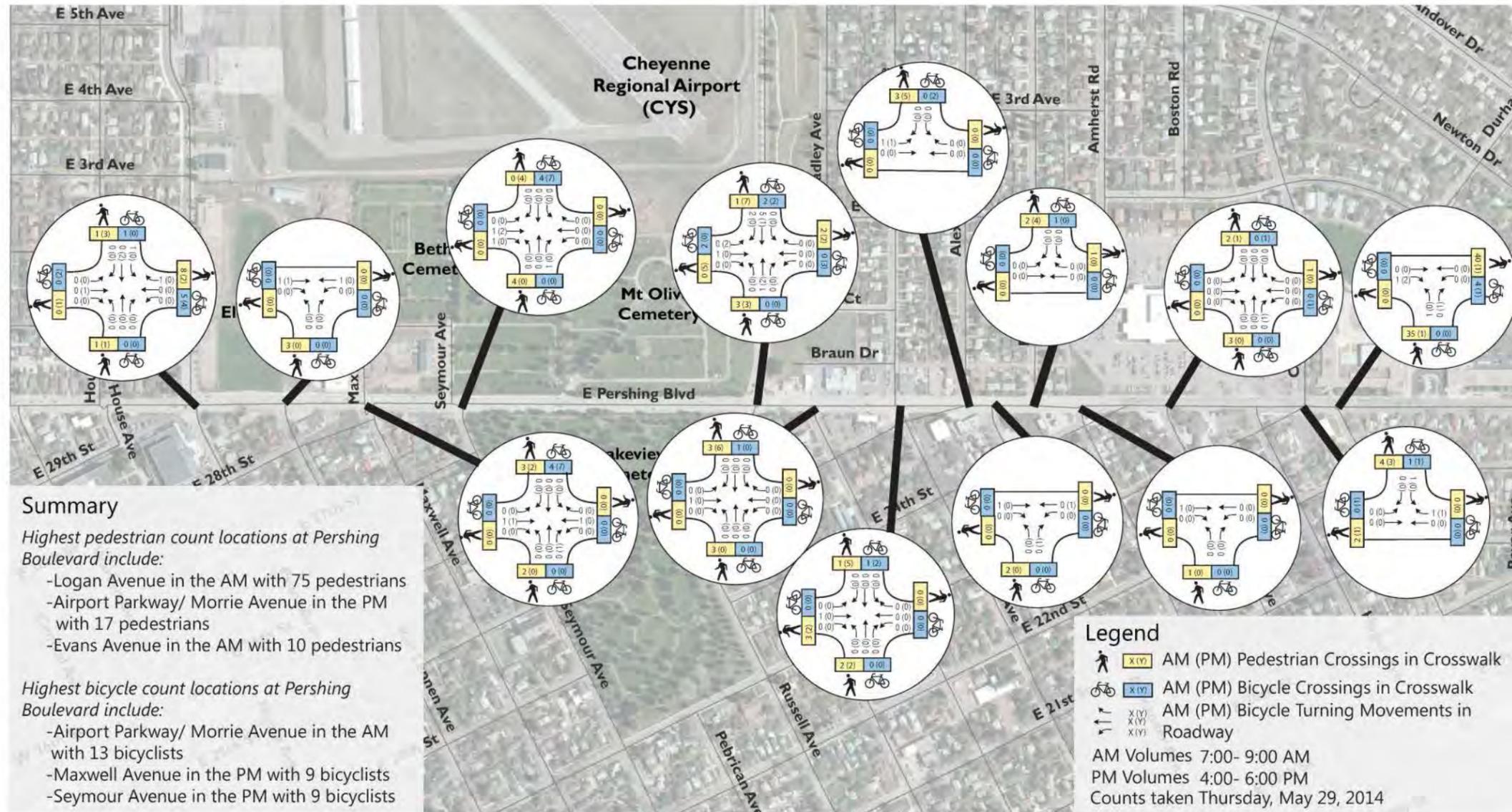
The following figure shows pedestrian volumes in the crosswalks in both directions (yellow boxes) and bicycle volumes in both directions in the crosswalk (blue boxes) and bicycle turning movements in the roadway at intersections on Pershing where data is available. Data was collected for the AM peak (7:00-9:00 AM) and PM Peak (4:00-6:00 PM) on May 29, 2014.

Volume of bicycles and pedestrians are relatively low along this corridor. The highest volumes of pedestrians along Pershing Boulevard were recorded at Logan Avenue during the AM peak. This pedestrian traffic is likely associated with the Carey Junior High School. The highest volumes of bicyclists along Pershing Boulevard were recorded crossing Pershing Boulevard at Airport Parkway/ Morrie Avenue in the PM peak. Bicycle counts are likely higher at this crossing due to the presence of a signalized intersection. High pedestrian and bicycle counts reflect an increased demand at these locations.

Transit Facilities and Service



This section of Pershing Boulevard is serviced by the Cheyenne Transit Program's Downtown Route, the West Route, and the Northeast Route. This is a fixed route service that operates Monday through Saturday. The Downtown Route has a stop located at Morrie Avenue.



Pershing Boulevard Complete Streets Existing Bicycle and Pedestrian Volumes

PUBLIC OUTREACH

The consultant team worked with the MPO and City staff to conduct a comprehensive Public Outreach for this project. The outreach included handing out informational flyers along the corridor, individual business interviews, a walking audit of the corridor, a project website, two community outreach workshops, and presentations to the MPO Technical Committee. The business interviews, walking audit, and community workshops are detailed below. Written comments received are included in the appendix.

The public outreach component of this project helped identify the qualitative issues as experienced by local business owners and users of Pershing Boulevard.

BUSINESS INTERVIEWS

The consultant team and the Cheyenne MPO planning staff interviewed 11 businesses located along E. Pershing Blvd. on Wednesday, June 4, 2014 to get a better understanding of their transportation and safety issues in the area.

Representatives from the followed businesses were interviewed:

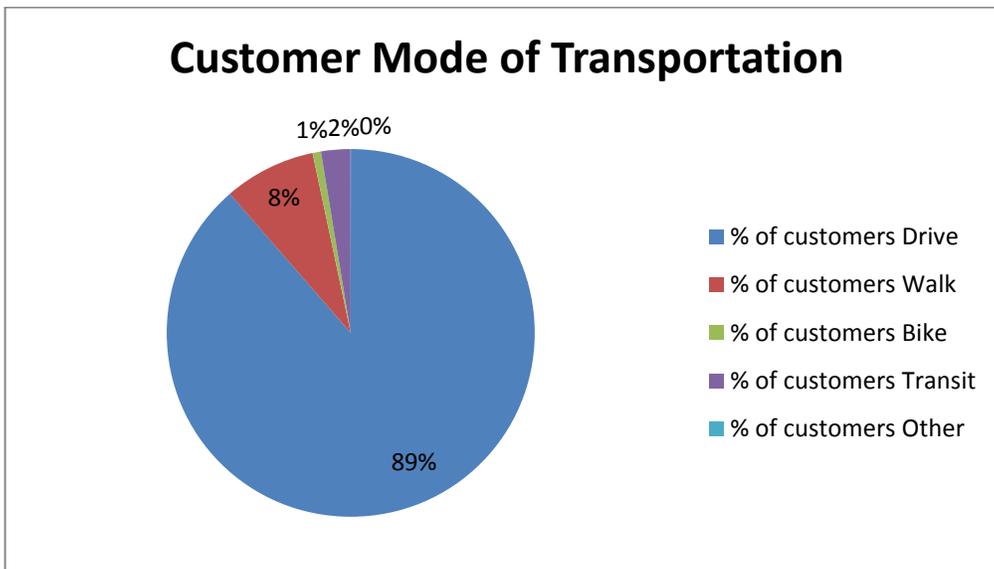
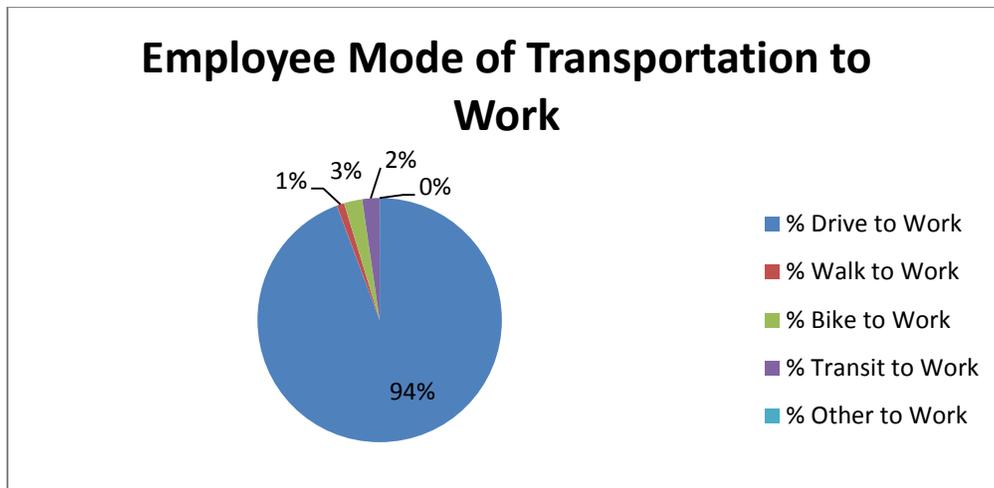
- Four Winds Bar & Lounge, 1103 E Pershing
- Frontier Access & Mobility, 1207 E Pershing
- Lennox Auto Body, 617 E Pershing
- Hoys Drug Store, 1115 E Pershing
- State Farm, 1022 E Pershing
- Wyoming State Bank, 1525 E Pershing
- Schmidt Dentistry, 1204 E Pershing
- A Stitch in Life, 1024 E Pershing
- Cheyenne Vision Clinic, 1200 E Pershing
- Dairy Queen, 1038 E Pershing
- Bighorn Shootin' Irons, 1020 E Pershing

The businesses were primarily small service industries, retail, and bar/restaurants. With the exception of Four Winds Bar & Lounge and Dairy Queen, average businesses hours were 8 am to 5 pm. Employment size ranged from single owner-operated businesses (A Stitch in Life and Bighorn Shootin' Irons) to larger employers like Dairy Queen, with 50 employees. Wyoming State Bank, Cheyenne Vision Clinic, and Hoys Drug Store were the next largest employers, with over 20 employees each. Seven of the eleven businesses have been located at their present address for over thirty years.

In addition to the business interviews in June, 2014; two additional business meeting were held. These meetings occurred on February 20, 2015 with Rande Pouppirt, business owner and Todd Anderson, owner of Elite Cleaners.

In all cases, business representatives indicated that most of their employees drive to work. Taking an (unweighted) average of all businesses, 94% of employees drove, 3% biked, 2% took transit, and 1% walked to work. Dairy Queen had the highest of non-motorized transportation to work, 15%, followed by Lennox Auto Body with a 12% mode split.

Most customers accessed the interviewed businesses by car. On average, 89% of customers drove, 8% walked, 2% took transit, and 1% biked to E Pershing Blvd. businesses. Dairy Queen had the largest mode split with 40% of customers walking to the store. Dairy Queen attracts a lot of foot traffic. Several businesses beside the Dairy Queen indicated that the large number of people crossing and walking along Pershing Blvd. to get to Dairy Queen is a serious safety concern.



WALKING AUDIT

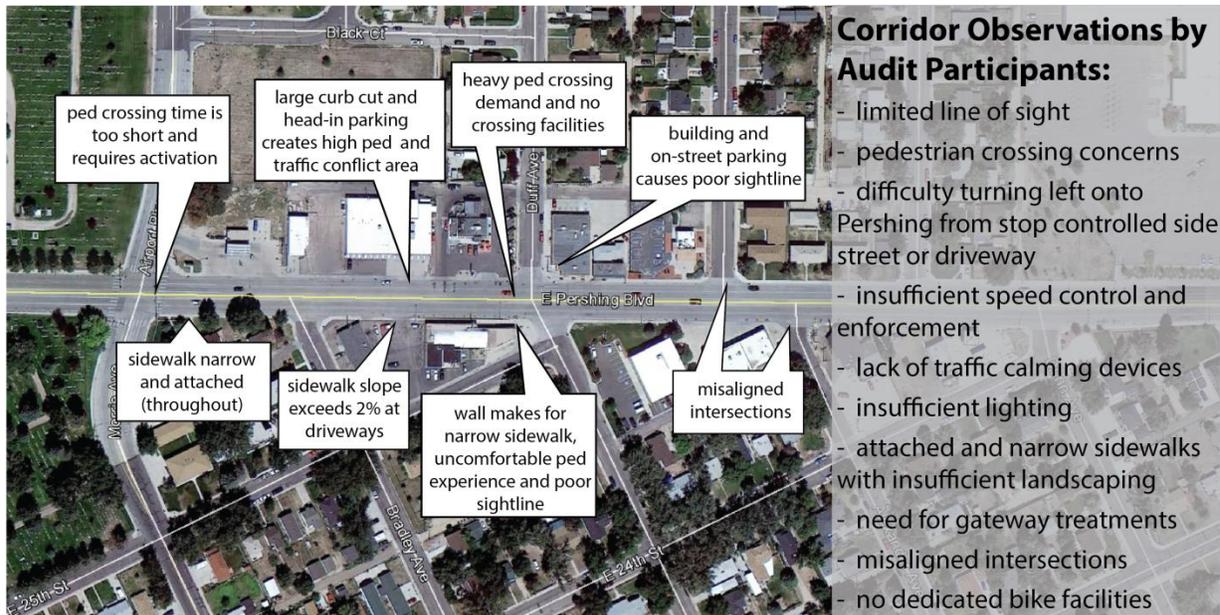
A walking audit was performed on Pershing Boulevard from Morrie Avenue to Dunn Avenue on June 18, 2014. An audit is evaluation of the walking and biking environment, performed as a pedestrian in this case, in order to more effectively identify safety, accessibility, and comfort concerns for bicyclists and pedestrians. There were 17 community stakeholders in attendance at the audit including representatives from the MPO, the City Planning Department, the City Engineering Department, Wyoming Department of Transportation, Cheyenne Police Department, AARP, and a private citizen. One of the audit attendees uses a wheelchair, which provided additional insight on wheelchair accessibility on the corridor and American Disabilities Act (ADA) compliance.



A detailed summary of comments is found in the Existing Conditions section of the report. The figure below illustrates the location of the challenges noted in the walking audit and through business interviews along the corridor graphically.

Comment sheets from the walking audit are included in Appendix C.

Corridor Challenges from the Walking Audit and Business Interviews

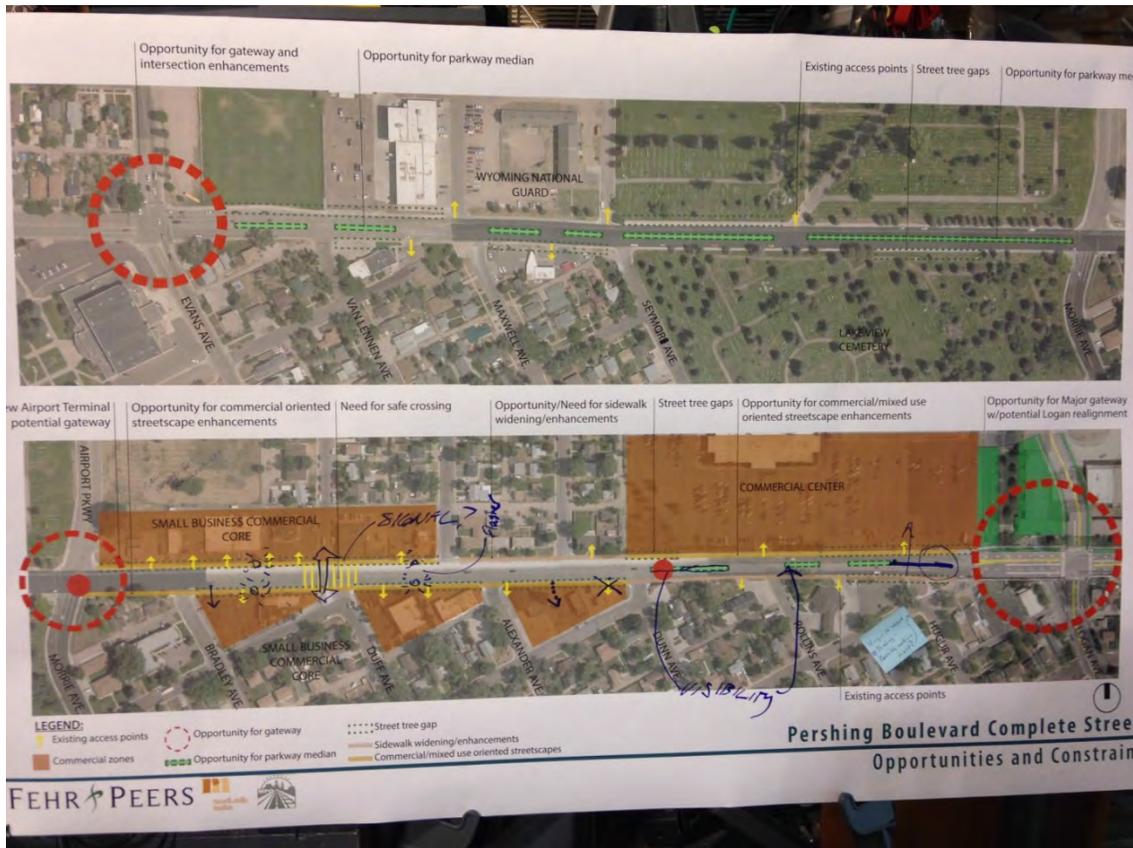


COMMUNITY WORKSHOPS

Two community workshops were held during the course of the project. Both workshops were held at Frontier Access and Mobility – located within the project corridor. The first workshop was held on August 20th, 2014 during the initial phase of the project. The goals of the first workshop were two-fold: 1) to provide an orientation to participants and establish community goals and priorities, and 2) to identify existing conditions and needs and opportunities within the study area. Examples of enhancements and solutions used in comparable communities and conditions to improve corridor connectivity, mobility, and safety for all modes were provided for input.



The second community workshop was held on March 25, 2015 and was structured to include an informational session, with presentations, posters, and large area maps to present the three project phasing alternatives, solicit feedback to refine these concepts, and to decide on the final preferred plan.



EXISTING CONDITIONS ASSESSMENT

The Existing Conditions Assessment is a combination of quantitative and qualitative analysis across a variety of existing conditions. The purpose of this process is to identify and assess deficiencies and to identify opportunities based on the results of the analysis and the ascertained community values. This chapter identifies existing deficiencies in the roadway, bicycle, and pedestrian facilities.



The traffic operations analysis addressed unsignalized and signalized intersection operations using the procedures and methodologies contained in the *Highway Capacity Manual 2000 (HCM)*, *Transportation Research Board* for the weekday AM and PM peak hour traffic operations. Study intersection operations were evaluated using level-of-service calculations as analyzed in the Synchro software (version 8).

VEHICULAR LEVEL OF SERVICE CRITERIA

To measure and describe the operational status of the local roadway network and corresponding intersections, transportation engineers and planners commonly use a grading system called level-of-service (LOS) put forth by the *Transportation Research Board's HCM 2000*. LOS characterizes the operational conditions of an intersection's traffic flow; ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceeds the design capacity, resulting in long queues and delays). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. Although LOS A through C are desired levels, LOS D is considered acceptable in urban conditions. Traffic conditions with LOS E or F are generally considered unacceptable and represent significant travel delay, increased accident potential, and inefficient motor vehicle operation. The LOS is determined differently depending on the type of control at the intersection.

At signalized intersections, the operation analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the intersection's volume-to-capacity (v/c) ratio. For signalized intersections the HCM defines the intersection LOS as the average delay per vehicle for the overall intersection, which includes all approaches.

At unsignalized intersections, the operation analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and stop-controlled approaches) to estimate the intersection's volume-to-capacity (v/c) ratio. For unsignalized intersections the HCM defines the intersection LOS as the average delay per vehicle for the worst approach intersection.

VEHICULAR LEVEL OF SERVICE

The following figure shows the Level of Service (LOS) for each intersection along Pershing Boulevard for which data was available. Analysis was performed with the AM and PM peak vehicle counts provided by the Cheyenne MPO, signal timing provided by the city, and existing roadways, intersection geometry and traffic parameters such as peak hour factor calculated from the counts provided. This analysis assessed the delay, LOS performance and queuing for each of the studied intersections. Standard vehicular flow numbers, 1,900 vphpl (vehicles per hour per lane), were utilized for the analyses.

Table 1 provides the existing overall and approach delay and LOS for the study intersections. The overall intersection LOS in signalized intersection and highest delay approach in unsignalized intersections are **bold**.

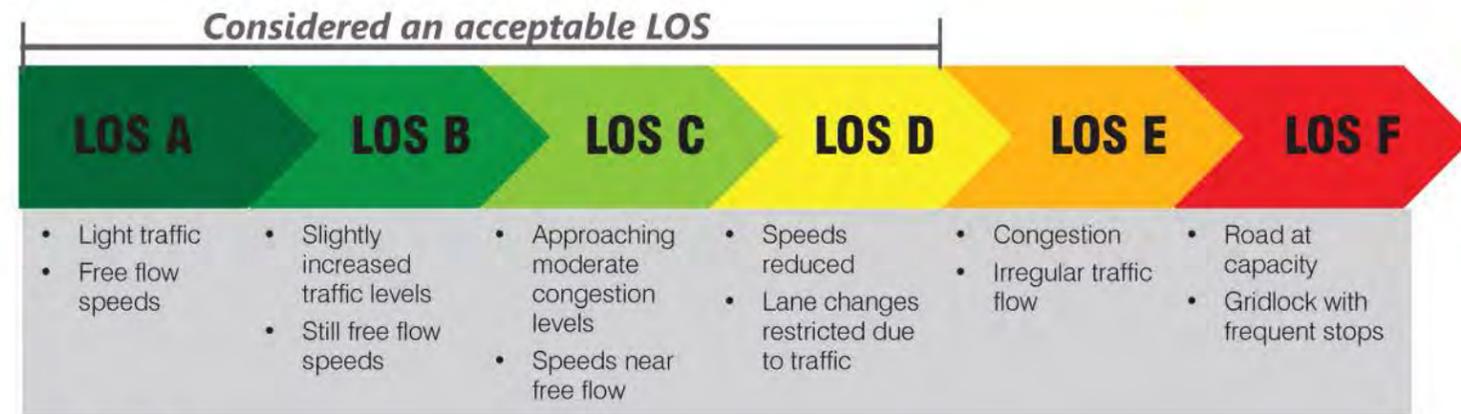
Intersection Level of Service (LOS)



Delay (seconds) Signalized	LOS	Flow Conditions	Delay (seconds) Unsignalized
<10	A		<10
11-20	B		10-15
21-35	C		15-25
36-55	D		25-35
56-80	E		35-50
>80	F		>50

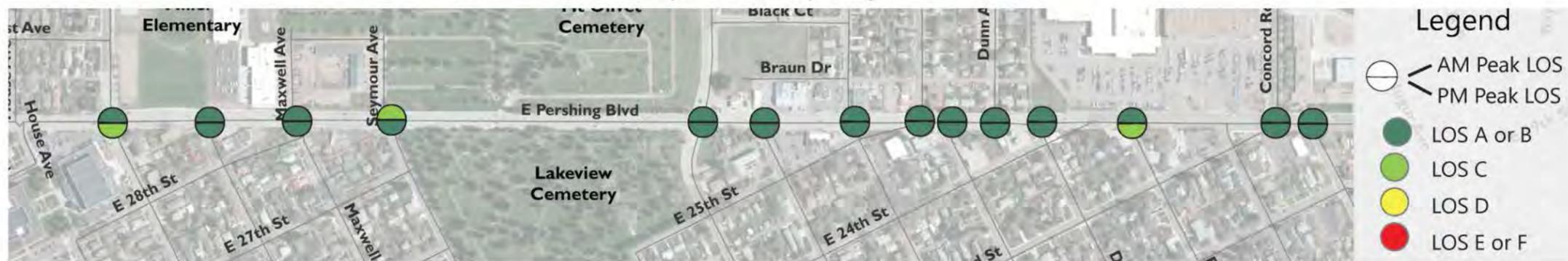
Delay at intersection per vehicle

LOS characterizes the performance of an intersection's traffic flow, ranging from LOS A to LOS F. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving.



Summary:

- Most volumes are on the through EB/WB of Pershing Boulevard.
- Top 3 volume intersections are: Evans Avenue, Morrie Avenue/Airport Parkway, Seymour Avenue
- All intersections operate acceptably.



Pershing Boulevard Complete Streets Existing Intersection Level of Service

Table 1: Pershing Boulevard Existing Intersection Level of Service

No.	Intersection	Control	Approach	2014 Existing			
				AM		PM	
				Delay	LOS	Delay	LOS
1	Pershing Blvd & Evans Ave	Signal	Overall	12	B	25	C
			EB	11	B	16	B
			WB	8	A	36	D
			NB	25	C	23	C
			SB	24	C	22	C
2	Pershing Blvd & Van Lennen Ave	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	12	B	12	B
			SB	-	-	-	-
3	Pershing Blvd & Maxwell Ave	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	12	B	14	B
			SB	14	B	11	B
4	Pershing Blvd & Seymour Ave	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	12	B	14	B
			SB	18	C	14	B
5	Pershing Blvd & Morrie Ave/Airport Pkwy	Signal	Overall	8	A	10	A
			EB	4	A	7	A
			WB	5	A	8	A
			NB	28	C	22	C
			SB	26	C	20	C
6	Pershing Blvd & Bradley Ave	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	11	B	11	B
			SB	0	A	12	B
7	Pershing Blvd & Duff Ave	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	11	B	13	B
			SB	12	B	13	B

8	Pershing Blvd & Alexander Ave (north of Pershing)	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	-	-	-	-
			SB	12	B	13	B
9	Pershing Blvd & Alexander Ave (south of Pershing)	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	12	B	15	C
			SB	-	-	-	-
10	Pershing Blvd & Dunn Ave (north of Pershing)	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	-	-	-	-
			SB	12	B	12	B
11	Pershing Blvd & Dunn Ave (south of Pershing)	Side Street Stop	EB	0	A	0	A
			WB	0	A	0	A
			NB	11	B	12	B
			SB	-	-	-	-
12	Pershing Blvd & Rollins Ave	Side Street Stop	EB	1	A	0	A
			WB	0	A	0	A
			NB	12	B	15	C
			SB	12	B	12	B
13	Pershing Ave & Concord Rd	Signal	Overall	6	A	7	A
			EB	7	A	9	A
			WB	1	A	1	A
			NB	-	-	-	-
			SB	29	C	32	C
14	Pershing Ave & Logan Ave	Signal	Overall	8	A	7	A
			EB	0	A	0	A
			WB	8	A	8	A
			NB	26	C	32	C
			SB	-	-	-	-

All intersections in the study area are operating at a LOS C or better.

BUSINESS CONDITIONS

Businesses were asked a variety of questions pertaining to access and desired improvements.

Access

While some access and circulation concerns were business-specific, others such as speed and limited line of sight were issues brought up by multiple businesses. Nearly all businesses interviewed indicated that crossing Pershing Blvd. was a major safety concern. The Cheyenne Vision Clinic stated that access out of the Dairy Queen next door conflicts with the Vision Clinic access. Other businesses indicated that trying to exit east on Pershing was problematic. Dairy Queen indicated that accessing the store via foot was particularly difficult.

Transportation Improvements

Two businesses indicated that no transportation improvements were necessary. Of the businesses that recommended transportation improvements, the most frequent request was a crosswalk at Duff and Pershing with either flashing lights and or an audible signal. The second most requested improvement was a traffic light at Duff and Pershing, followed by speed control/enforcement, and traffic calming devices.

Enhancements

Businesses were asked about enhancements that could improve the business environment along Pershing. Several owners were supportive of additional lighting, buffered sidewalks and landscaping; however others did not think enhancements were necessary. A few businesses thought a gateway or district signs could improve their identity as a neighborhood business district.

Overall, the top concerns from the business owner perspective for the area are high speeds and traffic volumes, difficulty safely crossing, and limited sight distance.

BICYCLE AND PEDESTRIAN CONDITIONS

Volumes of bicycles and pedestrians are relatively low along this corridor. This does not necessarily reflect a low demand by these modes, but rather insufficient infrastructure to create a comfortable and safe environment for people to walk or bicycle along Pershing. The highest volumes of pedestrians along Pershing Boulevard were recorded at Logan Avenue during the AM peak. This pedestrian traffic is likely associated with the Carey Junior High School. While conducting the business interviews; project staff also observed several joggers along the corridor. The highest volumes of bicyclists along Pershing Boulevard were recorded crossing Pershing Boulevard at Airport Parkway/ Morrie Avenue in the PM peak. Bicycle counts are likely higher at this crossing due to the presence of a signalized intersection and the greenway to the north. High pedestrian and bicycle counts reflect an increased demand at these locations. Additional facilities or safety countermeasures should be focused at these intersections.



Particular issues for bicyclists and pedestrians noted through the walking audit include:

- Sidewalk quality
 - Street lighting is minimal with no pedestrian scale lighting provided
 - At the west end of Hoys drug store, at Duff Avenue and Pershing Boulevard, there is a concrete planter and brick wall that narrows the sidewalk down to three feet and should be relocated to provide at least a four foot wide sidewalk
 - Sidewalks are narrow in places and attached everywhere, requiring pedestrians to be proximate to traffic and detracting from the pedestrian experience
 - There is no street furniture
 - There is no landscaping or vegetation along this corridor other than planters installed by some business owners which block part of the sidewalk
- ADA accessibility
 - Sidewalk cross-slope exceeds 2% at driveway aprons making it difficult for pedestrians with mobility aids to negotiate driveways
 - The majority of ADA ramps are radial in nature and orient pedestrians into the intersection at 45 degree angles. The west leg of Pershing at Duff has directional ramps to cross Pershing
 - Sidewalks are often interrupted by utilities or street poles
- Access management
 - Given the commercial land use of the corridor, there are a high number of access points along Pershing Boulevard
 - The strip mall to the west of Dairy Queen has head in parking that requires drivers to back out into the sidewalk and roadway in order to exit
- Crossings
 - There are only three marked crossings on Pershing within a one-mile distance (from Evans Avenue to Logan Avenue)
 - Pershing is five lanes wide and has a lot of traffic to cross without a signal or some sort of pedestrian facility
 - Many of the cross streets in this study area have staggered crossings across Pershing Boulevard, such as Dunn Avenue and Alexander Avenue, making it difficult for all modes to safely cross Pershing
- Bicycle facilities

- There are no dedicated bicycle facilities on the corridor
- Traffic volumes and speeds on Pershing Boulevard are too high for bicyclists to comfortably ride with traffic
- Duff Avenue



- Based on discussions with business owners and input from the public; Duff is the primary pedestrian crossing location along the corridor due to its high pedestrian demand
- The doctor's office building on the northeast corner causes poor sightline for southbound approaching vehicles coming from Duff, resulting in vehicles encroaching on the crosswalk to judge gaps in traffic
- The south leg of Duff is extremely wide and could benefit from a roadway narrowing
- Parking should be restricted to 20' downstream of crosswalk along the northbound direction to improve intersection sight lines and prevent drivers from having to back into the crosswalk to exit the parking space
- Traffic congestion associated with the Dairy Queen drive-thru sometimes extends back out onto Pershing
- During the noon hour, there were very few gaps to cross Pershing for someone walking at 3.5 feet per second

- Airport Parkway/ Morrie Avenue
 - Pedestrian countdown signal indications are not provided (older hand and man style ped heads are currently provided)
 - Pedestrian clearance intervals have not been updated to a slower 3.5 ft/sec pedestrian walking speed
 - A pedestrian must push the pedestrian 'push button' in order to activate the pedestrian clearance interval to cross Pershing
 - The only bus stop within the walk area is located on the northeast corner of the intersection and has an accessible bus shelter, but the bus shelter is at the corner of a large intersection and does not feel particularly safe to wait at

Although the issues addressed above are discussed in the context of the four-block extent of the walking audit, most of these concerns are applicable throughout the larger study area. Issues present throughout the study area include the following:

- Lack of pedestrian crossing opportunities
- Challenging pedestrian crossings across five lanes of traffic
- Misaligned intersections
- Insufficient lighting, particularly pedestrian-scale
- Lack of street furniture
- Narrow and attached sidewalks
- Sidewalk slope exceeds 2% at driveways, making it difficult for mobility impaired users to navigate
- Lack of bicycle facilities

POTENTIAL OPPORTUNITIES

Based on results from the existing conditions analysis, walking audit, business interviews, project website, and community outreach, a number of potential opportunities were identified.

- Sidewalk quality
 - Implement street furniture and additional pedestrian-scale lighting to improve the pedestrian experience as well as perceived safety.
 - Widen sidewalks and add a landscaped buffer between the sidewalk and roadway wherever is feasible with the current right of way.
- ADA Accessibility
 - Jog the sidewalk back from the street at driveways in order to keep the sidewalk and driveway at grade and avoid the cross-slope.
 - When a diagonal curb ramp is used, provide 48 inches for users to maneuver into the crosswalk.
 - Sidewalks should be at least 5 feet wide (and wider where feasible), free from obstacles and protruding objects.
- Access Management
 - Line up intersections in order to create standard four-leg intersections and allow for simpler crossings with fewer vehicle-pedestrian conflicts.
 - Reconfigure the parking in the strip mall parcel west of Dairy Queen from head in parking to diagonal parking and a one-way circulation on site. Drivers currently have to back out across the sidewalk or out into the street to exit the parking lot.
 - Consolidate access points whenever possible by creating shared driveways or a single entry/exit driveway.
- Crossings
 - Add additional marked crossings with pedestrian refuge medians in locations where access is not sacrificed and that demonstrate a high pedestrian demand.
 - Restrict parking on side streets to begin 20' downstream of Pershing Boulevard in order to allow for better sight line for turning and crossing vehicles and prevent encroachment into the pedestrian crossing zone.
 - Adjust pedestrian crossing time to allow for crossing speeds of 3.5 feet per second and provide pedestrian countdown signal indications.

- Redevelopment
 - The northeast corner of Pershing Boulevard and Airport Parkway was identified as a location where redevelopment and access consolidation would prove beneficial. The figure below identifies one potential redevelopment concept for this area that limits vehicular access to Pershing Boulevard and provides access to Airport Parkway and a newly configured alley to the north. This is just an example how redevelopment can implement access management as well as, provide good pedestrian and place making elements.



Pershing Boulevard Complete Streets

Redevelopment Concept for Parcels at Airport Parkway and Pershing Blvd.



DESIGN CONCEPT DEVELOPMENT

Character Preferences/Place making Elements

A set of example images were provided at the first public workshop to assess preferences for a variety of place making elements such as medians, gateway monuments, benches, seat walls, tree grates/guards, pavement types crosswalk types, planting and lighting. Images were ranked by participants using red and green dots, coupled with an explanation from participants. Preferences indicated basic levels of improvements are preferred with xeric/low water use plantings, medians that are lower maintenance and similar in character to those found on Lincolnway and pedestrian street lights. The images presented can be seen in the Appendix.

Alternative Plan Scenarios and Cross-Sections

Three alternative cross-sections were developed to accommodate a variety of approaches to integrate pedestrian facilities and bike facilities in some manner.

Option A

Option A maintains existing curbs integrates a 4' bike lane on either side of the road with a 1' stripe and reduces travel lanes to 10' – 6" while incorporating a 10' median/center turn lane. 5' attached walks on either side of the road are maintained.

Option B

Option B maintains existing curbs, integrates a 9'-6" attached multi-use path for pedestrians and bikes and maintains existing travel lane widths. A planted median/center turn lane is incorporated into the cross-section.

Option C

Option C integrates an 8' detached multi-use path with a planted parkway/tree-lawn adjacent to the road. 10'-6" travel lanes are incorporated with a 10' planted median/center turn lane. This alternative modifies the existing curb line and extends it in to the existing street cross section to incorporate the detached multi-use walk.



Pershing Boulevard Complete Streets

Option A - Maintain existing curbs, 4' bike lane, center median and 10.5' travel lanes



Pershing Boulevard Complete Streets

Option B - Maintain existing curbs, 9.5' multi-use path, center median, and existing lane widths





Pershing Boulevard Complete Streets



Option C - New curb and gutter, 8' multi-use path, center median, 5' tree lawn and 10.5' travel lanes

Preferred Cross-Section

The alternatives were evaluated in a workshop with City Staff and at the first public workshop. It was determined that the roadway width from curb to curb should remain as it is in the current existing condition. On-street bike lanes were seen as a less feasible means of integrating bike facilities, and it was determined that a multi-use pedestrian/bike path in a detached condition that integrates some street trees is most desirable.

The preferred street cross-section involves integrating a detached 6' walk on the south side of Pershing Blvd. with a 4' planting buffer, 10'-6" travel lanes, a 14' planted median/center turn lane and an 8' multi-use path on the north side of Pershing Blvd. This multi-use path on the north side will tie into the East Pershing Blvd. constructed condition. Street trees are integrated on the north side of Pershing Blvd. in grades where feasible.

Project Phasing and Implementation

The project implementation sequence can be broken into four phases:

Phase I – Pedestrian Safety

Phase II – Commercial Core – Airport Parkway to Dunn Ave.

Phase III – Commercial Core – Dunn Ave. to Logan Ave.

Phase IV – Multi-Use Path/Planted Medians – Evans Ave. to Airport Parkway

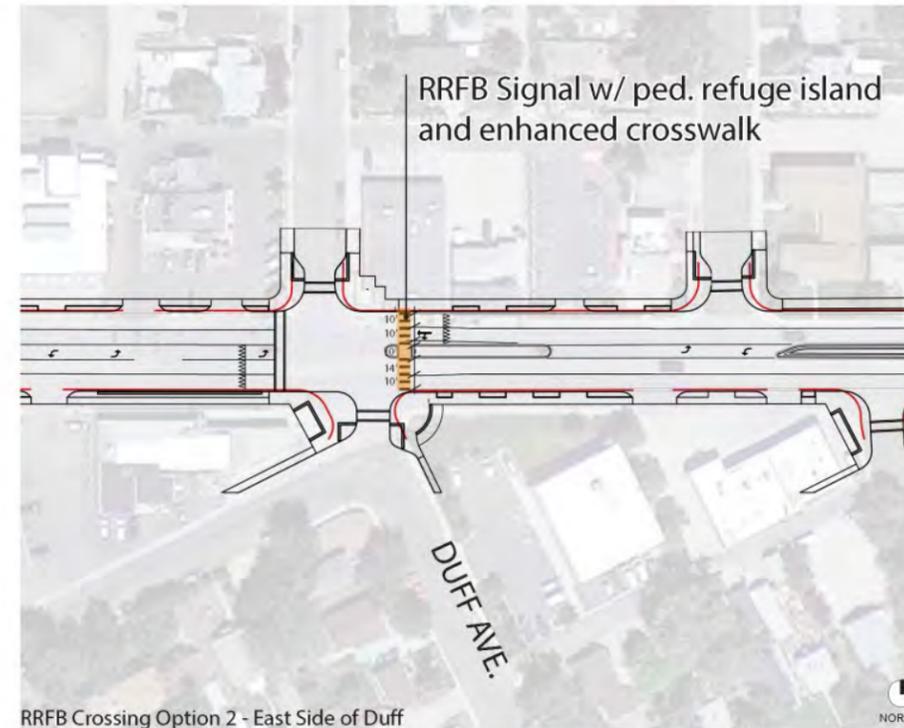
Phases are sequenced based on priority as informed through public workshops and general pedestrian safety needs along the corridor.

Phase I – Pedestrian Safety – Approx. \$90-110 K

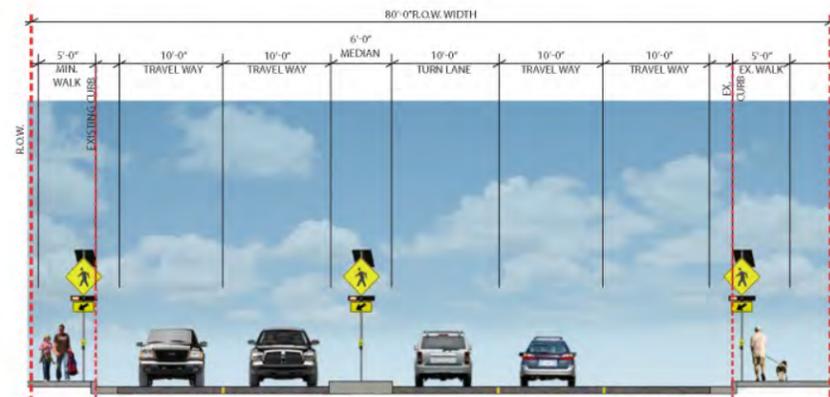
Phase I involves integrating a pedestrian crossing at Duff Ave. and Pershing Blvd to facilitate crossing within the heavily used commercial area here. This involves installation of a Rectangular Rapid Flashing Beacon set of signals on either the east or west side of Duff Ave. This involves integrating a 6' refuge median as well on the west side of Duff Ave. or a 10' refuge median on the east side of Duff Ave. Restriping lanes to 10' will be required in either version of this concept.



RRFB Crossing Option 1 - West side of Duff



RRFB Crossing Option 2 - East Side of Duff



Phase 1 - Maintain existing curbs, and existing lane widths. Add RRFB pedestrian crossing, center median refuge island and enhanced crosswalk.



Aerial View - Looking East along Pershing Boulevard at the RRFB crossing Option 1.

Pershing Boulevard Complete Streets

Phase One

Phase II - Commercial Core – Airport Parkway to Dunn Ave. - \$2.6 M

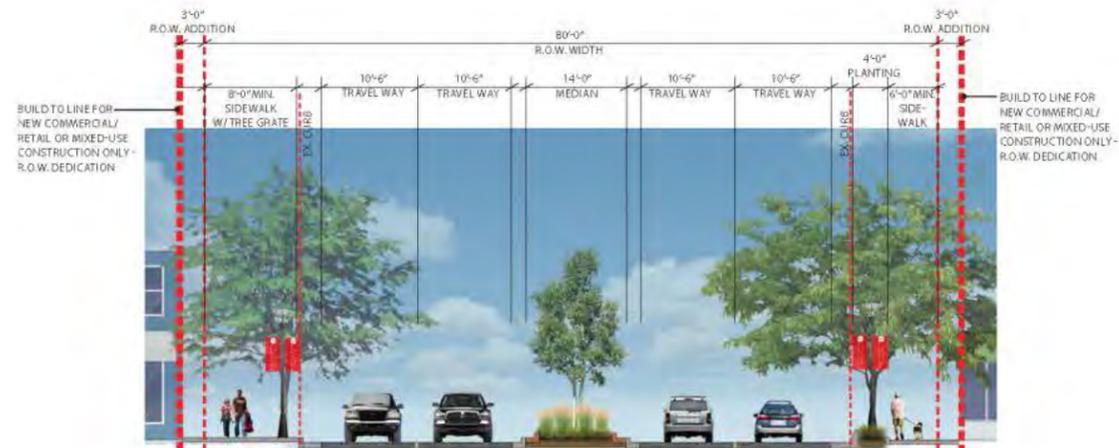
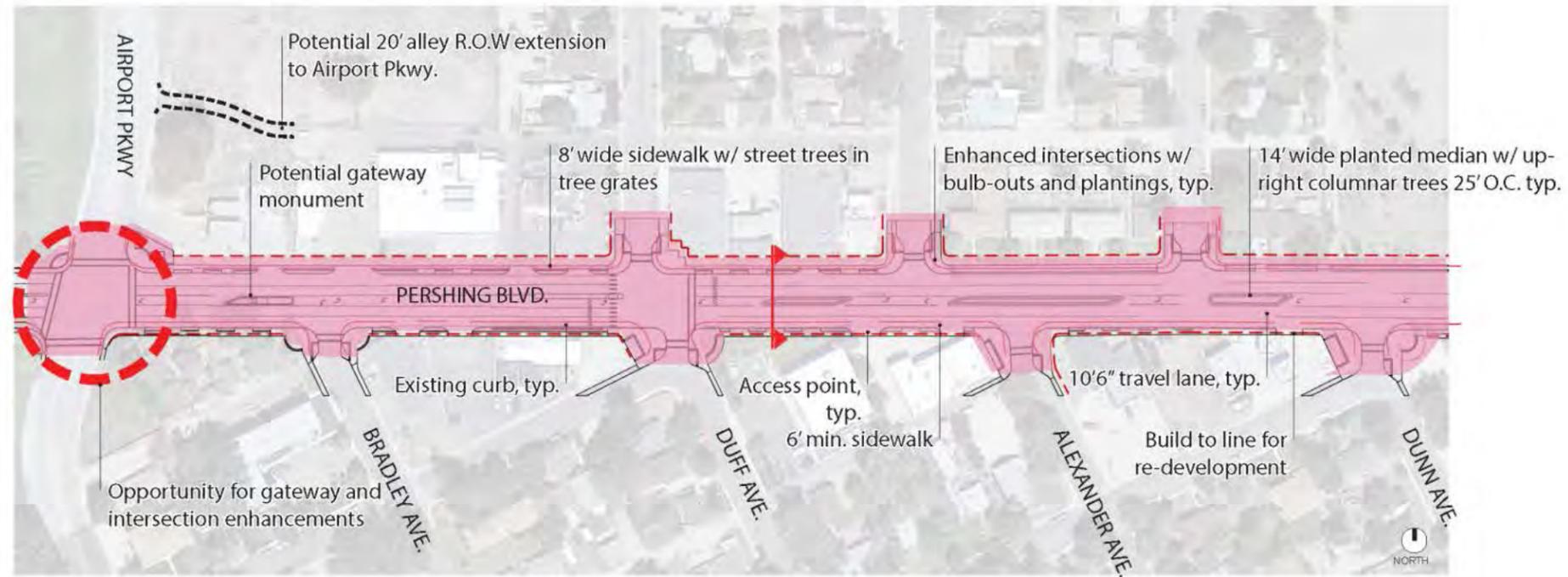
To facilitate business growth and redevelopment in the commercial core of Pershing Blvd. from Airport Parkway to Dunn Ave., Phase II involves implementing the proposed cross-section here, including the following:

- Lane widths changed to 10.5', center planted medians 14' wide.
- Construct new sidewalks and planting areas, add street furnishings
- Construct planted medians from Airport Pkwy. to Dunn Ave.
- Construct enhanced crossings and corner bulb-outs.
- Establish new build to easement for future re-development.

Gateway monument signage is proposed as an identifier to the commercial business district tentatively named "Pershing Place". Businesses should begin to mobilize as an advocate for this concept and to establish a potential Special Improvement District, or at a minimum, to establish a business owners association that will collect dues to begin to establish financing for planting and landscape maintenance here.

A future build-to line is proposed for new development/redevelopment within this commercial core as a dedication of additional R.O.W. in order to accommodate additional space for site amenities and a more effective multi-use path on both sides of Pershing Blvd.

If the City of Cheyenne chooses to implement this cross section design, right-of-way dedication would be necessary.



Phase 2 - Maintain curb and gutter, 6' min. sidewalk and 8' min. sidewalk, center median, street trees in tree grates and 10.5' travel lanes.

Pershing Boulevard Complete Streets Phase Two



Aerial View- Looking East along Pershing Boulevard at the intersection of Airport Pkwy. and Pershing Blvd. w/ gateway monument sign.

Pershing Boulevard Complete Streets
Phase Two - Aerial View



Aerial View- Looking East along Pershing Boulevard at the intersection of Duff Ave. and Pershing Blvd.

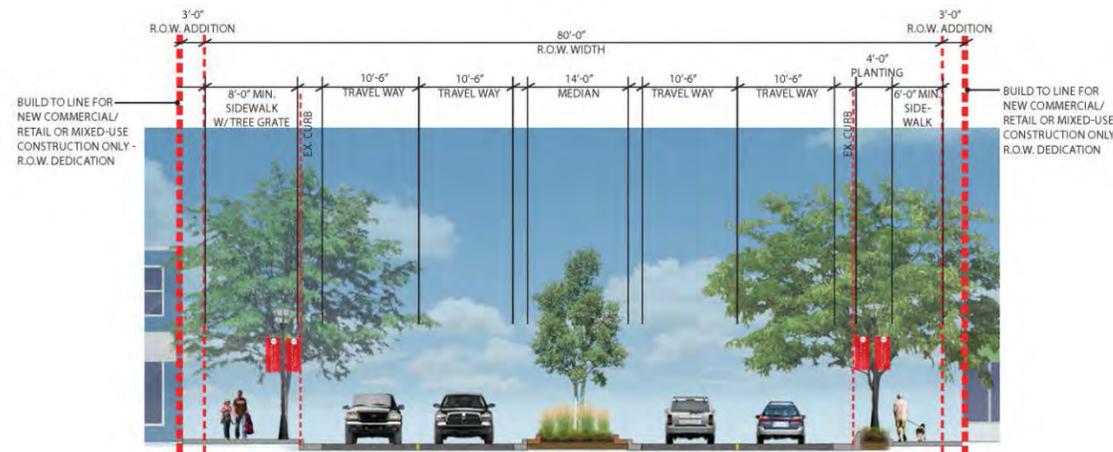
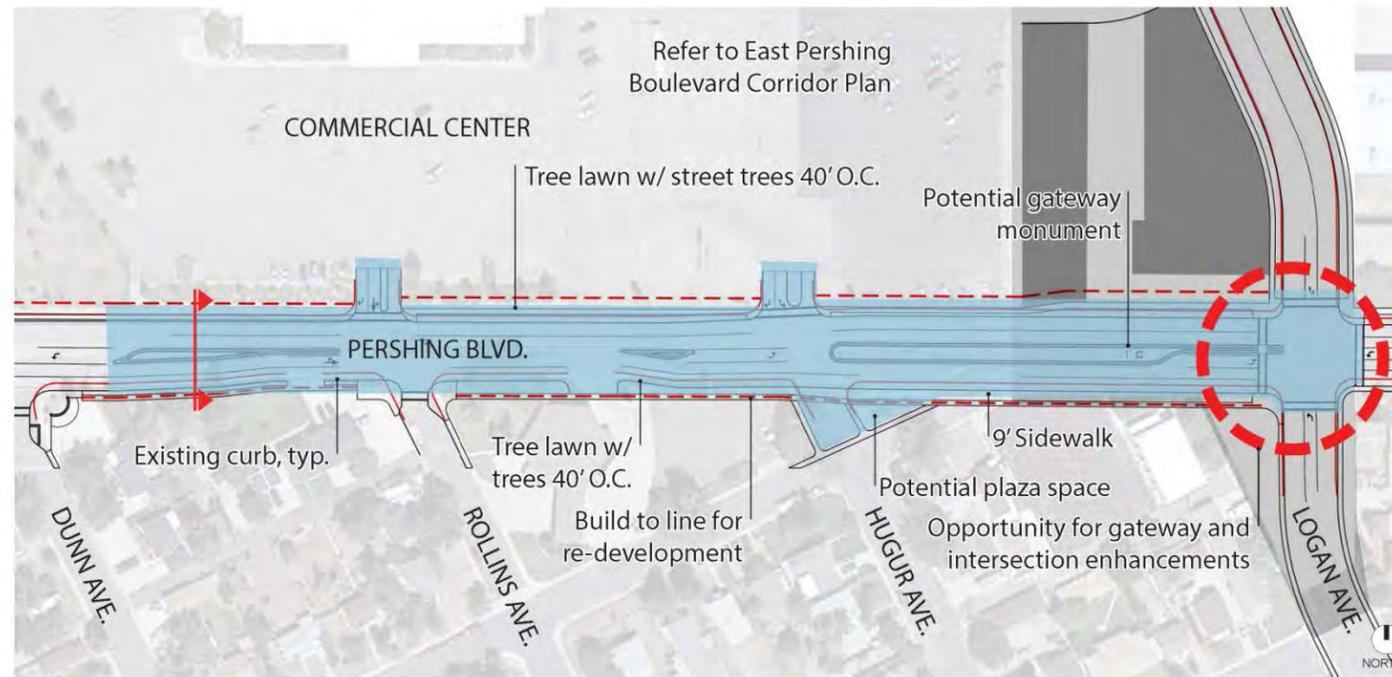
Pershing Boulevard Complete Streets
Phase Two - Aerial View

Phase III – Commercial Core – Dunn Ave. to Logan Ave. - \$1.4 M

To facilitate additional business growth and redevelopment east of Dunn Ave. to Logan Ave. and integrate streetscape amenities here, Phase III involves implementing the proposed cross-section, including the following:

- Lane widths changed to 10.5', center planted medians 12' wide.
- Construct new sidewalks and planting areas, add street furnishings
- Construct planted medians from Dunn Ave. to Logan Ave.
- Construct enhanced crossings and corner bulb-outs.
- Establish new Build to easement for future re-development.

If the City of Cheyenne chooses to implement this cross section design, right-of-way dedication would be necessary.



Phase 3 - Maintain curb and gutter, 6' min. sidewalk and 8' min. sidewalk, center median, street trees in tree grates and 10.5' travel lanes.

Pershing Boulevard Complete Streets Phase Three

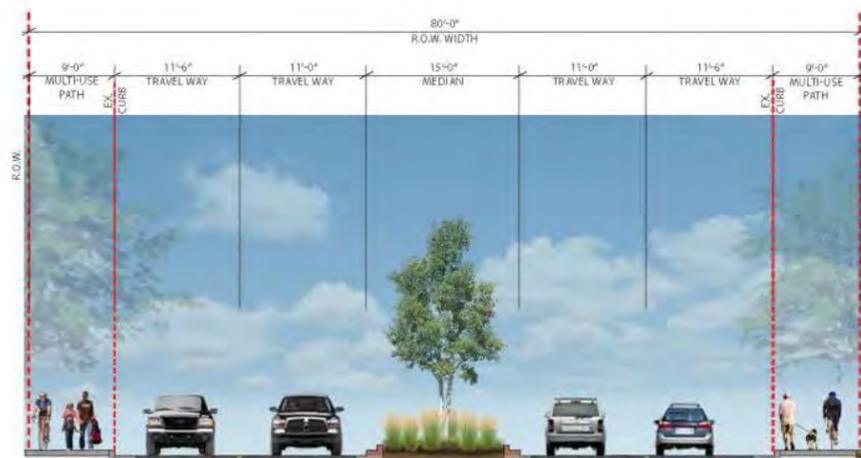


Aerial View- Looking West along Pershing Boulevard at the intersection of Logan Ave. and Pershing Blvd. w/ gateway monument sign.

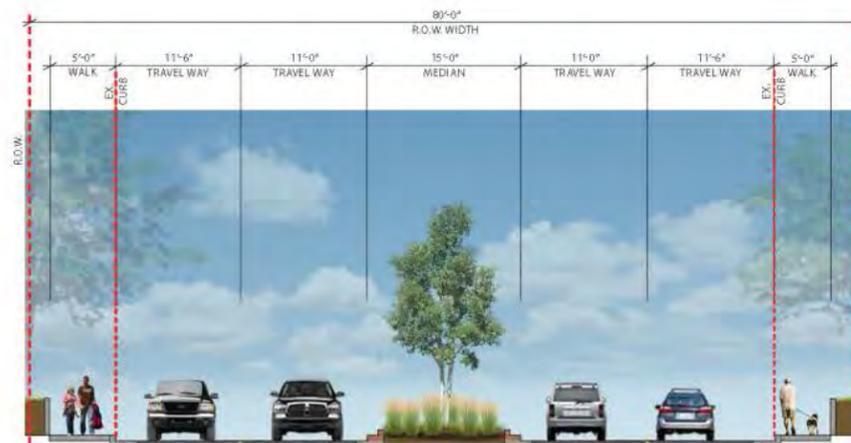
Pershing Boulevard Complete Streets
Phase Three - Aerial View

Phase IV – Multi-Use Path/Planted Medians – Evans Ave. to Airport Parkway – \$830 K

As the final build-out of the project, this phase involves integrating planted medians/turn lanes from Evans Ave. to Airport Parkway. In addition, multi-use paths are integrated from Evans Ave. to Seymour Ave. Sidewalk widths will remain as existing from Seymour Ave. to Airport Parkway, as these sidewalks are adjacent to the Lake View and Mt. Olivet Cemeteries and require an existing retaining wall to incorporate their current width. Due to the inherent grade change, relocating these retaining walls would involve the loss of existing trees here and would have property impacts to the cemeteries, in addition to being financially unfeasible. It was determined through workshops with City Staff and Public Workshops that walk widths are mostly adequate in their current condition in this area adjacent to the cemeteries.



Phase 4 (A) - Maintain existing curbs and existing lane widths, Add center median. Add new sidewalk extension to existing walk (9' wide multi-use path).



Phase 4 (B) - Maintain existing curbs and existing lane widths, Add center median.

Pershing Boulevard Complete Streets Phase Four



Aerial View- Looking East along Pershing Boulevard at the intersection of Evans Ave. and Pershing Blvd.

Pershing Boulevard Complete Streets
Phase Four - Aerial View



Aerial View- Looking West along Pershing Boulevard at the intersection of Airport Pkwy. and Pershing Blvd.

Pershing Boulevard Complete Streets
Phase Four - Aerial View

CONCLUSION

An analysis of Pershing Boulevard from Evans Avenue to Logan Avenue indicates a number of deficiencies in the corridor that keep it from being a complete street that is safe and comfortable for users of all ages and abilities. Given the traffic volume, speed and width of Pershing Boulevard, the corridor lacks the presence of sufficient bicycle and pedestrian facilities. An analysis of the Level of Service reveals that all intersections are operating without significant vehicular operational issues.

The walking audit as well as business interviews identified a need for improved access management, sight line, quality of sidewalks for a better pedestrian experience, and ADA conformity.

Alternatives to address the deficiencies and desires from the community were presented and evaluated by City staff and at the community workshops. It was determined that the roadway width from curb to curb should remain as it is in the current existing condition. On-street bike lanes were seen as a less feasible means of integrating bike facilities, and it was determined that a multi-use pedestrian/bike path in a detached condition that integrates some street trees is most desirable.

The preferred street cross-section involves integrating a detached 6' walk on the south side of Pershing Blvd. with a 4' planting buffer, 10'-6" travel lanes, a 14' planted median/center turn lane and an 8' multi-use path on the north side of Pershing Blvd. This multi-use path on the north side will tie into the East Pershing Blvd. constructed condition. Street trees are integrated on the north side of Pershing Blvd. in grates where feasible.

It was determined that the ultimate preferred cross-section should be phased for project implementation and that the first phase should address pedestrian safety. This phase involves integrating a pedestrian crossing at Duff Ave. and Pershing Blvd to facilitate crossing within the heavily used commercial area here. This involves installation of a Rectangular Rapid Flashing Beacon (RRFB) set of signals on either the east or west side of Duff Ave. This involves integrating a 6' refuge median as well on the west side of Duff Ave. or a 10' refuge median on the east side of Duff Ave. Restriping lanes to 10' will be required in either version of this concept.

The costs of implementing and maintaining these longer term improvements identified by the participating members of the community can often be expensive and burdensome to municipalities. As a result, this study breaks out these potential future improvements into phases which can be implemented through a variety of creative public and private funding sources in the future. The intent is however to have a plan or a road map for this area so that if and when funding opportunities arise, the City and community leaders have a vision and corresponding design ideas that they can utilize to move forward.

The City of Cheyenne and the Cheyenne MPO should continue to look for opportunities to fund and implement all four phases of the complete streets preferred concept plan. When redevelopment opportunities arise, the City should work with the developers to incorporate the recommendations in this plan.

APPENDIX A: INTERSECTION LEVEL OF SERVICE ANALYSIS

HCM Signalized Intersection Capacity Analysis

1: Evans Ave & Pershing Blvd

Am

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖	↖	↖		↖↗	↖	
Volume (vph)	14	425	66	69	422	227	15	48	22	105	59	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Fr _t	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Fit Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3468		1770	3539	1583	1770	1774		3433	1827	
Fit Permitted	0.47	1.00		0.36	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	881	3468		680	3539	1583	1770	1774		3433	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	16	494	77	80	491	264	17	56	26	122	69	10
RTOR Reduction (vph)	0	18	0	0	0	129	0	22	0	0	8	0
Lane Group Flow (vph)	16	553	0	80	491	135	17	60	0	122	71	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6						
Actuated Green, G (s)	28.2	27.0		33.0	29.4	29.4	1.2	6.9		5.0	10.7	
Effective Green, g (s)	30.6	28.2		35.4	30.6	30.6	2.4	8.1		6.2	11.9	
Actuated g/C Ratio	0.51	0.47		0.59	0.51	0.51	0.04	0.13		0.10	0.20	
Clearance Time (s)	4.2	4.9		4.2	4.9	4.9	4.2	4.2		4.2	4.2	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	484	1629		488	1804	807	70	239		354	362	
v/s Ratio Prot	0.00	c0.16		c0.01	0.14		0.01	0.03		c0.04	c0.04	
v/s Ratio Perm	0.02			0.08		0.09						
v/c Ratio	0.03	0.34		0.16	0.27	0.17	0.24	0.25		0.34	0.20	
Uniform Delay, d ₁	7.3	10.0		5.5	8.4	7.9	27.9	23.2		25.0	20.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d ₂	0.0	0.6		0.2	0.4	0.4	2.5	0.7		0.8	0.4	
Delay (s)	7.3	10.6		5.7	8.7	8.3	30.4	24.0		25.8	20.4	
Level of Service	A	B		A	A	A	C	C		C	C	
Approach Delay (s)		10.5			8.3			25.1			23.7	
Approach LOS		B			A			C			C	

Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

2: Van Lennen Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Volume (veh/h)	546	9	10	720	13	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	635	10	12	837	15	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)	380					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			645		1082	323
vC1, stage 1 conf vol					640	
vC2, stage 2 conf vol					442	
vCu, unblocked vol			462		932	114
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			1016		458	851
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	423	222	12	419	419	22
Volume Left	0	0	12	0	0	15
Volume Right	0	10	0	0	0	7
cSH	1700	1700	1016	1700	1700	536
Volume to Capacity	0.25	0.13	0.01	0.25	0.25	0.04
Queue Length 95th (ft)	0	0	1	0	0	3
Control Delay (s)	0.0	0.0	8.6	0.0	0.0	12.0
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			12.0
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			29.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 3: Maxwell Ave & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	528	13	3	719	6	4	0	7	6	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	8	614	15	3	836	7	5	0	8	7	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		753										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	843			629			1071	1488	315	1178	1492	422
vC1, stage 1 conf vol							638	638		847	847	
vC2, stage 2 conf vol							433	850		331	645	
vCu, unblocked vol	843			599			1046	1468	280	1155	1473	422
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	100	99	98	100	99
cM capacity (veh/h)	789			962			372	305	708	301	307	581
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	8	409	220	3	557	286	13	15				
Volume Left	8	0	0	3	0	0	5	7				
Volume Right	0	0	15	0	0	7	8	8				
cSH	789	1700	1700	962	1700	1700	533	406				
Volume to Capacity	0.01	0.24	0.13	0.00	0.33	0.17	0.02	0.04				
Queue Length 95th (ft)	1	0	0	0	0	0	2	3				
Control Delay (s)	9.6	0.0	0.0	8.8	0.0	0.0	11.9	14.2				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.1			0.0			11.9	14.2				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			30.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: Seymour Ave & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	509	26	34	718	2	8	2	26	3	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	1	592	30	40	835	2	9	2	30	3	2	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		1112			1264							
pX, platoon unblocked												
vC, conflicting volume	837			622			1108	1526	311	1245	1540	419
vC1, stage 1 conf vol							609	609		915	915	
vC2, stage 2 conf vol							499	916		330	624	
vCu, unblocked vol	837			622			1108	1526	311	1245	1540	419
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			97	99	96	99	99	100
cM capacity (veh/h)	793			955			357	286	685	262	279	583
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	1	395	228	40	557	281	42	7				
Volume Left	1	0	0	40	0	0	9	3				
Volume Right	0	0	30	0	0	2	30	1				
cSH	793	1700	1700	955	1700	1700	534	295				
Volume to Capacity	0.00	0.23	0.13	0.04	0.33	0.17	0.08	0.02				
Queue Length 95th (ft)	0	0	0	3	0	0	6	2				
Control Delay (s)	9.5	0.0	0.0	8.9	0.0	0.0	12.3	17.5				
Lane LOS	A			A			B	C				
Approach Delay (s)	0.0			0.4			12.3	17.5				
Approach LOS							B	C				
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization			36.6%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 5: Morrie Ave/Airport Pkwy & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Volume (vph)	55	417	61	25	596	3	80	24	18	1	20	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Fr't	1.00	0.98		1.00	1.00		1.00	0.94		1.00	0.88	
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3471		1770	3537		1770	3312		1770	3112	
Fit Permitted	0.35	1.00		0.44	1.00		0.68	1.00		0.72	1.00	
Satd. Flow (perm)	656	3471		827	3537		1262	3312		1347	3112	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	485	71	29	693	3	93	28	21	1	23	95
RTOR Reduction (vph)	0	11	0	0	0	0	0	18	0	0	82	0
Lane Group Flow (vph)	64	545	0	29	696	0	93	31	0	1	36	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	49.4	46.0		46.8	44.7		8.6	8.6		8.6	8.6	
Effective Green, g (s)	51.8	47.9		49.2	46.6		9.8	9.8		9.8	9.8	
Actuated g/C Ratio	0.74	0.68		0.70	0.67		0.14	0.14		0.14	0.14	
Clearance Time (s)	4.2	4.9		4.2	4.9		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	558	2375		625	2354		176	463		188	435	
v/s Ratio Prot	c0.01	0.16		0.00	c0.20			0.01			0.01	
v/s Ratio Perm	0.08			0.03			c0.07			0.00		
v/c Ratio	0.11	0.23		0.05	0.30		0.53	0.07		0.01	0.08	
Uniform Delay, d1	2.6	4.1		3.1	4.9		28.0	26.1		25.9	26.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.3		1.3	0.0		0.0	0.0	
Delay (s)	2.6	4.4		3.2	5.2		29.3	26.2		25.9	26.2	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.2			5.1			28.2			26.2	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

6: Bradley Ave & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	430	5	1	616	1	7	0	8	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	2	500	6	1	716	1	8	0	9	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		275										
pX, platoon unblocked				0.96			0.96	0.96	0.96	0.96	0.96	
vC, conflicting volume	717			506			868	1227	253	983	1230	359
vC1, stage 1 conf vol							508	508		719	719	
vC2, stage 2 conf vol							360	720		264	510	
vCu, unblocked vol	717			408			784	1158	145	904	1160	359
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	99	100	100	100
cM capacity (veh/h)	879			1104			474	372	843	366	372	638
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	2	333	172	1	478	240	17	0				
Volume Left	2	0	0	1	0	0	8	0				
Volume Right	0	0	6	0	0	1	9	0				
cSH	879	1700	1700	1104	1700	1700	619	1700				
Volume to Capacity	0.00	0.20	0.10	0.00	0.28	0.14	0.03	0.00				
Queue Length 95th (ft)	0	0	0	0	0	0	2	0				
Control Delay (s)	9.1	0.0	0.0	8.3	0.0	0.0	11.0	0.0				
Lane LOS	A			A			B	A				
Approach Delay (s)	0.0			0.0			11.0	0.0				
Approach LOS							B	A				
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			27.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 7: Duff Ave & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	405	24	16	595	12	5	0	8	4	2	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	6	471	28	19	692	14	6	0	9	5	2	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		618										
pX, platoon unblocked												
vC, conflicting volume	706			499			899	1240	249	992	1247	353
vC1, stage 1 conf vol							497	497		736	736	
vC2, stage 2 conf vol							403	743		256	510	
vCu, unblocked vol	706			499			899	1240	249	992	1247	353
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			99	100	99	99	99	97
cM capacity (veh/h)	888			1061			422	351	750	347	350	643
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	6	314	185	19	461	245	15	26				
Volume Left	6	0	0	19	0	0	6	5				
Volume Right	0	0	28	0	0	14	9	19				
cSH	888	1700	1700	1061	1700	1700	578	522				
Volume to Capacity	0.01	0.18	0.11	0.02	0.27	0.14	0.03	0.05				
Queue Length 95th (ft)	0	0	0	1	0	0	2	4				
Control Delay (s)	9.1	0.0	0.0	8.5	0.0	0.0	11.4	12.2				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.1			0.2			11.4	12.2				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			26.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

8: Pershing Blvd & Alexander Ave

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	
Volume (veh/h)	5	404	608	3	12	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	6	470	707	3	14	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)		898				
pX, platoon unblocked						
vC, conflicting volume	710				955	355
vC1, stage 1 conf vol					709	
vC2, stage 2 conf vol					247	
vCu, unblocked vol	710				955	355
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	95
cM capacity (veh/h)	885				420	641

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	6	235	235	471	239	47
Volume Left	6	0	0	0	0	14
Volume Right	0	0	0	0	3	33
cSH	885	1700	1700	1700	1700	554
Volume to Capacity	0.01	0.14	0.14	0.28	0.14	0.08
Queue Length 95th (ft)	0	0	0	0	0	7
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	12.1
Lane LOS	A					B
Approach Delay (s)	0.1			0.0		12.1
Approach LOS						B

Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			26.9%	ICU Level of Service		A
Analysis Period (min)			15			

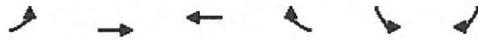
HCM Unsignalized Intersection Capacity Analysis
 9: Alexander Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↙	
Volume (veh/h)	405	11	7	599	12	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	471	13	8	697	14	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)	1003					
pX, platoon unblocked						
vC, conflicting volume			484		842	242
vC1, stage 1 conf vol					477	
vC2, stage 2 conf vol					365	
vCu, unblocked vol			484		842	242
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			1075		503	759
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	314	170	8	348	348	21
Volume Left	0	0	8	0	0	14
Volume Right	0	13	0	0	0	7
cSH	1700	1700	1075	1700	1700	567
Volume to Capacity	0.18	0.10	0.01	0.20	0.20	0.04
Queue Length 95th (ft)	0	0	1	0	0	3
Control Delay (s)	0.0	0.0	8.4	0.0	0.0	11.6
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			11.6
Approach LOS						B
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			26.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 10: Pershing Blvd & Dunn Ave

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑↑	↑↑		↑	
Volume (veh/h)	6	403	592	3	9	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	7	469	688	3	10	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)		1199	1167			
pX, platoon unblocked						
vC, conflicting volume	692				938	346
vC1, stage 1 conf vol					690	
vC2, stage 2 conf vol					248	
vCu, unblocked vol	692				938	346
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	96
cM capacity (veh/h)	899				429	650
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	7	234	234	459	233	34
Volume Left	7	0	0	0	0	10
Volume Right	0	0	0	0	3	23
cSH	899	1700	1700	1700	1700	560
Volume to Capacity	0.01	0.14	0.14	0.27	0.14	0.06
Queue Length 95th (ft)	1	0	0	0	0	5
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	11.8
Lane LOS	A					B
Approach Delay (s)	0.1			0.0		11.8
Approach LOS						B
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			26.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Dunn Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Volume (veh/h)	409	6	5	587	7	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	476	7	6	683	8	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)				990		
pX, platoon unblocked						
vC, conflicting volume			483		832	241
vC1, stage 1 conf vol					479	
vC2, stage 2 conf vol					353	
vCu, unblocked vol			483		832	241
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			1076		507	760
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	317	166	6	341	341	19
Volume Left	0	0	6	0	0	8
Volume Right	0	7	0	0	0	10
cSH	1700	1700	1076	1700	1700	623
Volume to Capacity	0.19	0.10	0.01	0.20	0.20	0.03
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	8.4	0.0	0.0	11.0
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			11.0
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			26.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 12: Rollins Ave & Pershing Blvd

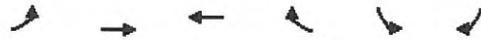
8/14/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Volume (veh/h)	39	374	7	3	571	24	9	0	5	3	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	45	435	8	3	664	28	10	0	6	3	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					600							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	692			443			880	1228	222	999	1219	346
vC1, stage 1 conf vol							530	530		685	685	
vC2, stage 2 conf vol							351	699		314	534	
vCu, unblocked vol	659			443			850	1203	222	970	1193	308
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			97	100	99	99	100	98
cM capacity (veh/h)	912			1113			417	342	782	375	364	678
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	45	290	153	3	443	249	16	15				
Volume Left	45	0	0	3	0	0	10	3				
Volume Right	0	0	8	0	0	28	6	12				
cSH	912	1700	1700	1113	1700	1700	500	571				
Volume to Capacity	0.05	0.17	0.09	0.00	0.26	0.15	0.03	0.03				
Queue Length 95th (ft)	4	0	0	0	0	0	3	2				
Control Delay (s)	9.2	0.0	0.0	8.2	0.0	0.0	12.4	11.5				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.8			0.0			12.4	11.5				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization		33.2%		ICU Level of Service	A							
Analysis Period (min)		15										

HCM Signalized Intersection Capacity Analysis
 13: Pershing Blvd & Concord Rd

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	
Volume (vph)	14	355	557	76	69	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	3.7	3.7		3.2	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Fr _t	1.00	1.00	0.98		0.94	
Fit Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3539	3476		1702	
Fit Permitted	0.36	1.00	1.00		0.97	
Satd. Flow (perm)	667	3539	3476		1702	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	16	413	648	88	80	66
RTOR Reduction (vph)	0	0	15	0	44	0
Lane Group Flow (vph)	16	413	721	0	102	0
Turn Type	Perm	NA	NA		NA	
Protected Phases		2	2		4	
Permitted Phases	2					
Actuated Green, G (s)	39.1	39.1	52.8		8.1	
Effective Green, g (s)	40.3	40.3	51.0		9.1	
Actuated g/C Ratio	0.58	0.58	0.73		0.13	
Clearance Time (s)	4.9	4.9			4.2	
Vehicle Extension (s)	3.0	3.0			2.0	
Lane Grp Cap (vph)	384	2037	2532		221	
v/s Ratio Prot		0.12	c0.21		c0.06	
v/s Ratio Perm	0.02					
v/c Ratio	0.04	0.20	0.28		0.46	
Uniform Delay, d ₁	6.5	7.1	3.3		28.2	
Progression Factor	1.00	1.00	0.24		1.00	
Incremental Delay, d ₂	0.2	0.2	0.0		0.6	
Delay (s)	6.7	7.4	0.8		28.7	
Level of Service	A	A	A		C	
Approach Delay (s)		7.3	0.8		28.7	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

* For analysis purposes, Concord and Logan were treated as two separate intersections. Note that these two are in fact wired together and is treated as one signal by the City.

HCM Signalized Intersection Capacity Analysis

14: Logan Ave & Pershing Blvd

8/14/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	
Volume (vph)	294	130	82	510	121	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	3.7	3.7	3.7	3.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Fr _t	1.00	0.85	1.00	1.00	0.97	
Fl _t Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3539	1583	1770	3539	3369	
Fl _t Permitted	1.00	1.00	0.55	1.00	0.96	
Satd. Flow (perm)	3539	1583	1017	3539	3369	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	342	151	95	593	141	36
RTOR Reduction (vph)	0	36	0	0	30	0
Lane Group Flow (vph)	342	115	95	593	147	0
Turn Type	NA	Perm	Perm	NA	NA	
Protected Phases	2 4			2	8	
Permitted Phases		2 4	2		8	
Actuated Green, G (s)	52.1	52.1	39.1	39.1	9.5	
Effective Green, g (s)	53.3	53.3	40.3	40.3	10.7	
Actuated g/C Ratio	0.76	0.76	0.58	0.58	0.15	
Clearance Time (s)			4.9	4.9	4.2	
Vehicle Extension (s)			3.0	3.0	2.0	
Lane Grp Cap (vph)	2694	1205	585	2037	514	
v/s Ratio Prot	c0.10			c0.17	c0.04	
v/s Ratio Perm		0.07	0.09			
v/c Ratio	0.13	0.10	0.16	0.29	0.29	
Uniform Delay, d ₁	2.2	2.1	7.0	7.6	26.3	
Progression Factor	0.08	0.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.0	0.0	0.6	0.4	0.1	
Delay (s)	0.2	0.0	7.5	7.9	26.4	
Level of Service	A	A	A	A	C	
Approach Delay (s)	0.1			7.9	26.4	
Approach LOS	A			A	C	

Intersection Summary

HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

* For analysis purposes, Concord and Logan were treated as two separate intersections. Note that these two are in fact wired together and is treated as one signal by the City.

PM

HCM Signalized Intersection Capacity Analysis

1: Evans Ave & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	570	19	28	422	254	33	120	68	210	40	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Fr't	1.00	1.00		1.00	1.00	0.85	1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3522		1770	3539	1583	1770	1762		3433	1761	
Flt Permitted	0.40	1.00		0.28	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	752	3522		522	3539	1583	1770	1762		3433	1761	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	26	663	22	33	491	295	38	140	79	244	47	27
RTOR Reduction (vph)	0	4	0	0	0	184	0	32	0	0	19	0
Lane Group Flow (vph)	26	681	0	33	491	111	38	187	0	244	55	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6						
Actuated Green, G (s)	23.6	21.3		23.6	21.3	21.3	2.3	11.8		7.8	17.3	
Effective Green, g (s)	26.0	22.5		26.0	22.5	22.5	3.5	13.0		9.0	18.5	
Actuated g/C Ratio	0.43	0.38		0.43	0.38	0.38	0.06	0.22		0.15	0.31	
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2	4.2	4.2		4.2	4.2	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	385	1320		299	1327	593	103	381		514	542	
v/s Ratio Prot	0.00	c0.19		c0.01	0.14		0.02	c0.11		c0.07	0.03	
v/s Ratio Perm	0.03			0.04		0.07						
v/c Ratio	0.07	0.52		0.11	0.37	0.19	0.37	0.49		0.47	0.10	
Uniform Delay, d1	9.9	14.5		10.2	13.6	12.6	27.2	20.6		23.3	14.8	
Progression Factor	1.00	1.00		1.76	1.65	4.59	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.4		0.2	0.8	0.7	3.0	1.4		0.9	0.1	
Delay (s)	10.0	16.0		18.1	23.2	58.5	30.2	22.0		24.3	14.9	
Level of Service	A	B		B	C	E	C	C		C	B	
Approach Delay (s)		15.8			35.7			23.2			22.1	
Approach LOS		B			D			C			C	

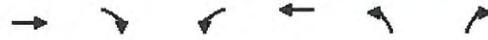
Intersection Summary

HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

2: Van Lennen Ave & Pershing Blvd

8/14/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Volume (veh/h)	831	22	16	680	11	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	966	26	19	791	13	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)	380					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			992		1412	496
vC1, stage 1 conf vol					979	
vC2, stage 2 conf vol					433	
vCu, unblocked vol			661		1150	83
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		96	97
cM capacity (veh/h)			793		363	824

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	644	348	19	395	395	35
Volume Left	0	0	19	0	0	13
Volume Right	0	26	0	0	0	22
cSH	1700	1700	793	1700	1700	562
Volume to Capacity	0.38	0.20	0.02	0.23	0.23	0.06
Queue Length 95th (ft)	0	0	2	0	0	5
Control Delay (s)	0.0	0.0	9.7	0.0	0.0	11.8
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			11.8
Approach LOS						B

Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			33.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: Maxwell Ave & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	851	10	5	705	1	9	0	11	0	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	1	990	12	6	820	1	10	0	13	0	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		753										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	821			1001			1424	1830	501	1342	1835	410
vC1, stage 1 conf vol							998	998		832	832	
vC2, stage 2 conf vol							426	833		510	1003	
vCu, unblocked vol	821			747			1223	1681	183	1131	1687	410
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	98	100	100	99
cM capacity (veh/h)	804			760			295	271	735	304	268	590
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	1	660	341	6	547	274	23	5				
Volume Left	1	0	0	6	0	0	10	0				
Volume Right	0	0	12	0	0	1	13	5				
cSH	804	1700	1700	760	1700	1700	440	590				
Volume to Capacity	0.00	0.39	0.20	0.01	0.32	0.16	0.05	0.01				
Queue Length 95th (ft)	0	0	0	1	0	0	4	1				
Control Delay (s)	9.5	0.0	0.0	9.8	0.0	0.0	13.6	11.1				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.0			0.1			13.6	11.1				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			38.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: Seymour Ave & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	851	22	19	689	2	16	2	57	1	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	1	990	26	22	801	2	19	2	66	1	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		1112			1264							
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	803			1015			1452	1852	508	1411	1864	402
vC1, stage 1 conf vol							1005	1005		847	847	
vC2, stage 2 conf vol							447	848		565	1017	
vCu, unblocked vol	803			870			1339	1769	326	1295	1781	402
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			93	99	89	100	100	100
cM capacity (veh/h)	816			718			266	255	625	270	244	598
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	1	660	355	22	534	269	87	3				
Volume Left	1	0	0	22	0	0	19	1				
Volume Right	0	0	26	0	0	2	66	2				
cSH	816	1700	1700	718	1700	1700	471	426				
Volume to Capacity	0.00	0.39	0.21	0.03	0.31	0.16	0.19	0.01				
Queue Length 95th (ft)	0	0	0	2	0	0	17	1				
Control Delay (s)	9.4	0.0	0.0	10.2	0.0	0.0	14.4	13.5				
Lane LOS	A			B			B	B				
Approach Delay (s)	0.0			0.3			14.4	13.5				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			36.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

5: Morrie Ave/Airport Pkwy & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	767	44	29	559	11	98	46	42	7	31	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frts	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	3529		1770	3284		1770	3179	
Flt Permitted	0.33	1.00		0.27	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	606	3511		511	3529		1269	3284		1281	3179	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	105	892	51	34	650	13	114	53	49	8	36	76
RTOR Reduction (vph)	0	5	0	0	2	0	0	40	0	0	62	0
Lane Group Flow (vph)	105	938	0	34	661	0	114	62	0	8	50	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	39.7	34.0		33.5	30.9		10.1	10.1		10.1	10.1	
Effective Green, g (s)	42.0	35.9		35.9	32.8		11.3	11.3		11.3	11.3	
Actuated g/C Ratio	0.70	0.60		0.60	0.55		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.2	4.9		4.2	4.9		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	558	2100		385	1929		238	618		241	598	
v/s Ratio Prot	c0.02	c0.27		0.01	0.19			0.02			0.02	
v/s Ratio Perm	0.11			0.05			c0.09			0.01		
v/c Ratio	0.19	0.45		0.09	0.34		0.48	0.10		0.03	0.08	
Uniform Delay, d1	3.3	6.6		5.0	7.6		21.7	20.1		19.9	20.1	
Progression Factor	1.16	0.97		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.1	0.5		2.1	0.1		0.1	0.1	
Delay (s)	4.0	7.0		5.2	8.1		23.8	20.2		20.0	20.2	
Level of Service	A	A		A	A		C	C		B	C	
Approach Delay (s)		6.7			7.9			22.1			20.2	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 6: Bradley Ave & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	824	11	6	590	0	3	0	7	2	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	958	13	7	686	0	3	0	8	2	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		275										
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	686			971			1325	1665	485	1187	1671	343
vC1, stage 1 conf vol							965	965		700	700	
vC2, stage 2 conf vol							360	700		487	971	
vCu, unblocked vol	686			635			1048	1443	69	887	1451	343
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	99	100	99
cM capacity (veh/h)	904			810			338	310	840	369	306	653
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	0	639	332	7	457	229	12	6				
Volume Left	0	0	0	7	0	0	3	2				
Volume Right	0	0	13	0	0	0	8	3				
cSH	1700	1700	1700	810	1700	1700	581	499				
Volume to Capacity	0.00	0.38	0.20	0.01	0.27	0.13	0.02	0.01				
Queue Length 95th (ft)	0	0	0	1	0	0	2	1				
Control Delay (s)	0.0	0.0	0.0	9.5	0.0	0.0	11.3	12.3				
Lane LOS				A			B	B				
Approach Delay (s)	0.0			0.1			11.3	12.3				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			33.1%		ICU Level of Service			A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

7: Duff Ave & Pershing Blvd

8/14/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	765	17	12	554	19	9	1	21	14	0	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	26	890	20	14	644	22	10	1	24	16	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)		618										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	666			909			1328	1645	455	1204	1644	333
vC1, stage 1 conf vol							951	951		683	683	
vC2, stage 2 conf vol							378	694		521	960	
vCu, unblocked vol	666			656			1126	1480	146	986	1479	333
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			97	100	97	95	100	96
cM capacity (veh/h)	919			827			305	291	780	356	291	663
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	26	593	316	14	429	237	36	44				
Volume Left	26	0	0	14	0	0	10	16				
Volume Right	0	0	20	0	0	22	24	28				
cSH	919	1700	1700	827	1700	1700	518	503				
Volume to Capacity	0.03	0.35	0.19	0.02	0.25	0.14	0.07	0.09				
Queue Length 95th (ft)	2	0	0	1	0	0	6	7				
Control Delay (s)	9.0	0.0	0.0	9.4	0.0	0.0	12.5	12.8				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.2			0.2			12.5	12.8				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			31.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

8: Pershing Blvd & Alexander Ave

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Volume (veh/h)	18	833	648	17	10	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	21	969	753	20	12	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)		898				
pX, platoon unblocked					0.94	
vC, conflicting volume	773				1290	387
vC1, stage 1 conf vol					763	
vC2, stage 2 conf vol					526	
vCu, unblocked vol	773				1181	387
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	97
cM capacity (veh/h)	838				369	612
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	21	484	484	502	271	29
Volume Left	21	0	0	0	0	12
Volume Right	0	0	0	0	20	17
cSH	838	1700	1700	1700	1700	484
Volume to Capacity	0.02	0.28	0.28	0.30	0.16	0.06
Queue Length 95th (ft)	2	0	0	0	0	5
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	12.9
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		12.9
Approach LOS						B
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			33.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

9: Alexander Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Volume (veh/h)	754	15	10	565	23	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	877	17	12	657	27	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)	1003					
pX, platoon unblocked			1.00		1.00	1.00
vC, conflicting volume			894		1237	447
vC1, stage 1 conf vol					885	
vC2, stage 2 conf vol					352	
vCu, unblocked vol			889		1233	441
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		92	96
cM capacity (veh/h)			756		337	562
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	584	310	12	328	328	48
Volume Left	0	0	12	0	0	27
Volume Right	0	17	0	0	0	21
cSH	1700	1700	756	1700	1700	409
Volume to Capacity	0.34	0.18	0.02	0.19	0.19	0.12
Queue Length 95th (ft)	0	0	1	0	0	10
Control Delay (s)	0.0	0.0	9.8	0.0	0.0	15.0
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			15.0
Approach LOS						B
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			31.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Pershing Blvd & Dunn Ave

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↕↕	↕↕		↵	
Volume (veh/h)	28	756	564	8	6	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	33	879	656	9	7	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)		1199	1167			
pX, platoon unblocked						
vC, conflicting volume	665				1165	333
vC1, stage 1 conf vol					660	
vC2, stage 2 conf vol					505	
vCu, unblocked vol	665				1165	333
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				98	98
cM capacity (veh/h)	920				389	663
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	33	440	440	437	228	21
Volume Left	33	0	0	0	0	7
Volume Right	0	0	0	0	9	14
cSH	920	1700	1700	1700	1700	537
Volume to Capacity	0.04	0.26	0.26	0.26	0.13	0.04
Queue Length 95th (ft)	3	0	0	0	0	3
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	12.0
Lane LOS	A					B
Approach Delay (s)	0.3			0.0		12.0
Approach LOS						B
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			32.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

11: Dunn Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖	
Volume (veh/h)	756	12	10	577	1	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	879	14	12	671	1	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)				990		
pX, platoon unblocked						
vC, conflicting volume			893		1245	447
vC1, stage 1 conf vol					886	
vC2, stage 2 conf vol					359	
vCu, unblocked vol			893		1245	447
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	98
cM capacity (veh/h)			755		335	559
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	586	307	12	335	335	15
Volume Left	0	0	12	0	0	1
Volume Right	0	14	0	0	0	14
cSH	1700	1700	755	1700	1700	532
Volume to Capacity	0.34	0.18	0.02	0.20	0.20	0.03
Queue Length 95th (ft)	0	0	1	0	0	2
Control Delay (s)	0.0	0.0	9.8	0.0	0.0	12.0
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			12.0
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			31.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

12: Rollins Ave & Pershing Blvd

8/14/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	743	9	8	519	8	6	0	7	13	1	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	14	864	10	9	603	9	7	0	8	15	1	67
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					600							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	613			874			1285	1528	437	1095	1529	306
vC1, stage 1 conf vol							897	897		627	627	
vC2, stage 2 conf vol							388	631		468	902	
vCu, unblocked vol	590			874			1269	1514	437	1076	1515	280
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	100	99	96	100	90
cM capacity (veh/h)	972			767			268	292	567	363	289	710
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	14	576	298	9	402	210	15	84				
Volume Left	14	0	0	9	0	0	7	15				
Volume Right	0	0	10	0	0	9	8	67				
cSH	972	1700	1700	767	1700	1700	375	595				
Volume to Capacity	0.01	0.34	0.18	0.01	0.24	0.12	0.04	0.14				
Queue Length 95th (ft)	1	0	0	1	0	0	3	12				
Control Delay (s)	8.8	0.0	0.0	9.7	0.0	0.0	15.0	12.0				
Lane LOS	A			A			C	B				
Approach Delay (s)	0.1			0.1			15.0	12.0				
Approach LOS							C	B				
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			32.1%		ICU Level of Service			A				
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

13: Pershing Blvd & Concord Rd

8/14/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	
Volume (vph)	69	669	489	61	70	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	3.7	3.7		3.2	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	0.98		0.96	
Fit Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	3539	3480		1724	
Fit Permitted	0.40	1.00	1.00		0.97	
Satd. Flow (perm)	743	3539	3480		1724	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	80	778	569	71	81	38
RTOR Reduction (vph)	0	0	11	0	23	0
Lane Group Flow (vph)	80	778	629	0	96	0
Turn Type	Perm	NA	NA		NA	
Protected Phases		2	2		4	
Permitted Phases	2					
Actuated Green, G (s)	46.5	46.5	60.8		10.1	
Effective Green, g (s)	47.7	47.7	59.0		11.1	
Actuated g/C Ratio	0.60	0.60	0.74		0.14	
Clearance Time (s)	4.9	4.9			4.2	
Vehicle Extension (s)	3.0	3.0			2.0	
Lane Grp Cap (vph)	443	2110	2566		239	
v/s Ratio Prot		c0.22	c0.18		c0.06	
v/s Ratio Perm	0.11					
v/c Ratio	0.18	0.37	0.25		0.40	
Uniform Delay, d1	7.3	8.4	3.4		31.4	
Progression Factor	1.00	1.00	0.19		1.00	
Incremental Delay, d2	0.9	0.5	0.0		0.4	
Delay (s)	8.2	8.9	0.7		31.8	
Level of Service	A	A	A		C	
Approach Delay (s)		8.8	0.7		31.8	
Approach LOS		A	A		C	

Intersection Summary

HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 14: Logan Ave & Pershing Blvd

8/14/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↖↗	
Volume (vph)	579	164	39	394	173	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	3.7	3.7	3.7	3.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Fr _t	1.00	0.85	1.00	1.00	0.97	
Fl _t Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3539	1583	1770	3539	3365	
Fl _t Permitted	1.00	1.00	0.39	1.00	0.96	
Satd. Flow (perm)	3539	1583	729	3539	3365	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	673	191	45	458	201	55
RTOR Reduction (vph)	0	41	0	0	42	0
Lane Group Flow (vph)	673	150	45	458	214	0
Turn Type	NA	Perm	Perm	NA	NA	
Protected Phases	2 4			2	8	
Permitted Phases		2 4	2		8	
Actuated Green, G (s)	61.5	61.5	46.5	46.5	10.1	
Effective Green, g (s)	62.7	62.7	47.7	47.7	11.3	
Actuated g/C Ratio	0.78	0.78	0.60	0.60	0.14	
Clearance Time (s)			4.9	4.9	4.2	
Vehicle Extension (s)			3.0	3.0	2.0	
Lane Grp Cap (vph)	2773	1240	434	2110	475	
w/s Ratio Prot	c0.19			0.13	c0.06	
w/s Ratio Perm		0.09	0.06			
w/c Ratio	0.24	0.12	0.10	0.22	0.45	
Uniform Delay, d ₁	2.3	2.1	7.0	7.5	31.5	
Progression Factor	0.04	0.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.0	0.0	0.5	0.2	0.2	
Delay (s)	0.1	0.0	7.4	7.7	31.8	
Level of Service	A	A	A	A	C	
Approach Delay (s)	0.1			7.7	31.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX B: PLACE MAKING CONCEPTS



Placemaking Elements - Roadway Treatments



Gateway monuments



Medians for human scale

Median as pedestrian refuge

Pershing Boulevard Complete Streets

Placemaking Elements - Streetscape



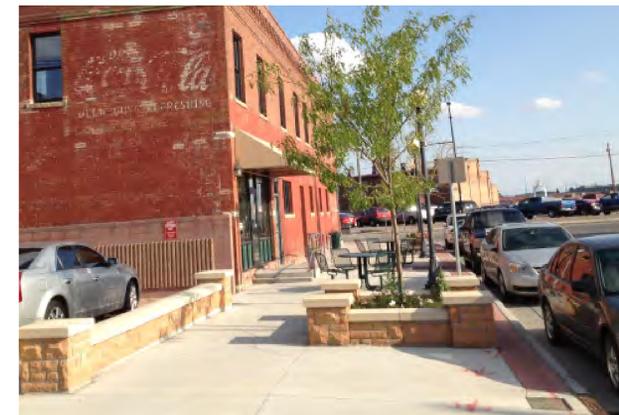
Ground floor activation



Tree grates and guards



Benches



Seat Walls



Pershing Boulevard Complete Streets

Placemaking Elements - Streetscape



Stained colored concrete



Concrete pavers



Painted for safety



Colored/textured concrete crosswalk



Colored concrete w/sandblasted pattern



Pavers at intersections



Patterned colored concrete



Pavement - Crosswalks

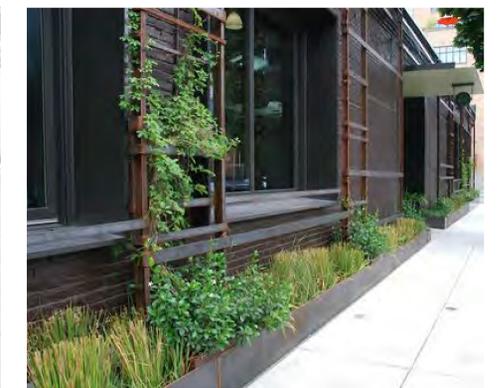


Stamped asphalt crosswalk

Pavement



Fixed Hanging Baskets



Planters

Pershing Boulevard Complete Streets

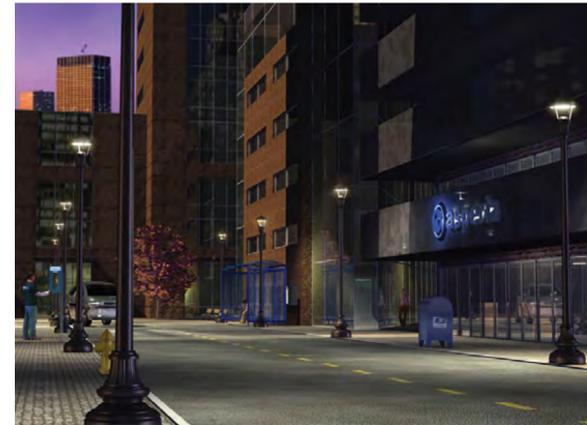
Placemaking Elements - Streetscape



Median Lights



Banners on Lights



Historic Lighting



Historic Lighting



Planting options



Historic Lighting



Street/Pedestrian combination

Street/Pedestrian lighting - full cut-off LED

Pershing Boulevard Complete Streets

APPENDIX C: COMMENTS



Business Comments



Pershing Boulevard Complete Streets Plan



Business Transportation Survey

The City of Cheyenne and the Cheyenne Metropolitan Planning Association would like to learn more about the transportation needs and priorities of your business. As part of the Pershing Boulevard Complete Streets Plan public process, we are requesting that business owners and managers along Pershing Boulevard provide us with information about how employees and customers get to their business, and what other business-related traffic concerns may exist.

Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Four Winds Bar & Lounge

What is your business address? _____

How many employees does your business currently have? 12-15

How long have you been in your current location? 76

When do your employees work? What are your typical shifts? 6am-2am - 3 shifts.

Please estimate the number of employees who commute to work using the following methods:

Drive 92%
Walk _____
Bike _____
Transit 8%
Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

Drive 90% / 98%
Walk _____
Bike _____
Transit 2%
Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

No Access issues - Central Location
- Tough to get in/out due to speed. -

What transportation improvement(s) would be most helpful for your business?

- Bike Lane Along Pershing.
- Sidewalks - Pedestrian Safety.
- Maybe 1 side - South - Bike Lane.
- Consolidated/separate parking for strip.
- Speed Control/Enforcement.

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

Indirect Benefit. - Lighting not needed.

Crossing @ Duff - Signal possible. - Cars/Pedestrians.
Traffic Calming - Chicanes possible.

Do you have any additional transportation concerns or comments that you would like to share?

- Speed limit
- Moren / Parkway Could be Bike.
- Site line issues - trees/shrubs
- Supportive of District. →
Olivet District. Olivet Addition.
- Bike Racks Needed...



Pershing Boulevard Complete Streets Plan



Business Transportation Survey

Michelle McMahon

The City of Cheyenne and the Cheyenne Metropolitan Planning Association would like to learn more about the transportation needs and priorities of your business. As part of the Pershing Boulevard Complete Streets Plan public process, we are requesting that business owners and managers along Pershing Boulevard provide us with information about how employees and customers get to their business, and what other business-related traffic concerns may exist.

Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Frontier Access by Mobility - Regional Business.

What is your business address? _____

How many employees does your business currently have? 14-15

How long have you been in your current location? 2002

When do your employees work? What are your typical shifts? 8-5 M-F
8-NOON SAT.

Please estimate the number of employees who commute to work using the following methods:

- Drive 98%
- Walk _____
- Bike 2%
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive 95%
- Walk _____
- Bike _____
- Transit 5%
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? _____

- Minimal complaints.
- Instruct. customers to go to light for left turn.

What transportation improvement(s) would be most helpful for your business? _____

- o Relocate Bus Stop nearby
- o Traffic light / signal / Audible.
- o Traffic Calming - Speed limit issues.
- o Education / outreach = articles in newspapers.

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? _____

- o Sidewalk widths adequate
- o Vacant

Do you have any additional transportation concerns or comments that you would like to share? _____

- o Uses car to get to DQ.
- o Site Distances @ intersections
- o Light @ intersection
- o Audible Crosswalk.
- o Vacant Buildings - Need to address.



Pershing Boulevard Complete Streets Plan



Business Transportation Survey

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Richard Lennox - Owner

Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? *Lennox Enterprises*

What is your business address? _____

How many employees does your business currently have? *8*

How long have you been in your current location? *8 years*

When do your employees work? What are your typical shifts? *7-5 m-f.*

Please estimate the number of employees who commute to work using the following methods:

- Drive *88%*
- Walk _____
- Bike *12%*
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive *90%*
- Walk *5%*
- Bike *5%* *3 SUMMER*
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

Cutting across Pershing biggest issue

What transportation improvement(s) would be most helpful for your business?

- Crosswalk nearby is needed. - yellow flasher
- bike path could be an improvement
- Traffic Calming. → could help 'business rush hour'
- Turning is an issue

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

Wider Sidewalks would help.

Do you have any additional transportation concerns or comments that you would like to share?

- Speed issues
- Screeching Brakes



Pershing Boulevard Complete Streets Plan



Business Transportation Survey

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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Hoy's Drug Store

What is your business address? _____

How many employees does your business currently have? ~~10~~ 20 employees

How long have you been in your current location? 1957 or '52

When do your employees work? What are your typical shifts? 8am - 7pm weekdays.
9am - 3pm Sat.

Please estimate the number of employees who commute to work using the following methods:

- Drive 18
- Walk _____
- Bike 2 occasional
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

- Drive 67% +/-
- Walk 20% - 25%
- Bike 3-4%
- Transit 10%
- Other _____



Pershing Boulevard Complete Streets Plan



HOY'S DRUGSTORE -

Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

*Crossing Street - from Bus Stop @ Marcy & Pershing.
Turning in to parking area - speeds & stopping.
Screaming a few times a week from high speeds.
Winter - ice buildup.*

What transportation improvement(s) would be most helpful for your business?

*→ Speed limit along Pershing - 45-50 mph.
• Separation w/ walk - planters exist. - Hoy's put in wall
• Bike lanes with own lane would be
→ Safe Crossing*

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

*• Lighting - some minor level would help with safety.
• R.O.W. is maxed out - wider sidewalks would be challenging.*

Do you have any additional transportation concerns or comments that you would like to share?

• More speed enforcement would be positive.



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? State Farm

What is your business address? 1022 E. Pershing

How many employees does your business currently have? 3

How long have you been in your current location? 32 years

When do your employees work? What are your typical shifts? 9-5 M-F

Please estimate the number of employees who commute to work using the following methods:

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

Speed limits- up to 35mph (now people go 45mph)

- Backing out on Pershing, especially crossing + going East.

What transportation improvement(s) would be most helpful for your business?

New road is great-

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

Lower speed limit back to 30mph
- more police watch for speeds -
- crosswalk would be great

Do you have any additional transportation concerns or comments that you would like to share?

- No signage- fluff

Alan Os 



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Wyoming State Bank.

What is your business address? 1525 E. Pershing Blvd.

How many employees does your business currently have? 22

How long have you been in your current location? 30+ yrs.

When do your employees work? What are your typical shifts? 7:30-5:30

Please estimate the number of employees who commute to work using the following methods:

- Drive 90%
- Walk _____
- Bike _____
- Transit 10% - 1-2 people
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive 100% - busy d net through.
- Walk _____
- Bike _____
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

Kids coming to camp out through back way & denif attempt to go on Pershing to get to school. Rear access concerns. Conflict. Line of sight is limited.

Diff to pass the bank - limited sight distance. Points of conflict

camp - JR. High will move to East High and elementary will move in.

What transportation improvement(s) would be most helpful for your business?

crosswalk traffic calming district markings may be helpful. Activated crosswalk. Supportive of buffered sidewalk.

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

additional lighting - park around sidewalks. Landscaping.

Do you have any additional transportation concerns or comments that you would like to share?



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Sonmido Dentistry

What is your business address? 1204 Pershing

How many employees does your business currently have? 7

How long have you been in your current location? 30+ yrs.

When do your employees work? What are your typical shifts? 1-5 ; 8-5.
M-TH

Please estimate the number of employees who commute to work using the following methods:

- Drive _____
- Walk _____
- Bike _____
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive _____
- Walk 2%
- Bike _____
- Transit _____
- Other _____

won't walk if they have to drive.



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? _____

Accessing (exiting east U-turn) onto parking.
put planters out - -
- ACCESS
- /

What transportation improvement(s) would be most helpful for your business? _____

traffic signal.
signal timing

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? _____

Do you have any additional transportation concerns or comments that you would like to share? _____

speed. Light was on Duff. It was removed
but electrical is still there.
snow plows pushing snow on sidewalk.
- line of sight w lights by cemetery



Pershing Boulevard Complete Streets Plan



*Manual
Mentation*

Business Transportation Survey

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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Frontier Access & Mobility

What is your business address? _____

How many employees does your business currently have? 14-15

How long have you been in your current location? _____

When do your employees work? What are your typical shifts? 8-5 M-F
8-noon Sat

Please estimate the number of employees who commute to work using the following methods:

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? Routing customers back beyond how's so that customer's don't have to exit on Pershing. When people are having vehicles serviced they are here all day & need to cross the street for lunch.

What transportation improvement(s) would be most helpful for your business? Moving bus stop to other side of street. audible crosswalk. / extra crossing time. - signal.

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? Street trees would be tough here.

Do you have any additional transportation concerns or comments that you would like to share? Kids crossing the street going to DQ. Line of site due to old vs. new building set back. speeding.



Pershing Boulevard Complete Streets Plan



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What is the name of your business? Ashton in Life

What is your business address? 1024 E. Pershing Blvd.

How many employees does your business currently have? 1

How long have you been in your current location? 4 yrs.

When do your employees work? What are your typical shifts? 10-5

Please estimate the number of employees who commute to work using the following methods:

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

- Drive 70%
- Walk 30% + BUS
- Bike _____
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

Can't cross Pershing safely.

What transportation improvement(s) would be most helpful for your business?

Stop light @ Duff & Pershing. Patroling speeding cars. 4 way stop

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

No.

Do you have any additional transportation concerns or comments that you would like to share?

Speeding is an issue. Crossing Pershing is an issue.



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Cheyenne Vision Clinic

What is your business address? _____

How many employees does your business currently have? 20

How long have you been in your current location? 30 yrs.

When do your employees work? What are your typical shifts? 7:30 - 6:30

Please estimate the number of employees who commute to work using the following methods:

Drive 100%

Walk _____

Bike _____

Transit _____

Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

Drive 96%

Walk 1-2%

Bike _____

Transit 1-2%

Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints?

Elderly population:
Kids from school walking to DQ. Poor line of sight
is limited coming out of DQ. Accidents occur.
conflictual Access point out of DQ.

What transportation improvement(s) would be most helpful for your business?

A traffic
light @ Duff & Pershing.

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing?

Pedestrian crosswalk w/ flashing
light. Cosmetic improvements would help

Do you have any additional transportation concerns or comments that you would like to share?

Slower speeds? Speeding along Pershing due to
straightway. People



Pershing Boulevard Complete Streets Plan



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What is the name of your business? DD

What is your business address? _____

How many employees does your business currently have? 50

How long have you been in your current location? 50 yrs.

When do your employees work? What are your typical shifts? 11-5 ; 5-11

Please estimate the number of employees who commute to work using the following methods:

Drive 10%
Walk _____
Bike _____
Transit 5%
Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

Drive 60%
Walk 40% - H.S. J.R. Kids
Bike _____
Transit _____
Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? Difficult to walk here.

What transportation improvement(s) would be most helpful for your business? - crosswalks w/ flashing lights

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? buffered sidewalks.

Do you have any additional transportation concerns or comments that you would like to share? Concern about safety of kids walking here.



Pershing Boulevard Complete Streets Plan



BIGHORN SHOOTIN' IRONS

Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? _____

NO

What transportation improvement(s) would be most helpful for your business? _____

Better signage

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? _____

unnecessary

Do you have any additional transportation concerns or comments that you would like to share? _____

*concern that gas station is vacant
so people can drop off for bus stop*



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? Big SHOOTW INNOV

What is your business address? 1020 Pershing

How many employees does your business currently have? 0

How long have you been in your current location? 3+ years

When do your employees work? What are your typical shifts? N/A

Please estimate the number of employees who commute to work using the following methods:

- Drive N/A
- Walk _____
- Bike _____
- Transit _____
- Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge - total must add up to 100%)

- Drive 100%
- Walk _____
- Bike _____
- Transit _____
- Other _____



Pershing Boulevard Complete Streets Plan



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Your input is incredibly valuable and your identity will be kept strictly confidential. If you would prefer to fill out the survey online, you can do so at the address listed on the bottom of this form. We truly appreciate your time.

What is the name of your business? STATE FARM INSURANCE - ALAN

What is your business address? 1022 Pershing

How many employees does your business currently have? 3

How long have you been in your current location? 32+ years

When do your employees work? What are your typical shifts? 9-5 M-F

Please estimate the number of employees who commute to work using the following methods:

Drive 100%

Walk _____

Bike _____

Transit _____

Other _____

How do customers typically get to your business? (Please estimate to the best of your knowledge – total must add up to 100%)

Drive 100%

Walk _____

Bike _____

Transit _____

Other _____



Pershing Boulevard Complete Streets Plan



Do your employees or customers have persistent complaints about getting to or accessing your business? If yes, what are the most common complaints? _____

*Backing out onto Pershing
People try to turn east - problematic*

What transportation improvement(s) would be most helpful for your business? _____

*WHAT WAS JUST DONE - Center Median Lane
GOOD NOW*

Would wider sidewalks, well marked crosswalks, lighting and other enhancements help the business environment along Pershing? _____

*Bike lanes unnecessary
DO NOT DIST - CHANG w/ volumes
X-WALK w/ sign, lower speed limit*

Do you have any additional transportation concerns or comments that you would like to share? _____

*lots of Accidents
NO COPS for speeders - no enforcement*

monument signs - STUFF

WY SMK BANK - DAVID COOK

- ① Kids won't cross walk on Pershing - JR. light now
Eventually elementary school
- ② Slight distance off of Huger to Pershing to the East
- ③ Gross Gym coming - more traffic
- ④ No place to slow down on Pershing
- ⑤ Gateways - yes
- ⑥ Red Sign at RIGHT location
- ⑦ Additional lighting

10 AM - **Cheyenne Vision Clinic**

11 AM - **Frontier Access and Mobility**

12 PM - **Schmidt Dentistry**

2 PM - **Wyoming State Bank**

Anytime between 11 to 4 - **Hoy's**

Nancy (719) 337-4141
cell

Fitness Center 778-5500
Andy Henderson



Fwd: Pershing
 Gregg Crisp
 to:
 CITY MAYOR
 02/24/2013 11:49 PM
 Hide Details
 From: Gregg Crisp <gregg@greggforcheyenne.com>
 To: CITY MAYOR <mayor@cheyennecity.org>,
 Please respond to Gregg Crisp <gregg@greggforcheyenne.com>

*Not on this
 page on Pershing
 have no a
 call for an
 update what she
 RP*

From: "Anne Picot" <loborolass@gmail.com>
To: "Gregg Crisp" <gregg@greggforcheyenne.com>
Sent: Friday, February 22, 2013 5:27:28 PM
Subject: Re: Pershing

Dear Gregg,

I apologize for not contacting you earlier, but now please accept my remarks concerning Pershing Blvd.

I myself visit Frontier access regularly and sometimes need to spend considerable time both being assessed and receiving repairs. Both my husband and myself have attempted to cross the part of the road between Frontier Access and Hoy's Pharmaceutical and across to the Eatery on the other side of the road.

Both of us, The Picot's, concur with the remarks that Mr Pete Laybourne made whilst attending our meeting of the Mayor's Council of Disabled People. This is in fact a very fast road and traffic is heavy at times and due to the steep incline both from the left and the right, it is not always possible to cross the road in complete safety.

I am aware that to place a set of traffic lights at this junction would be costly, but wonder if a pedestrian crossing could be part of making this road a safer area, before sadly a tragedy may occur, especially with a child, or elderly person.

I myself use a power chair on a permanent basis, but I am unsettled when needing to access this particular stretch of road.

I sincerely hope that this personal testimonial will help in the Council's judgement, along with the most adequate representation that Mr. Laybourne has submitted on behalf of members of the community.

Kindest regards.
 Anne Picot.

Gregg, please share this e-mail with members of the Council.

On Fri, Feb 22, 2013 at 1:24 PM, Gregg Crisp <gregg@greggforcheyenne.com> wrote:

I need to clarify a few things in the earlier email I sent (see below). The MCPD is NOT presenting the Pershing Blvd. safety concerns to the governing body, again the MCPD is NOT presenting the matter. It was never my intention to present it Monday night. It was/is my understanding that Pete Laybourn is to present the matter for discussion. As far as to whom even asked me to be there and what my participation would be was misinterpreted or I was misled. I feel now, after speaking with the Mayor, that I, was/am being used for leverage. I did not clarify things as I should have and I must be accountable for my actions. As I said, I have spoken with the Mayor and I will be at the city council meeting Monday to clarify and to answer any questions they may have. Any questions contact me - Gregg

Greetings:

Monday night's city councils meeting the Pershing Blvd. safety issues are going to be brought before the city council (during the "other business" time slot). Pete Laybourn and City Councilman Sean Allen have asked me to be there as the MCPD Chairman. Since a City Councilman asked me to be there, of course I will be there. And due to the fast action on this issue, I have given a copy of the letter I wrote to each member of the governing body (letter is attached). I wanted you all to be fully informed and aware of these activities. I would have preferred to have more time to discuss this, but events beyond my control have prevented that. **Send me your thoughts, talking points, etc.** Whether I am going to speak Monday night is yet to be determined (I have a feeling I will be asked to). I will be prepared.

Sincerely, Gregg Crisp
Chairman I-180/Greeley Highway Enhancement Coalition-
Chairman Mayor's Council for People with Disabilities-
Executive Committee Member at Large
CAPPA -WY Department of Health

StateFarm



Alan J. Ose, Agent

State Farm Insurance

1022 E. Pershing Blvd

Cheyenne, Wyoming

August 22, 2014

Sreyoshi Chakraborty

Metropolitan Planning Organization

Cheyenne, Wyoming

Dear Ms. Chakraborty:

On behalf of myself and hundreds of my clients and policyholders, I must strenuously object to the plans put forth regarding the stretch of east Pershing Boulevard between Evans Avenue and Logan Avenue.

To begin with, this road was completely re-done and finished barely one year ago, with months of planning, construction, and attendant traffic disruption and aggravation. That would have been a good time to tinker and experiment with any pedestrian/bicycle ideas.

This section of road is a commercial artery, not a path through the parkway. There are so few pedestrians and bicyclists as to make it ludicrous to attempt to cater to them for the few months the weather permits. The vehicles that use the road have paid for that road over the years in the form of road, use, and Fifth Penny taxes and expect that the commitment be honored.

The roadway is too narrow to safely accommodate another lane or two for bicycles. If installed, it would only give bicyclists a false sense of security and safety, leading to tragic and preventable accidents.

Sincerely,

A handwritten signature in blue ink that reads "Alan J. Ose". The signature is written in a cursive, flowing style.

Pershing Blvd. Meeting
2.20.2015

Meeting w/Rande Pouppirt 11:30 am

- Overall approach is solid
- Gateway treatments and corner plazas are positive additions
- Continue to explore crossing location at Duff Avenue/Pershing Blvd.
- Concerns with potentially closing Alexander Avenue or Dunn Avenue
 - Ensure drive thru access to Rande's property is maintained
 - Need two access points off Pershing including drive thru and parking
 - Need parking access at rear
 - Could be amenable to closure of Alexander Avenue if adjacent drive thru access provided

Meeting w/Todd Anderson (Elite Cleaners) 1pm

- Firm on continuing to provide direct pull in access to front parking off Pershing
- Alley continuing to Airport Parkway could help circulation
- Has no immediate desire to remove storage bldg at west to accommodate additional parking or shared parking arrangement with corner property
- Could be amenable to parking reconfiguration if quantity of parking increases
- Potential sale of property could be pending in near future with retirement
- Remove abandoned light pole at SW corner of property

- Redevelopment scenario should be shown here as it is likely in near future

Meeting w/Tom, Sreyoshi, Brandon Cammarata, Nathan 2pm

- Explore and refine crossing location and crossing type
 - Maintain left turn access to Dairy Queen
 - Explore potential crossing to east of Duff
- Need signal timing adjustments for pedestrian cycle at Pershing/Airport Pkwy.
- Show enhanced signal poles and crossing poles
- Need splashguard on tree planters (like Casper 2nd St.)
- Show Airport wayfinding/gateway sign (use City Std. wayfinding signs)
- Show transit stop at Airport Parkway
- Show crosswalk treatments in renderings and capture entire intersection in each
- Short term, intermediate and longer term phasing desirable
- Overall approach should be refined
 - Explore cost savings refinements to cross-section to keep curb line intact
 - Expand outward and establish build-to lines as redevelopment occurs
- Approach should focus on guiding redevelopment efforts
 - Architectural concepts
 - Build-to lines
 - Streetscape materials and widths
- Phasing refinements
 - 1: Crossing
 - 2: Commercial core from Airport Parkway to Dunn Ave. including intersections(may break out further)
 - 3: Commercial core from Dunn Ave. to Logan Ave.
 - 4: Medians from Evans to Airport Parkway
 - 5: Sidewalk widths and street trees from Evans to Airport Parkway (may consolidate 4/5)
 - Funding Sources: STP Urban, 5th Penny, 6th Penny, others

Letters



Nathan
PTI
RP

Re: Pershing 
Rick Kaysen to: Gregg Crisp

02/22/2013 03:25 PM

Thank you sir--well explained.



Rick Kaysen
Mayor
City of Cheyenne
307-637-6300

Gregg Crisp

[I need to clarify a few things in the earlier email I...](#)

02/22/2013 01:25:02 PM

From: Gregg Crisp <gregg@greggforcheyanne.com>
To: Gale Shenefelt <shenefeltg@laramie1.org>, Mike Sandidge <mike.sandidge@wyo.gov>, Joanne Weigand <tinkertoy506@yahoo.com>, Shane Moore <shane@kidsteplc.com>, Mark McKay <mark.mckay@wyo.gov>, "C. Ray Livermont" <rslrc@yahoo.com>, Jason Lewis <lew6242@aol.com>, Daryl Hensel <dhenselcpa@aol.com>, Connie Hand <cdhand82009@yahoo.com>, Gregg Crisp <Gregg@greggforcheyanne.com>, MCPD Barbara <Harleyblue2@live.com>, lobarolass@gmail.com, CITY MAYOR <mayor@cheyennecity.org>, Sean Allen <seandallen@hotmail.com>,
Date: 02/22/2013 01:25 PM
Subject: Pershing

I need to clarify a few things in the earlier email I sent (see below). The MCPD is NOT presenting the Pershing Blvd. safety concerns to the governing body, again the MCPD is NOT presenting the matter. It was never my intention to present it Monday night. It was/is my understanding that Pete Laybourn is to present the matter for discussion. As far as to whom even asked me to be there and what my participation would be was misinterpreted or I was mislead. I feel now, after speaking with the Mayor, that I, was/am being used for leverage. I did not clarify things as I should have and I must be accountable for my actions. As I said, I have spoken with the Mayor and I will be at the city council meeting Monday to clarify and to answer any questions they may have. Any questions contact me -Gregg

Greetings:

Monday night's city councils meeting the Pershing Blvd. safety issues are going to be brought before the city council (during the "other business" time slot). Pete Laybourn and City Councilman

Sean Allen have asked me to be there as the MCPD Chairman. Since a City Councilman asked me to be there, of course I will be there. And due to the fast action on this issue, I have given a copy of the letter I wrote to each member of the governing body (letter is attached). I wanted you all to be fully informed and aware of these activities. I would have preferred to have more time to discuss this, but events beyond my control have prevented that. **Send me your thoughts, talking points, etc.** Whether I am going to speak Monday night is yet to be determined (I have a feeling I will be asked to). I will be prepared.

Sincerely, Gregg Crisp

Chairman I-180/Greeley Highway Enhancement Coalition-
Chairman Mayor's Council for People with Disabilities-
Executive Committee Member at Large
CAPPA -WY Department of Health

Standard "Thinking Time" email by Post-Excess-City of Denver LLC

Cheyenne Mayor's Council for People with Disabilities

Mayor Richard "Rick" L. Kaysen

Chairman, Gregory "Gregg" A. Crisp



Vice- Chairman, Mike Sandidge

Secretary/Treasurer, Daryl Hensel

Equal Access and Opportunity... Not Special Treatment!

February 18, 2013

To: The Governing Body City of Cheyenne
2101 O'Neil Ave.
Cheyenne, WY 82001

Mr. Mayor, Honorable Councilmen and Councilwomen:

A concerned citizen, Pete Laybourn, brought before the MCPD an issue of great importance to him. It consists of vehicle and pedestrian traffic, and effects both those with a disability and those without. The area of concern is Pershing Blvd. between Morrie Ave. and Dunn Ave.

This particular stretch of roadway sees a high number of vehicle traffic at a relatively high speed of travel. But it also has a large volume of pedestrian traffic that includes a great number of people with disabilities. This is due to the businesses and services located on that section of roadway; such as Hoy's Drug, Frontier Access and the Vision clinic.

With the high numbers of both vehicle and pedestrian use, the ability to cross the roadway or to turn into a business are very hazardous. The concern is magnified if you are a pedestrian attempting to cross, at Duff and Pershing, for example from Hoy's to the Vision Clinic. And safety concerns become quite high if you are disabled or handicapped.

Members of the MCPD who live nearby or use the area, myself included: Concur with Mr. Laybourne that this stretch of roadway is of great concern. And one Council member recalled a woman being hit in her wheelchair at that very intersection.

Enhancing Equality, Accessibility and Opportunity for People regardless of their disAbility.

Cheyenne Mayor's Council for People with Disabilities

Mayor Richard "Rick" L. Kaysen

Chairman, Gregory "Gregg" A. Crisp



Vice- Chairman, Mike Sandidge

Secretary/Treasurer, Daryl Hensel

Equal Access and Opportunity... Not Special Treatment!

Then there is the added safety concerns at Duff and Pershing that this intersection sits at the bottom of two hills. We believe this can add to vision impairment and increased speeds. While our ideal solution and recommendation would be to see a traffic light placed at Dunn and Pershing (the junction boxes are in place). That is not what we are necessarily asking for.

What we are recommending and asking for is that an independent professional study be completed on that stretch of roadway, (Pershing between Morrie and Dunn), as was done for the traffic light placement at Del Range and Marble Street.

With work soon to begin on the remediation of East Pershing Blvd., we see this as an optimal time to analyze any possible roadway/right-of-way safety enhancements; from a traffic light, to a crosswalk with highly visible pedestrian signage or something between the two.

Thank you for your detailed investigation and thoughtful consideration of what we view as an intercity roadway with significant safety concerns. Please feel free to contact us with any questions or added considerations.

Respectfully,

MCPD Chairman Gregg Crisp
Chairman@cheyennemcpd.org

Information from City of Cheyenne

MEMORANDUM

TO: Nathan Beauheim, P.E., Acting City Engineer
FROM: Mark Escobedo, P.E., Traffic Engineer *MAE*
DATE: March 8, 2013
SUBJECT: Traffic Signal Request at Duff Avenue and Pershing Boulevard

Each year, the city receives many inquiries concerning the installation of traffic signals. As traffic volumes increase beyond the capability of lesser appropriate alternative traffic control devices such as a four-way stop, it may be necessary to install a traffic signal.

Over the past few years, the city has installed signals at an average rate of 1 per year. These signals are installed using various funding sources, including tax dollars or they may be installed by developers as a requirement under a development agreement. Traffic signals are more costly than is commonly realized, even though they represent a sound public investment when justified. A modern signal can cost up to \$250,000. This money pays for a traffic signal controller, signal heads, vehicle detectors and signal poles and supports. Therefore, their installation must be carefully considered. Before installing a traffic signal at an intersection, established minimum criteria must be satisfied. Our review includes an examination of:

- The amount of vehicular and pedestrian traffic.
- The need to provide interruption to the major flow for side street vehicles and pedestrians.
- Special conditions such as horizontal and vertical roadway alignment.
- The accident history at the intersection.
- The proximity of schools.
- A written request is recommended to start the evaluation process for considering placement of a traffic signal.

A traffic control signal has an open-ended life and persists through time as long as the intersection or mid-block location remains signalized. Deteriorating or failed components are, replaced rather than replacing the traffic control signal in its entirety. The components each have a varying life cycle from 1 to 25 years given the improved reliability of components and the quality of products available from manufacturers. Thus a traffic control signal can be expected to have a useful life of 25 years before being replaced.

The general traffic control signal budget is not separated between installation of new signals and routine maintenance needs for existing traffic control signals. It is difficult to determine whether current funding is sufficient for installation of new traffic control signals and maintenance. As the number of traffic control signals increases each year, additional funding will be required to

maintain these devices. Traffic control signals requested and installed where not needed, just add to the strain on staff and resources.

When the Engineering Division receives a request to do an engineering study of a particular intersection, a series of steps can take place.

1. Criteria have been developed to help ensure that new traffic control signals are installed only where they will do more good than harm. These criteria are called “warrants”, and are the minimum legal criteria as is required by the Manual on Uniform Traffic Control Devices (MUTCD). Traffic and/or MPO technicians conduct an engineering study to see if the location meets warrants. This engineering study is an information gathering process. Information is collected regarding traffic volume, the speed that traffic is flowing, the amount of pedestrian activity, accident history and the distance the proposed new signal location is away from adjacent signals.
2. If the location passes the engineering study, the new traffic signal site goes on a priority list and the ranking on the list is determined by the traffic volume figures and accident history.
3. Each year, based on funding, the City of Cheyenne starts at the top of the priority list with the goal of constructing as many new signals as the budget will allow.
4. Once funding is available, a traffic signal design is prepared. As part of the design, bid specifications are also prepared. This process takes between two and three months.
5. The signal project then goes out to bid, which takes between two and three months. The project is awarded and construction begins and takes approximately six months to complete.

Traffic control signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic control signals being installed at many locations where they are not needed, adversely affecting the safety and efficiency of vehicle, bicycle and pedestrian traffic. Traffic signals have advantages and disadvantages that must be considered when deciding whether to install them. Improper or unjustified traffic control signals can result in one or more of the following disadvantages:

1. Excessive delay.
2. Excessive disobedience of the signal indications.
3. Increased use of less adequate routes as road users attempt to avoid the traffic control signals, and
4. Significant increase in the frequency of collisions (especially rear-end collisions by up to 50%).

An engineering study of the traffic conditions, pedestrian characteristics, and physical characteristics of the intersection of Duff Avenue and Pershing Boulevard have been performed to determine if a traffic control signal is justified at this location. The traffic counts, a five-year accident record, and the signal warrant analysis summary are attached for your review. MUTCD Warrant 5 – School Crossing, and Warrant 9 – Intersection Near a Grade Crossing, were not

evaluated. The investigation and the analysis indicated that Warrants 1 through 4 and Warrants 6 through 8 have not been satisfied. The minimum legal criteria required by the MUTCD has not been met, therefore it is recommended that a traffic control signal not be installed at this location.



Cheyenne MPO
 2101 O'Neil Ave, 205
 Cheyenne, WY 82001

Study Name : **Duff & Pershing**
 Study Date : **02/06/13**

Signal Warrants - Summary

Major Street Approaches

Eastbound: Pershing

Number of Lanes: **2**
 85% Speed < 40 MPH.
 Total Approach Volume: **4,881**

Westbound: Pershing

Number of Lanes: **2**
 85% Speed < 40 MPH.
 Total Approach Volume: **4,248**

Minor Street Approaches

Northbound: Duff

Number of Lanes: **1**
 Total Approach Volume: **192**

Southbound: Duff

Number of Lanes: **1**
 Total Approach Volume: **217**

Warrant Summary (Urban values apply.)

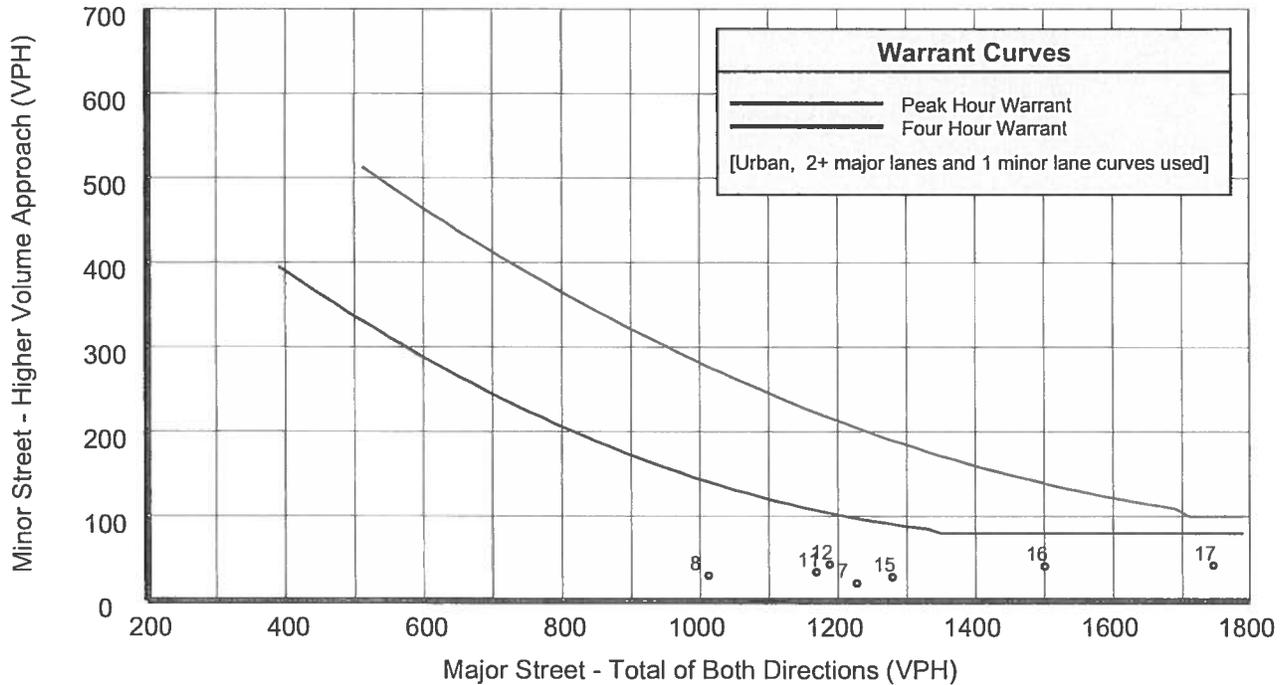
Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).	
Warrant 3 - Peak Hour	Not Satisfied
Warrant 3A - Peak Hour Delay	Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
Warrant 3B - Peak Hour Volumes	Not Satisfied
Volumes do not exceed minimums for any hour.	
Warrant 4 - Pedestrian Volumes	Not Satisfied
Nearest signal within 300 feet.	
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Satisfied
Nearest coordinated signal (299) is less than 1,000 feet away.	
Warrant 7 - Crash Experience	Not Satisfied
Number of accidents (2) is less than minimum (5). Volume minimums are not met.	
Warrant 8 - Roadway Network	Not Satisfied
Major Route conditions not met. One or more volume requirement met.	
Warrant 9 - Intersection Near a Grade Crossing	Not Evaluated



Cheyenne MPO
 2101 O'Neil Ave, 205
 Cheyenne, WY 82001

Study Name : Duff & Pershing
 Study Date : 02/06/13

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume

War 1B-Interruption of Traffic

War 1C-Combination of Warrants

Hour Begin	Major Total	Minor Vol Dir	Maj 600	Min 150	Hour Begin	Major Total	Minor Vol Dir	Maj 900	Min 75	Hour Begin	Major Total	Minor Vol Dir	Maj 720	Min 120
16:45	1,820	44 SB	Yes	No	16:45	1,820	44 SB	Yes	No	16:45	1,820	44 SB	Yes	No
16:30	1,762	44 SB	Yes	No	16:30	1,762	44 SB	Yes	No	16:30	1,762	44 SB	Yes	No
17:00	1,746	42 SB	Yes	No	17:00	1,746	42 SB	Yes	No	17:00	1,746	42 SB	Yes	No
16:15	1,611	51 SB	Yes	No	16:15	1,611	51 SB	Yes	No	16:15	1,611	51 SB	Yes	No
16:00	1,501	41 SB	Yes	No	16:00	1,501	41 SB	Yes	No	16:00	1,501	41 SB	Yes	No
15:45	1,382	35 SB	Yes	No	15:45	1,382	35 SB	Yes	No	15:45	1,382	35 SB	Yes	No
15:30	1,309	32 SB	Yes	No	15:30	1,309	32 SB	Yes	No	15:30	1,309	32 SB	Yes	No
17:15	1,304	24 SB	Yes	No	17:15	1,304	24 SB	Yes	No	17:15	1,304	24 SB	Yes	No
15:15	1,284	30 SB	Yes	No	15:15	1,284	30 SB	Yes	No	15:15	1,284	30 SB	Yes	No
15:00	1,279	28 SB	Yes	No	15:00	1,279	28 SB	Yes	No	15:00	1,279	28 SB	Yes	No
07:15	1,253	26 NB	Yes	No	07:15	1,253	26 NB	Yes	No	07:15	1,253	26 NB	Yes	No
07:00	1,227	21 NB	Yes	No	07:00	1,227	21 NB	Yes	No	07:00	1,227	21 NB	Yes	No
07:30	1,202	26 NB	Yes	No	07:30	1,202	26 NB	Yes	No	07:30	1,202	26 NB	Yes	No
11:15	1,199	35 SB	Yes	No	11:15	1,199	35 SB	Yes	No	11:15	1,199	35 SB	Yes	No
12:00	1,188	43 SB	Yes	No	12:00	1,188	43 SB	Yes	No	12:00	1,188	43 SB	Yes	No
11:45	1,186	45 SB	Yes	No	11:45	1,186	45 SB	Yes	No	11:45	1,186	45 SB	Yes	No
11:00	1,169	34 SB	Yes	No	11:00	1,169	34 SB	Yes	No	11:00	1,169	34 SB	Yes	No
11:30	1,162	40 SB	Yes	No	11:30	1,162	40 SB	Yes	No	11:30	1,162	40 SB	Yes	No
07:45	1,126	30 NB	Yes	No	07:45	1,126	30 NB	Yes	No	07:45	1,126	30 NB	Yes	No
08:00	1,013	30 NB	Yes	No	08:00	1,013	30 NB	Yes	No	08:00	1,013	30 NB	Yes	No
14:45	963	23 SB	Yes	No	14:45	963	23 SB	Yes	No	14:45	963	23 SB	Yes	No
06:45	886	15 NB	Yes	No	06:45	886	15 NB	No	No	06:45	886	15 NB	Yes	No
10:45	869	21 SB	Yes	No	10:45	869	21 SB	No	No	10:45	869	21 SB	Yes	No
12:15	862	33 SB	Yes	No	12:15	862	33 SB	No	No	12:15	862	33 SB	Yes	No

Counter:
 Counted By: JSims
 Weather: Clear
 Other:

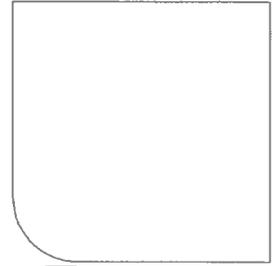
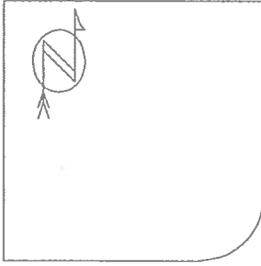
File Name : Duff & Pershing
 Site Code : 00000000
 Start Date : 1/31/2013
 Page No : 1

Groups Printed- Vehicles

Start Time	Duff From North				Pershing From East				Duff From South				Pershing From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	2	0	1	0	2	142	2	0	2	0	1	0	1	116	0	0	269
07:15 AM	1	0	2	0	2	167	2	1	5	0	0	0	1	120	1	0	302
07:30 AM	4	0	1	0	3	196	5	0	6	0	1	0	1	124	1	0	342
07:45 AM	3	0	3	0	1	193	3	0	5	0	1	0	7	136	1	0	353
Total	10	0	7	0	8	698	12	1	18	0	3	0	10	496	3	0	1266
08:00 AM	1	0	0	0	5	159	14	0	7	0	1	0	6	104	1	0	298
08:15 AM	4	0	0	0	4	118	2	0	2	0	3	0	7	110	1	1	252
08:30 AM	2	0	0	0	4	119	5	1	5	1	5	0	5	119	2	1	269
08:45 AM	1	0	1	0	1	107	6	0	5	0	1	0	4	108	2	1	237
Total	8	0	1	0	14	503	27	1	19	1	10	0	22	441	6	3	1056
11:00 AM	8	0	1	1	5	116	6	2	2	0	3	1	4	160	5	1	315
11:15 AM	6	0	1	0	4	120	4	0	6	0	2	0	3	162	3	0	311
11:30 AM	4	0	1	0	3	119	3	0	4	1	2	0	2	146	4	0	289
11:45 AM	10	1	2	2	6	122	7	1	5	0	3	1	1	159	5	1	326
Total	28	1	5	3	18	477	20	3	17	1	10	2	10	627	17	2	1241
12:00 PM	9	0	1	1	2	134	5	0	3	0	5	1	4	177	4	1	347
12:15 PM	8	1	3	0	7	124	6	0	5	1	3	0	1	116	5	1	281
12:30 PM	6	0	4	0	3	153	2	1	5	0	5	2	5	134	4	2	326
12:45 PM	7	1	3	1	2	162	4	1	4	0	4	0	3	128	3	2	325
Total	30	2	11	2	14	573	17	2	17	1	17	3	13	555	16	6	1279
03:00 PM	6	0	0	0	2	141	4	1	0	0	0	0	3	173	4	0	334
03:15 PM	8	1	2	4	8	126	5	0	10	1	3	2	2	164	8	0	344
03:30 PM	5	0	1	0	8	141	3	0	3	0	0	0	4	161	6	0	332
03:45 PM	4	0	1	0	7	147	7	0	1	0	2	0	2	153	0	0	324
Total	23	1	4	4	25	555	19	1	14	1	5	2	11	651	18	0	1334
04:00 PM	1	1	6	2	5	150	5	0	2	0	1	0	5	167	0	4	349
04:15 PM	8	0	5	0	4	138	4	0	1	0	1	2	3	189	0	0	355
04:30 PM	3	0	6	0	6	155	3	0	8	1	2	0	5	223	4	0	416
04:45 PM	5	0	6	0	1	176	7	4	6	1	2	0	5	240	6	0	459
Total	17	1	23	2	16	619	19	4	17	2	6	2	18	819	10	4	1579
05:00 PM	12	0	6	0	4	144	7	0	11	0	3	0	3	278	6	0	474
05:15 PM	5	0	1	0	1	165	3	0	6	0	0	0	12	301	7	0	501
05:30 PM	7	0	2	0	1	152	5	4	5	0	2	0	8	282	6	1	475
05:45 PM	8	0	1	0	4	123	2	0	2	0	1	0	5	223	4	0	373
Total	32	0	10	0	10	584	17	4	24	0	6	0	28	1084	23	1	1823
Grand Total	148	5	61	11	105	4009	131	16	126	6	57	9	112	4673	93	16	9578
Apprch %	65.8	2.2	27.1	4.9	2.5	94.1	3.1	0.4	63.6	3	28.8	4.5	2.3	95.5	1.9	0.3	
Total %	1.5	0.1	0.6	0.1	1.1	41.9	1.4	0.2	1.3	0.1	0.6	0.1	1.2	48.8	1	0.2	

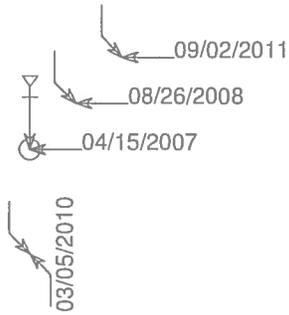
11 Accidents

Duff Ave & Pershing Blvd 01/01/07 - 12/31/11



07/29/2010

11/30/2010



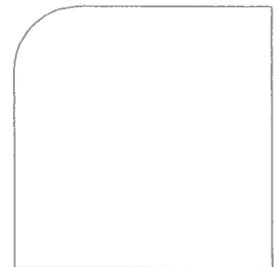
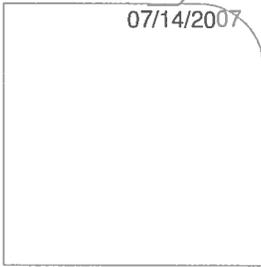
07/18/2011

06/28/2010

04/25/2008

07/14/2007

03/05/2008



(clear filter), (0) accidents with insufficient data for display

- | | | | |
|---------------|-------------------|--------------|---------------------|
| ← Straight | ▭ Parked | × Pedestrian | Fixed objects: |
| ← Stopped | ←~ Erratic | ⊗ Bicycle | □ General □ Pole |
| ← Unknown | ←~ Out of control | ○ Injury | ▣ Signal □ Curb |
| ↔ Backing | ↗ Right turn | ⊙ Fatality | ⊠ Tree ⊗ Animal |
| ↔↔ Overtaking | ↖ Left turn | ⊠ Nighttime | ◁ 3rd vehicle |
| ↔↔ Sideswipe | ↪ U-turn | ⊠ DUI | * Extra data |



Engineering
2101 O'NEIL AVENUE Room 206, Cheyenne, WY 82001
(Phone) 307-637-6268 (Fax) 307-637-6256

MEMORANDUM

TO: Mayor Kaysen
City Council

FROM: Nathan Beauheim, P.E., Acting City Engineer

RE: Intersection of Pershing & Duff

DATE: March 8, 2013

There has been recent discussion about the possibility of re-installing the traffic signal that used to exist at the intersection of Pershing & Duff. While the documentation on file in the City Engineer's Office is unfortunately not as complete as might be desired about the historic sequence of events, this memorandum has been prepared to discuss the history as best we have been able to determine along with the current conditions and alternatives for the future.

Intersection History

The City retained AVI in 1987 to develop a master plan for the reconstruction of Pershing Blvd. between I-25 and Converse Ave. The stated intention at the time was to split the project into approximately five phases with construction to take eight to ten years (not continuous). Phases one through three were constructed in the 1990's, however phases four (Concord to Converse) and five (I-25 to Pioneer) have only recently gone to construction.

As might be expected considering the length of the proposed project, the list of concerns that arose in the project planning was extensive. The most salient for this discussion was the need for improvements at the intersection of Pershing & Morrie. At the time, the intersection consisted of two offset T's, as can be seen on the attached sketch from the AVI master plan, neither of which was signalized. As might be expected, this configuration was proving problematic under even moderate amounts of traffic, resulting in excessive delays and crashes. Construction of a new airport terminal on Airport Parkway and other development along Airport Parkway was only expected to exacerbate the situation. The recommended alternative, which was later carried out, was to realign Morrie into a signalized four-way intersection. This involved property acquisition from both private property owners on the south side of Pershing and the cemetery on the north side. This realignment was the number one recommendation in the entire master plan.

Based on the historic traffic numbers on Duff contained in the AVI master plan, the signal at Duff did not

meet the recommended criteria for installation of a traffic signal at the time the project was constructed and the signal removed. The AVI master plan also included projections for future traffic numbers at the intersection. Based on the future traffic projections contained in the AVI master plan, a signal would also not be justified at the end of their planning horizon for the master plan in 2020. Comparing the projected numbers to the counts we took earlier this year, traffic on Duff is growing even slower than AVI projected. This is not especially surprising as the neighborhoods on either side of Pershing are fully developed and hence can be expected to produce very little additional traffic over time.

Current Conditions

Mark Escobedo, City Traffic Engineer, has prepared a memorandum summarizing the traffic study we performed earlier this year, which is attached. In brief, at the time we studied the intersection, a traffic signal was not justified. In fact, even if traffic on Duff were to double, the thresholds for installing a signal would still not be met. As mentioned above, as the surrounding neighborhoods are fully developed, there is little expectation that traffic on Duff will change significantly.

There has been some discussion that the intersection is busier during the summer, primarily due to traffic patterns at Dairy Queen. This is quite possible. We would be happy to do a follow-up study during the summer months to see if this is in fact true. Unfortunately, this may not be possible in the summer of 2013, depending on how the current Pershing project affects traffic patterns.

Relationship to Current Project

It has been mentioned that the current project is an opportune time to consider these improvements. This is not the case. Anything added to the project now would have to be done as a change order to the contractor. This may not result in the lowest prices. In addition, the requirements associated with the Federal Highway funds being used to construct this project make it extremely difficult to make major changes to the scope of a project at this stage. Adding an additional traffic signal would absolutely be considered to be a major change in the scope of the project.

Impacts and Other Alternatives

Installing a traffic signal at Pershing & Duff would have other impacts on the area. Duff Ave. on the north side of Pershing is only about 40' wide. Approximately 65% of the southbound traffic on Duff turns right onto Pershing. To avoid delaying that traffic too much, designating and striping separate lanes of traffic would be desirable. To do this would require prohibiting all on-street parking on Duff between Pershing and Braun Dr. This could exacerbate existing parking problems at the Cheyenne Vision Clinic (1200 E. Pershing).

Installing a traffic signal at Duff could concentrate traffic from the respective neighborhoods onto Duff. This may or may not be acceptable to the impacted residents. A new signal at Duff would have very little benefit to the overall network. The realignment and signalization of Morrie completed an arterial running from Lincolnway to the east-west portion of Airport Parkway, crossing 19th/20th Streets and Pershing in

the process. In contrast, Duff runs only from 19th St. to 5th Ave., providing limited benefit beyond the immediate area. An additional signal on Pershing would make signal coordination more difficult and likely increase delays on an increasingly busy arterial.

Alternatively, it has been proposed that a marked crosswalk could be installed at the intersection to facilitate pedestrian crossings. The current edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) states the following on these types of situations:

New marked crosswalks alone, without other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should not be installed across uncontrolled roadways where the speed limit exceeds 40 mph and either:

A. The roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater; or

B. The roadway has four or more lanes of travel with a raised median or pedestrian refuge island and an ADT of 15,000 vehicles per day or greater.

As the posted speed limit on Pershing is only 35 mph, this section is not strictly applicable. However, it does highlight an area of concern. The somewhat similar crosswalk at Pershing & McCann has long proven to be problematic despite the presence of a reduced speed limit when school children are traveling to and from school. One of the major issues with crosswalks on multi-lane roads is the situation where traffic in one lane sees the pedestrian and stops while traffic in the other lanes passes them without seeing the pedestrian. While this is problematic for all pedestrians, it can be especially so for small children as their skills for judging speed and distance are not yet fully developed. A marked crosswalk may also serve to give pedestrians a heightened sense of security. When this is not combined with heightened awareness by motorists, the results can be unpleasant.

One possibility to mitigate some of these concerns would be to install a raised median on Pershing to act as a pedestrian refuge. To be truly effective, it would probably need to extend across both Duff and the easternmost Dairy Queen entrance, converting both into a right-in/right-out configuration. Whether this impact is acceptable would have to be determined.

Conclusions and Recommendations

The City Engineer's Office does not recommend the installation of a new traffic signal at the intersection of Duff & Pershing. If the Governing Body wishes to investigate the situation further, it would be the recommendation of the City Engineer's Office that funds be allocated for a small planning project to gather public input and formally evaluate different alternatives.

Open House Comments

Pershing Complete Streets Plan Open House #1

Name	Address, Email
Martine Petersen	2101 O'Neil Ave., Kpetersen@cheyennecity.org
Paula Jordanier	217 E 1st Ave pyordier@gmail.com
JEFF WIGGANS	PARSONS INC.
JENNIFER ALKER	2810 HOUSE AVE ALKER@LARAMIE1.ORG
Rick Rayson	CITY OF Cheyenne
Boyd Wiggam	3359 Alexander Ave boyd.wiggam@meiice
Peter Layboorn	515 S 25th St potelayboorn@quest.ca
Alice Burnan	1695 Morningstar Rd 82009 aburnan@wyoming.com
Logan Graves	2101 O'neil Ave lgraves@cheyennecity.org

Pershing Complete Streets Plan Open House #1

Name	Address, Email
William Dennis	3314 DUFF AVE
Sharon Michnick	1525 Andover Dr.
Jeff White	1512 E 22nd JEFFW30@hotmail.com
Kee Henken	2612 Maywood Ave
DiANE WINTER	522 E 26th Street
Frank Cole	
Neil CARROLL	1011 EAST PERSHING
Kande Ruppert	2400 Dunn.
Michelle McManis	1207 E Pershing Blvd, Day
Jim Spires	jspires@heymercivcity.org
Linda Feylyen	3335 Alexander Ave.
Iryna Chigpau	3359 Alexander Ave.

Pershing Complete Streets Plan Open House #1

Name	Address, Email
Tom Kreider	217 E 1st Ave, 83001 Kreider.t@gmail.com
Shuttle Williams	5101 9th Ave, City Shuttle@cheyenneccity.org
Bryan Cook	bcook@cheyenneccity.org

Pershing Boulevard Complete Streets Open House Comments

From Boards

- Maintain left hand turn lanes with center turn lane
- More signage needed for the awareness of pedestrian crossings
- Wider sidewalks and place island between streets and sidewalks
- Clearly marked entrances going into businesses. More signage and lower speed limit
- Need stop lights and reduce speed limits
- Flashing beacon at Morrie/Pershing and Alexander/Pershing
- Need pedestrian crossing. Speed limit needs to be reduced
- Need landscaping all along
- Any beautification

Boyd Wiigam- 3359 Alexander Avenue (requested a follow up)

We absolutely need to keep the left turn lane on Pershing Boulevard

Linda Felzer- 3335 Alexander Ave

Just want a safe way to cross Pershing. No aesthetics

WM Lewis- 3314 Duff Avenue, 635-3063

Meeting was very interesting. Hope we will be able to correct a lot of the problems.

No Identification

Street section option 3 would definitely be the most utility, desirable/comfortable but option 1 with the separated bike and pedestrian would be safest if you narrowed the car lanes enough as in option 3 to accommodate a safe buffer between bikes and lanes.

Yes to pedestrian refuge median and texture to alert drivers and non-drivers

Because of our drainage problems, I think a porous option rather than concrete would be preferable

Any kind of landscaping to help define the area as pedestrian and bicycle friendly

Also, driver, bicyclists and pedestrian will need to be educated on how to interact safely.

Neil Carroll- 1011 East Pershing Blvd, 634-5491, neil.carroll@centurylink.net

Please keep current curb and sidewalk width at the corner of Morrie and East Pershing. In other words, please do not widen Pershing or Morrie Avenue. Please keep the thru traffic signals where they are at the corner of Pershing and Morrie. By all means, utilize some sort of pedestrian crossing at the dairy

Queen intersection at Duff. Respect and value residential property owner's opinions just as much as the business owners.

1. I hope you will respect and value the Pershing Blvd. residential property owners' opinions just as much as the business owners.

2. I do encourage the city to utilize some sort of pedestrian crossing at the Dairy Queen intersection at Duff (e.g., a traffic signal or pedestrian signal of some sort).

3. I live at the corner of East Pershing and Morrie Ave. I strongly encourage your department to keep the current curb and sidewalk configuration at the corner of Morrie and East Pershing Blvd. In other words, please do not widen Pershing Blvd. or Morrie Ave. so the sidewalk is positioned right up against my property line fence. I realize the city can do anything it wants to with right of way, but the current configuration provides a nice buffer between my fence line, the sidewalk and the street on both sides.

4. Please keep the traffic signals at the corner of Morrie and East Pershing Blvd. and please try not to relocate them on the corner for design purposes. Although the accident rate has greatly diminished since the Morrie and Pershing realignment project in 1992, I still have had two car accidents that resulted in damage to my fence over that same period. I would not want the car traffic to be any closer to my fence line, if it can be avoided.

5. Also, when considering design purposes, as nice as they may be, please incorporate planning for snow removal. Every winter it is a battle to keep the sidewalks clear on the right of way sidewalks only to have the snow plows push it back onto the sidewalk and the grass. In my opinion, any future design element should consider snow removal access for the snow plows. If the curb and sidewalks are moved any closer to my fence line, the snow will be pushed even further onto my property. It is so hard to keep good grass after the chemicals melt on the lawn.

6. Finally, please advise future city contractors awarded contracts for Pershing or Morrie Ave. to avoid placing traffic safety signs on the grass of residential property owners' right of way. The sand bags used to hold them down occasionally will break and leak onto the grass. Nothing can grow at that spot after it happens. It happened to me during the curb and sidewalk replacement repair last year. I noticed they hardly ever place them on the cemetery's right of way beautiful grass. Hmmmmm! Just saying.

Alan Ose- State Farm Insurance, 1022 E Pershing Blvd

This section of road is a commercial artery, not a path through the parkway. There are so few pedestrians and bicyclists as to make it ludicrous to attempt to cater to them for the few months a year weather permits. The vehicles that use the road have paid for the road over the years in the form of road, use and fifth penny taxes and expect that the commitment be honored

The roadway is too narrow to safely accommodate another lane or two for bikes. If installed, it would only give bicyclists a false sense of security and safety, leading to tragic and preventable accidents

Pershing Complete Streets Plan Open House #2

Name	Address, Email
LUCAS ALBA, WTE	782 W. Lincoln Way, CH1614@wvcc.edu
Sheron Madonia	1525 Anderson Dr.
Dart So	1138 E. Pershing (Dairy Queen)
Marina Petersen	2101 O'Neil Ave., mpetersen@cheyennecity.org
Todd Anderson	1024 E Pershing, Elite Cleaners
D V Gammell	1200 - 1208 - 1212 E Pershing
Susan Rose-Schwartz	1204 E Pershing, tbschwartz@browns.net
Neil J. CARROLL	1011 E. PERSHING
Dawn Anderson	1026 E Pershing, Elite Cleaners
Lise Ammons	1001 Lathrop and Dr. Chapman St
TAYLOR ROSSETTI	1801 P. minor, taylor.rossetti@wyo.gov
Tom Hagan	2101 O'Neil
Nancy Olson	2101 O'Neil Ave.

Pershing Complete Streets Plan Open House #2

Name	Address, Email
Michelle McManus	1207 E. Pershing Blvd Michelle @ michelle@mcmanus.com
David Cook	1525 E Pershing d.cook@nyoss.com
Nathan Benheim	2101 O'Neil nbenheim@ohyowacity.org
Mike Wilson	5118 Separk Ave mwilson@presnor.net
Tom Kreider	217 E 1st Ave kreider.t@gmail.com
Matt Ashby	2101 matt@ashby.com
Rick Ragsen	City of Osgoode
Peter D. Laybourn	515 E 25th pdelaybourn@questadventure.net

Pershing Complete Streets Plan Open House #2

Name	Address, Email
Pat Ashworth	2205 E. Pershing Pat.Ashworth@expresspros.com
RENEE ASHWORTH	1221 E Pershing Renee.Ashworth@expresspros.com
Paula Sandiner	217 E 1st Ave paula2@gmail.com
Jeff White	1612 E 22 Jeffwhite@hotmail.com

Pershing Boulevard Complete Streets

COMMENT FORM

Name Nathan Beaheim

Address 2101 O'Neil

Phone 638-4315

Email nbeaheim@cheyenne-city.org

Would you like a follow-up from the project team regarding your comment?

Yes No (circle one)

COMMENTS: Proposed median / crosswalk at Dunn can't be built as shown and represented to the public. The refuge median needs to be 6' wide to meet ADA requirements and provide enough room to hold the RREB without it getting knocked over constantly.

This presentation was not on message. The city is not in a position to do a multi-million streetscape project and the public should not have been led to believe that something like this is under consideration.

If you would like to provide your comments electronically, please email schakraborty@cheyennempo.org. If you would like to hand deliver your comments, please drop off at 2101 O'Neil Avenue, Room 205.

Pershing Boulevard Complete Streets

COMMENT FORM

Name Jeff Wiggins

Address _____

Phone _____

Email _____

Would you like a follow-up from the project team regarding your comment?

Yes No (circle one)

COMMENTS: Why does median west of Morris stop before entrance to cemetery. It should extend further west.

If you would like to provide your comments electronically, please email schakraborty@cheyennempo.org.
If you would like to hand deliver your comments, please drop off at 2101 O'Neil Avenue, Room 205.

Pershing Boulevard Complete Streets

COMMENT FORM

Name Paula Gordiner
Address 217 E 1st Ave
Phone 286-3886
Email psordize@gmail.com

Would you like a follow-up from the project team regarding your comment?

Yes No (circle one)

COMMENTS: The Bank should check with its customers to see what proportion of hours we the Pershing left turn. Riders than the larger entrance. My guess is none, because the mobility & speed would make it too dangerous.

Please don't let short sided narrow rounded curbside business owners obstruct the project.

If you would like to provide your comments electronically, please email schakraborty@cheyennempo.org. If you would like to hand deliver your comments, please drop off at [2101 O'Neil Avenue, Room 205](#).

Pershing Boulevard Complete Streets

COMMENT FORM

Name Kenn Keisler
Address 417 E 1st Ave
Phone 634-3533
Email Keislerk@gmail.com

Would you like a follow-up from the project team regarding your comment?

Yes No (circle one)

COMMENTS: This is a challenging corridor - you have done a great job trying to optimize it. I endorse it if I want to voice my concern about bike traffic - I was in Lake Park last summer and the pedestrians walked in the bike lane they moved in the opposite direction. If alleviated feeling like you were going to get run over as you could see the surroundings cyclists in your lane.
If you would like to provide your comments electronically, please email schakraporty@cheyennempo.org.
If you would like to hand deliver your comments, please drop off at 2101 O'Neil Avenue, Room 205.

Pershing Boulevard Complete Streets

COMMENT FORM

Name M. Joe Weiland
Address 518 S. 3rd St
Phone 631-1174
Email mweiland@brennan.net

Would you like a follow-up from the
project team regarding your comment?

Yes No (circle one)

COMMENTS: I really like the plan. Always safe and accessible!

If you would like to provide your comments electronically, please email schakraborty@cheyennempo.org.
If you would like to hand deliver your comments, please drop off at [2101 O'Neil Avenue, Room 205](#).

Mind Mixer Comments



Topic Name: I would walk and bike more on Pershing if....

Idea Title: Striped, well marked bicycle lanes would help.

Idea Detail: Create natural landmarks to slow down traffic, such as trees or zero scaping. Market walking and biking paths to all - don't isolate age groups.

Idea Author: Deetta R

Number of Seconds 0

Number of Points 15

Number of Comments 0

Idea Title: Add bicycle lanes, reduce the speed limit, create buffer strip

Idea Detail: I would bike and walk along Pershing more if the speed limit were reduced and the cars weren't rushing by so fast. I think adding a pedestrian buffer area would be nice. Right now the sidewalk is right next to the road. I try to avoid Pershing on my bike because of the higher speed limit and no existing bike lane.

Idea Author: Stacy S

Number of Seconds 0

Number of Points 11

Number of Comments 0

Idea Title: Pedestrians love the improved sidewalk, but...

Idea Detail: The improved sidewalk on Pershing is fantastic, and has greatly increased safety and comfort for both pedestrians and drivers. A remaining issue, however, is plowing the snow. Sometimes the snow in places is days or even weeks old. I have the luxury of driving when it's nasty, but our students don't. Our kids should be able and encouraged to walk or bike to school, especially if it's only a few blocks.

The fence in front of the VA can act like a snow fence causing pedestrians to trudge through large drifts-- sometimes clinging to the fence. And unfortunately, there are no alternative routes in this particular area.



I realize that the weather in Cheyenne is out of anyone's control. However, there are places that get as much snow and wind as us that manage to be pedestrian friendly.

Idea Author: Abby P

Number of Seconds 0

Number of Comments 1

Comment 1: Thank you Abby for bringing this issue to our attention. Sidewalks attached to the travel lanes without a buffer or a treelawn area will often experience this issue as there is no room to store the snow being plowed from the road. If there is enough width in the right of way, we generally recommend detached sidewalks which not only provide greater comfort and separation to pedestrians but also serve as a space for snow storage in winter. | By Sreyoshi C



Topic Name: How can we make it easier and safer to walk Pershing?

Idea Title: Treescape along sidewalks and medians

Idea Detail: If you added some tree scaping along the sidewalks and even into a concrete median that still allowed turn access, it would not only make the corridor more safe for pedestrians and cyclists, it would also go a long way in beautifying a main thoroughfare of our community. The Businesses on Pershing would love it!

Idea Author: Jeff W

Number of Seconds 0

Number of Points 6

Number of Comments 1

Comment 1: Jeff, thank you for sharing your ideas! | By Sreyoshi C

Idea Title: Electronic Pedestrian Crossing lights on Pershing Blvd. Between Morrie Ave and Alexander so pedestrians can cross Duff Ave.

Idea Detail: Place The electronic lights on Pershing Blvd. Between Morrie Ave and Alexander Ave. post lower speed limits limits, caution lights pedestrians crossing, safe island on each corner of the side streets.

Idea Author: Annette W

Number of Seconds 0

Number of Points 6

Number of Comments 0

Address: 1406 E 19th St 82001, United States



Topic Name: Crossing Pershing Safely

Idea Title: Cross walk with beakens

Idea Detail:

This particular stretch of roadway sees a high number of vehicle traffic at a relatively high speed of travel. But it also has a large volume of pedestrian traffic that includes a great number of people with disabilities. This is due to the businesses and services located on that section of roadway; such as Hoy's Drug, Frontier Access and the Vision clinic.

With the high numbers of vehicle and pedestrian use, the ability to cross the roadway or to turn into a business are very hazardous. The concern is magnified if you are a pedestrian attempting to cross, at Duff and Pershing, for example from Hoy's to the Vision Clinic. And safety concerns become quite high if you are disabled or handicapped.

Then there is the added safety concerns at Duff and Pershing that this intersection sits at the bottom of two hills. I believe this can add to vision impairment and increased speeds. While the ideal solution and recommendation would be to see a traffic light placed at Dunn and Pershing (the junction boxes are in place). That is not what I am necessarily asking for.

What I am recommending and asking for is a cross walk, safe spot and beaken lights..

I see this as an optimal time to analyze any possible roadway/right-of-way safety enhancements; from a traffic light, to a crosswalk with highly visible pedestrian signage or something between the two.

Idea Author: Gregg C

Number of Seconds 0

Number of Points 5

Number of Comments 0



Topic Name: Challenge! Pershing District Name.

Idea Title: Something like Midtown

Idea Detail: Pershing is centrally located in town and so Midtown would be a logical name.

Idea Author: Ronnie Z

Number of Seconds 0

Number of Points 2

Number of Comments 0



Topic Name (Instant Poll): If you feel high speeds are an issue on Pershing, what are some ideas to slow it down?

Idea Title: Median Pedestrian Island

Number of Seconds 8

Idea Title: Corridor Lighting & Street Trees

Number of Seconds 6

Idea Title: Rapid Flash Beacons

Number of Seconds 5

Idea Title: District Signage

Number of Seconds 3

Idea Title: Bike Lanes

Number of Seconds 1

Comments

Number of Comments 1

Comment 1: Speed bumps will slow traffic -- make them significant and as many as needed. |

By Bruce C P



Topic Name (Instant Poll): Gateway Locations

Idea Title: Location 2: Pershing & Airport Parkway

Number of Seconds 3

Idea Title: Location 1: Peshing & Evans

Number of Seconds 1

Idea Title: Location 3: Pershing & Logan

Number of Seconds 0

Comments

Number of Comments 0



Topic Name (Instant Poll): Pick a location for a Crosswalk

Idea Title: Pershing and Duff

Number of Seconds 2

Idea Title: Pershing and Seymour

Number of Seconds 1

Idea Title: Pershing and Alexander

Number of Seconds 0

Idea Title: Pershing and Dunn

Number of Seconds 0

Idea Title: Other midblock crossing

Number of Seconds 0

Comments

Number of Comments 0



Topic Name (Instant Poll): Help Shape Pershing!

Idea Title: Option 1: Buffered bike lane with center median and 10' travel lanes

Number of Seconds 1

Idea Title: Option 2: Multi-use path with center median

Number of Seconds 1

Idea Title: Option 3: 8' multi-use path with center median, 10.5' travel lanes, and 5' tree lawn

Number of Seconds 1

Comments

Number of Comments 1

Comment 1: Lighting and street furniture would help enhance the pedestrian experience along Pershing: <http://streetmix.net/-/157139> | By Ronnie Z



Topic Name: Selfie Contest: Submit a photo of you walking or biking Pershing.

Idea Title: Walking Audit. We all had Trouble crossing Pershing at Duff

Number of Seconds 0

Number of Comments 1

Comment 1: You are right Gregg. We all indeed had trouble crossing. Thank you for sharing your experience with us! | By Sreyoshi C

Idea Title: Walking Audit.

Number of Seconds 0

Number of Comments 0

Idea Title: I was standing at the corner of Pershing Blvd and Duff Ave. waiting for the traffic to clear so I could cross. The speed of the

Number of Seconds 0

Number of Comments 1

Comment 1: Inspired | By Annette W

Idea Title: A person crossing in a wheel chair almost got hit by a speeding vehicle. There are no pedestrian crossing signs or safe islands.

Number of Seconds 0

Number of Comments 0



Topic Name: How walkable is Pershing? You decide!

Idea Title: I like the idea of treescape along the corridor. Medians as wel

Idea Detail: I think you could have tree lined medians along the corridor which also allow turning access. This would help alleviate some of the speeding and allow pedestrians and cyclists to be more safe.

Idea Author: Jeff W

Number of Seconds 0

Number of Comments 0

Idea Title: It is not safe.

Idea Detail: Speed limit needs to change from 35 to 20 on Pershing Blvd. Between Morrie and Alexander Ave. A Electronic Pedestrian Crossing is needed in the area. Trees may be a hazard if planted on the sidewalk area.

Idea Author: Annette W

Number of Seconds 0

Number of Comments 1

Comment 1: I work downtown. I have to cross Pioneer near the library. Speed limit is 20mph. No one drives 20mph, and if you are walking across the street, people do not slow down, they don't stop. Good luck on Pershing Blvd...We have laws in place, but no enforcement. | By Faith M

Idea Title: ADA access, Electronic Pedestrian Crossing, Cross Walks I.D.,

Idea Detail: Side walks need to be ADA Compatible and in compliance for this area. In front do Dairy Queen there is an issue. Signage for cross walks needed and should be painted to identify that pedestrian crossing. There are no bike lanes visible in the area. The speed limit in the area needs changed and decreased to 20.

Idea Author: Annette W

Number of Seconds 0



Number of Comments 0



Topic Name: What are your ideas for making Pershing a distinct commercial district?

Idea Title: Banners and Lighting

Idea Detail: These would help unify the corridor to create the sense of one commercial district.

Idea Author: Ronnie Z

Number of Seconds 0

Number of Comments 0



Topic Name: Photo Share from Public Meeting

Idea Title: Great audience and great conversation!

Number of Seconds 0

Number of Comments 0

Idea Title: Design team

Number of Seconds 0

Number of Comments 0

Idea Title: Engaged community members

Number of Seconds 0

Number of Comments 0

Idea Title: Weighing in on illustrations

Number of Seconds 0

Number of Comments 0

Idea Title: Sharing of ideas

Number of Seconds 0

Number of Comments 0

Idea Title: Off to a great start!

Number of Seconds 0

Number of Comments 0



Topic Name (Instant Poll): Safety Concerns

Idea Title: Pedestrians

Number of Seconds 0

Idea Title: Bicyclists

Number of Seconds 0

Idea Title: Vehicles

Number of Seconds 0

Comments

Number of Comments 0



Topic Name (Instant Poll): Tell us about your walking experience

Idea Title: Very safe/comfortable

Number of Seconds 0

Idea Title: Moderately safe/comfortable

Number of Seconds 0

Idea Title: Not at all safe/comfortable

Number of Seconds 0

Comments

Number of Comments 0



Topic Name (Instant Poll): Improving Pedestrian Safety and Comfort

Idea Title: Very willing

Number of Seconds 0

Idea Title: Moderately willing

Number of Seconds 0

Idea Title: Not at all willing

Number of Seconds 0

Idea Title: Does not matter

Number of Seconds 0

Comments

Number of Comments 0



Topic Name (Instant Poll): Crossing Lincolnway

Idea Title: There is adequate time to cross

Number of Seconds 0

Idea Title: There is just about enough time to cross

Number of Seconds 0

Idea Title: There is not enough time to cross

Number of Seconds 0

Comments

Number of Comments 0



Survey: Lincolnway 3-Lane Design Option

Question: Would you prefer Lincolnway to be a 3-Lane roadway?

Yes : 0

No : 0

Comments

Number of Comments 0



Survey: Lincolnway 5-Lane Design Option

Question: Would you prefer Lincolnway to be a 5-Lane roadway?

Yes : 0

No : 0

Comments

Number of Comments 0



Survey: Lincolnway Hybrid Design Option

Question: Would you prefer the Hybrid Design Option for Lincolnway?

Yes : 0

No : 0

Comments

Number of Comments 0

Newspaper Article

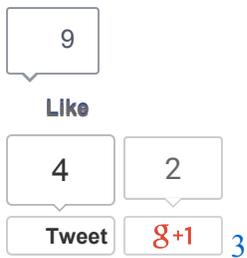


Thursday, July 9, 2015

[5 Day Forecast](#)

[Regional Road Conditions](#)

Rally seeks crosswalk at "unsafe" intersection of Pershing, Duff



CHEYENNE - About a dozen local residents and business owners rallied Wednesday afternoon in front of Hoy's Drugs on East Pershing Boulevard.

They gathered to raise awareness of the need for a pedestrian crosswalk across Pershing Boulevard at Duff Avenue.

They say the intersection is unsafe.

"This is about life and death," Todd Anderson said.

He is the owner of Elite Cleaners on Pershing Boulevard.

"It's a real, real challenge to get across here," Anderson said, gesturing toward the heavy lunch-time traffic zipping down Pershing Boulevard.

"It's a traffic issue and a speeding issue, big time. It's dangerous. There have been children hit (by

cars) in past few years."

Dr. Marty Carroll, an optometrist at the Cheyenne Vision Clinic near the intersection, agreed it can be dangerous to cross the street on foot.

"This is a community area, and there are a lot of older people who live around here who need to get to Hoy's (Drugs)," he said.

"I've seen an older lady with a walker in the middle of the street in the snow trying to get across. Some of our (staff at the Vision Clinic) had to run out stop traffic to help her get across. That's a problem."

The situation at the intersection is made worse by the presence of nearby schools, Carroll said.

"When school gets out, you see swarms of kids trying to cross the street from Dairy Queen, and sometimes cars are speeding and don't look out for them," he said.

Gregg Crisp is a former member of the Mayor's Council for People with Disabilities and a former City Council candidate. He called on officials to do something to address the problems at the intersection.

"All we are asking for is a crosswalk; we're not asking for a lot. Step up; do your job." he said.

Crisp said he feels like safety concerns are being "pushed to the side."

"It's a low-priority item, I suppose," he added.

The Cheyenne Metropolitan Planning Organization is in the process of studying the intersection as part of a corridor improvement plan for that stretch of Pershing.

Preliminary versions of the report include recommendations for a crosswalk at the intersection.

MPO transportation planner Sreyoshi Chakraborty said she plans to present the final report to the City Council "very soon."

"Right now, we are trying to wrap up the plan and fine-tune the recommendations," she said.

Acting city engineer Nathan Beauheim added that once the final report is presented "and we get buy-in from the governing body, we will start the process of looking for funding."

In the meantime, Councilwoman Annette Williams is pushing for the council to set aside funds in the 2016 fiscal year to build the crosswalk.

She attempted Wednesday to amend the city's 2016 fiscal year budget proposal to include nearly \$78,000 in funding to build the crosswalk.

The amendment was shot down by the council's Committee of the Whole.

MPO director Tom Mason said the budget amendment was "a little premature" given that the

Pershing Boulevard corridor plan has yet to be completed.

The council has the ability to reappropriate funds to pay for the crosswalk after the budget is approved later this month.

Published on: Thursday, Jun 04, 2015 - 12:02:17 am MDT



Lucas High

City/County Government

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Bike-Ped Audit Comments



Pershing Boulevard Complete Streets Plan



Bicycle/Pedestrian Safety Audit

June 18, 2014 | 11:30pm – 1:30pm

Meet at Dairy Queen - 1038 E. Pershing Boulevard

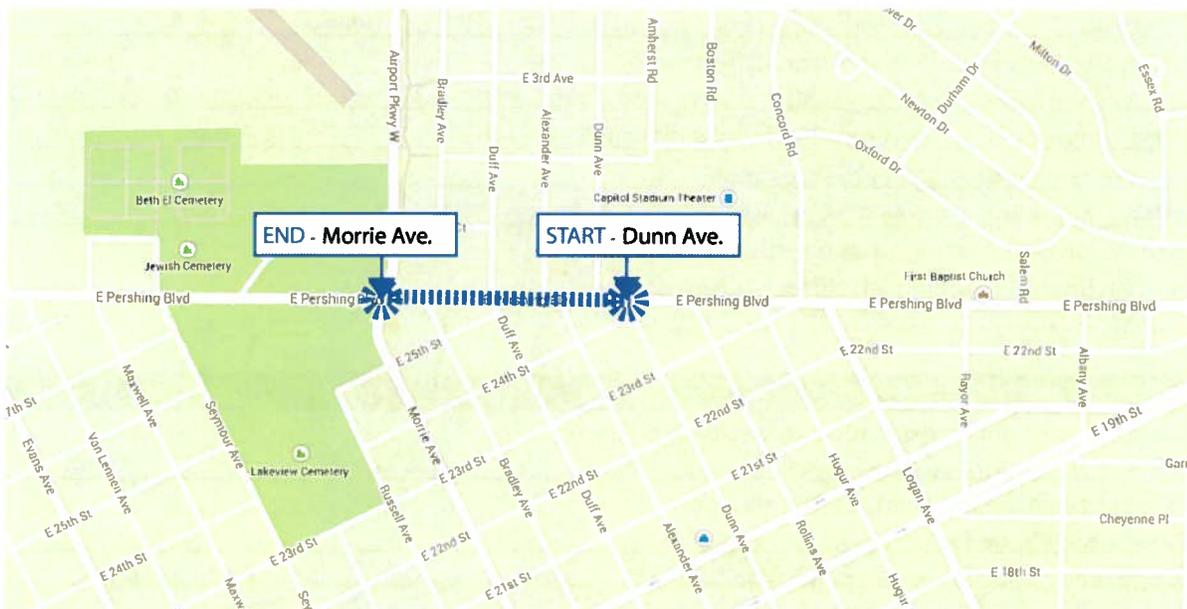
Agenda

Objective:

To address the safety of bicycle, pedestrian, and wheelchair users along Pershing Boulevard

Estimated Times:

- 11:30pm Welcome and Introductions
- 11:35pm Review Safety, Walking Route, Checklist
- 11:45pm Walking Audit
- 12:45pm Discuss Field Observations and Potential Design Solutions
- 1:00pm Wrap Up





Pershing Boulevard Complete Streets Plan



Pedestrian Safety Audit Checklist

SIDEWALKS	YES	NO	COMMENTS
Are sidewalks provided and continuous on both sides of the street?	YES.		
What is the general sidewalk condition (in terms of surface and obstructions)?			Good Condition
Do the sidewalks connect to key destinations?	YES.		On the way to the office
Do the sidewalks accommodate persons with disabilities (especially at driveways and crosswalks)?	YES & NO		NO. Accessibility comes from Drugg & Pershing
Do driveways create frequent conflicts with vehicle traffic?	YES.		Turning lanes to Drugg & Hwy Drugg
Are there any problems with vehicles parking on the sidewalk?	NO.		
Are the sidewalks wide enough to accommodate pedestrian queuing at transit stops/shared use/mobility aids?	NO.		
Are the sidewalks maintained during the winter months and if so by who?			Property owners

PEDESTRIAN FACILITIES & ACCESSIBILITY	YES	NO	COMMENTS
What types of pedestrian crossings are provided? Is this type of crossing consistent throughout the corridor?			Need a walk. Stop Sign on Drugg & Pershing. YES
Do the pedestrian crossings meet the needs of the pedestrian (in terms of type and location)?			NO. There are NONE. Need Pedestrian Crossings on several streets
Are the crossings signalized, stop controlled or signed if uncontrolled?			Both
Are the crossings difficult in terms of signal timing, gaps in traffic, traffic speeds?			yes. Speed limit 35 traffic needs to be slowed down.
If signalized, do the crossings include countdown pedestrian signals?			NO. Pedestrian Cross walk on maine need to be striped
Are median refuge islands or curb extensions (bulb outs) present?			NO.
Are there concerns regarding drainage at the crossings?			
Are there pedestrian ramps and are they ADA accessible?			NO Ramps on Alexander Ave. East Drugg & Pershing
Are there any pedestrian signal timing/phasing enhancements such as Limited Pedestrian Intervals, lagging left turns, No Turn on Red, protected left turns?			NO ONE

CATERING FOR PEDESTRIAN TARGET GROUPS	YES	NO	COMMENTS
What special user groups might be expected (e.g. seniors, children, tourists)?			all of the above. Business Area & Residential Area
Do pedestrian facilities cater to the needs of these user groups (e.g. high visibility, refuge islands, pedestrian fencing)?			NO.
Do pedestrians regularly misuse or ignore pedestrian facilities?			ON this day of the walk that it is hard to determine.



Pershing Boulevard Complete Streets Plan



Pedestrian Safety Audit Checklist

SIGNING

YES

NO

COMMENTS

Are walking routes clearly signed for pedestrians (through way-finding to key destinations)? NONE

Are pedestrian routes and pedestrian facilities clearly signed to motorists (through pedestrian warning signs)? Traffic Signal on Marrie

Are street name signs clearly visible at intersections for pedestrians approaching in all directions? YES.

Are the signs in adequate working condition for day and night time conditions? What do you mean by this? Do they reflect well? YES.

PAVEMENT MARKING

YES

NO

COMMENTS

Is the pavement marking for pedestrian crossings in good working condition for day and night time conditions? None available

Is non-slip material used for the pavement markings and/or crossing treatments such as pavers, etc.?

LIGHTING

YES

NO

COMMENTS

Is the pedestrian crossing adequately lit? NO. Pedestrian Crossing on Pershing only Traffic lights on Marrie

Is the sidewalk adequately lit?

Are there any dark locations that pose a personal security issue?

VISIBILITY/SIGHT DISTANCE

YES

NO

COMMENTS

Is driver's sight distance to the pedestrian crossings adequate? NO. TO Close to sidewalk

Are pedestrians (including small pedestrians) waiting to cross the road visible to motorists? NO. A Citizen in a wheel Chair almost got hit by a motorist

Can pedestrians (including small children) see approaching vehicles? YES.

Are there temporary or permanent obstructions near the crossing facilities? on Duff Ave & Pershing The business on the East side obstructs vision to on coming vehicles coming from the East.

Are the sight lines between pedestrians and drivers at conflict points adequate?

PEDESTRIAN AMENITIES

YES

NO

COMMENTS

Is the pedestrian environment pleasant? Business & Residential somewhat

Are there seats and/or rest spots for pedestrians? NONE

Are there drinking taps for pedestrians? NONE

Does the pedestrian environment provide shelter and shade? NONE

Is the pedestrian environment integrated with adjacent land uses? Business & Residential yes.



Pershing Boulevard Complete Streets Plan



Pedestrian Safety Audit Checklist

PERSONAL SECURITY

	YES	NO	COMMENTS
Are there run down/vacant buildings?			NO. Empty Bldg (1)
Are there any loiterers or suspicious activity in the area?			NONE
Is there any graffiti or trash along the corridor?			NONE
Are there any unleashed dogs or aggressive dogs along the corridor?			NONE

BICYCLE FACILITIES

	YES	NO	COMMENTS
Are conflict areas treated with enhanced markings to draw driver and cyclists' attention?			Traffic light movie Ave & Pershing
What is the width of the bike lane or shoulder?			NONE
What is the pavement condition within the shoulder/outside travel lane?			Good
How are cyclists detected at signalized intersections?			Same as Pedestrian / traffic light on main
Are detection zones marked/stenciled?			NO.
If present, are detection zone markings visually obvious to bicyclists/motorists; and, positioned to encourage proper bicyclist position at intersections?			NO. Bicyclist markings
What travel speed are the traffic signals currently coordinated for?			
Are off-street shared-use pathways designed consistent with current best practices (or CDOT) standards?			Duff & Pershing ⁵ corner needs improvement
Do pathway/street intersections provide adequate sight/stopping distance for bicyclists and motorists?			YES.
Do pathway/street intersection signs and traffic control devices provide travelers with appropriate warning messages and controls?			YES & NO / Traffic light on movie Ave
Are pathways of sufficient width to minimize multiple-use conflicts and provide for safe bicycle travel?			NO! why are you concerned for bicycle travel This area need to be safe for Pedestrians Crossings to business also.



Pershing Boulevard Complete Streets Plan



Pedestrian Safety Audit Checklist

ADDITIONAL OBSERVATIONS

1. Duff Ave & E Pershing Blvd. Does not accommodate persons in wheel chairs. Needs to be Addressed NO ADA ^{Safety} Crossing.
2. Need Pedestrian Crossing Signals on Duff & E. Pershing & Traffic Signal.
3. D. Q Dairy Queen Owner ^{manager} approached & stated that he will not cross Duff Ave & E Pershing Blvd. unless he drives his car across to get to the other side.
4. The area in general is in good shape new side walks & roadway.
5. The concern from the Pedestrian & for the businesses is the cross walks in the area are not marked & Traffic ignores pedestrians trying to cross.
6. Speed limit is to high in this area.
In certain areas it needs to be at 20 miles per hour.
7. Lets Get Pedestrian Crossing lights & a Traffic lights & Speed limit changed on this roadway.

Thank you!

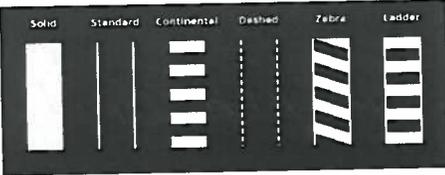
Get these projects started on Morse Ave. & Duff it would be great to have a complete...



Pershing Boulevard Complete Streets Plan



Pedestrian Safety Toolbox

TOOL	DESCRIPTION	BENEFITS	APPLICATION/ CONSIDERATION	COST
<p>Marked Crosswalk</p>  <p><i>Image source: www.walkinginfo.org/pedsafe/</i></p>	<p>Provide designated pedestrian crossings at:</p> <ul style="list-style-type: none"> • Pedestrian generators • Crossings with significant pedestrian volumes (at least 15 per hour) • Crossings with high vehicle-pedestrian collisions 	<p>Signal a clear "channel" for pedestrian pathways to both pedestrians and vehicles</p>	<p>Marked crosswalks alone should not be installed on multi-lane roads with more than about 10,000 vehicles/ day.</p>	<p>\$</p>
<p>High-Visibility Signs and Markings</p>  <p><i>Image source: http://mutcd.fhwa.dot.gov</i></p>	<p>Includes a family of crosswalk striping styles such as the "ladder" and the "continental"</p> <p>High-visibility colored signs are posted at crossings to increase driver awareness of the pedestrian crossing</p>	<p>Increase driver awareness of unexpected condition or location where drivers need to exercise a higher level of caution based on potential conflicts with more vulnerable road users</p>	<p>Beneficial in areas where drivers might not expect a pedestrian crossing or where a higher level of driver attention is required due to potential pedestrian and bicycle conflicts</p>	<p>\$</p>
<p>Advanced Yield Lines</p>  <p><i>Image source: www.saferoutesinfo.org</i></p>	<p>Standard white yield limit lines are placed in advance of marked, uncontrolled crosswalks.</p>	<p>Increases the pedestrian's visibility to motorists</p> <p>Reduces the number of vehicles encroaching on the crosswalk</p> <p>Indicates to drivers where to stop</p>	<p>Useful in areas where pedestrian visibility is low and in areas with aggressive drivers</p> <p>Addresses the multiple-threat collision on multi-lane roads.</p>	<p>\$</p>



Pershing Boulevard Complete Streets Plan



Toolbox Survey

Which bicycle & pedestrian safety tools are appropriate for Pershing Blvd.?

	Appropriate MOST Places	Appropriate SOME Places	NOT Appropriate	Not Sure
Marked Crosswalk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Visibility Signs and Markings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced Yield Lines	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In-Street Pedestrian Crossing Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Curb Extension/ Bulb Outs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduced Curb Radii	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Raised Crosswalks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Median Pedestrian Island	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staggered Median Pedestrian Island	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In-Roadway Warning Lights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overhead Flashing Beacons	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rapid Flash Beacons	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Hybrid Beacon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Countdown Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Overpass/ Underpass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sidewalk Bikes Permitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buffered or Protected Bike Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marked Shared Lane (Sharrow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paved Shoulder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bike/Bus Lane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bicycle Detection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leading Pedestrian Intervals	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Protected Left Turn Phasing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Turn on Red (signs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Traffic Speed too high to place

~~Add Bikes~~



Pershing Boulevard Complete Streets Plan



Toolbox Survey

Which bicycle & pedestrian safety tools are appropriate for Pershing Blvd.?

	Appropriate MOST Places	Appropriate SOME Places	NOT Appropriate	Not Sure
Way-finding Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signal Coordination (bicycle progression)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lagging Left Turns	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retiming Clearance Intervals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Safety Blitzes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road Diet (aka Lane Reduction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lane Diets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corridor Lighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landscape Buffer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crosswalks (at bus stops)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shelters	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ADDITIONAL OBSERVATIONS

My observation is 1. Duff Ave & Pershing Blvd. Needs a Traffic & Pedestrian Crossing. 2. Observed a pedestrian in a wheel chair crossing on Duff Ave & Pershing Blvd. Almost get hit. 3. Watched several pedestrians ^{almost} get hit crossing ~~the intersection~~ ^{the intersection} of Duff Ave & Pershing Blvd. 4. Speed of Traffic too high 5. NO Transit bus stop areas for pickup or Drop off. 6. North of Pershing it's difficult for a vehicle to make a left turn. 7. Not many speed limit signs posted

APPENDIX D: COST ESTIMATES



Pershing Boulevard Complete Streets

Estimate of Probable Costs

Plan Date: July 2015

Prepared by: Russell + Mills Studios

ITEM	UNIT	UNIT COST	QTY.	EXTENDED COST
Phase 1 - Pedestrian Safety (Duff Street Pedestrian Crossing - RRFB w/median)				
DEMOLITION				
Remove existing Asphalt for Median Treatment	S.F.	\$3.00	555	\$1,665.00
Remove existing Curb & Gutter	L.F.	\$15.00	135	\$2,025.00
Saw Cutting Pavement for Removal	L.F.	\$8.00	240	\$1,920.00
CATEGORY SUBTOTAL				\$5,610.00
SITE WORK				
Grading Allowance	ALLOW	\$4,000.00	1	\$4,000.00
Curb & Gutter	L.F.	\$20.00	135	\$2,700.00
Ped. refuge curb and gutter	L.F.	\$20.00	72	\$1,440.00
ADA Curb Ramp	L.S.	\$2,500.00	2	\$5,000.00
Asphalt Patching	S.F.	\$15.00	353	\$5,295.00
Ped. refuge Concrete	S.F.	\$15.00	200	\$3,000.00
Striping	ALLOW	\$4,000.00	1	\$4,000.00
CATEGORY SUBTOTAL				\$25,435.00
TRAFFIC SIGNALS				
RRFB Signals	L.S.	\$35,000.00	1	\$35,000.00
Footings	E.A.	\$2,000.00	3	\$6,000.00
CATEGORY SUBTOTAL				\$41,000.00
			SUBTOTAL	\$72,045.00
			15% Design Contingency	\$10,806.75
			20% Contractor Mobilization/General Conditions/Profit	\$14,409.00
			10% City Administrator and Management Fees	\$7,204.50
			8% Design Fees	\$5,763.60
			GRAND TOTAL	\$110,228.85

Pershing Boulevard Complete Streets

Estimate of Probable Costs

Plan Date: July 2015

Prepared by: Russell + Mills Studios

ITEM	UNIT	UNIT COST	QTY.	EXTENDED COST	NOTES
Phase 2 - Commercial Core (Airport Parkway - Dunn Ave.)					
DEMOLITION					
Remove existing Concrete and Asphalt	S.F.	\$3.00	14,276	\$42,828.00	
Remove existing Asphalt for Median Treatment	S.F.	\$3.00	5,700	\$17,100.00	
Remove existing Curb & Gutter	L.F.	\$15.00	785	\$11,775.00	
Saw Cutting Pavement for Removal	L.F.	\$8.00	2,500	\$20,000.00	
Remove existing Street Trees	EA	\$700.00	8	\$5,600.00	
Remove existing Traffic Signal	EA	\$2,000.00	4	\$8,000.00	
Remove existing Street Lights	EA	\$1,000.00	8	\$8,000.00	
CATEGORY SUBTOTAL				\$113,303.00	
LIGHTING					
New Traffic Signal	EA	\$25,000.00	4	\$100,000.00	
Pedestrian Lights w/ Banners	EA	\$5,000.00	36	\$180,000.00	
CATEGORY SUBTOTAL				\$280,000.00	
SITE WORK					
Grading Allowance	ALLOW	\$4,000.00	1	\$4,000.00	
Median Monument	EA	\$2,500.00	1	\$2,500.00	
Seatwall	L.F.	\$375.00	850	\$318,750.00	
Curb & Gutter	L.F.	\$20.00	1,465	\$29,300.00	
Concrete Header - Planting Beds	L.F.	\$15.00	470	\$7,050.00	
Median curb and gutter	L.F.	\$20.00	1,867	\$37,340.00	
ADA Curb Ramp	EA	\$2,500.00	24	\$60,000.00	
Asphalt Patching	S.F.	\$15.00	10,000	\$150,000.00	
Colored Concrete - bulb-outs/crosswalks	S.F.	\$17.00	17,392	\$295,664.00	
Concrete Sidewalk - Extension	S.F.	\$15.00	6,537	\$98,055.00	
Striping	ALLOW	\$4,000.00	1	\$4,000.00	
CATEGORY SUBTOTAL				\$1,006,659.00	
LANDSCAPE					
Soil Prep - Compost and fertilizer as required	C.Y.	\$25.00	83	\$2,075.00	All planted areas - 6" depth
Mulch	C.Y.	\$35.00	42	\$1,470.00	Shredded Cedar - 3" depth
Deciduous Tree	EA.	\$350.00	100	\$35,000.00	2" caliper
Shrubs/Grasses/Perennial	S.F.	\$6.00	4,472	\$26,832.00	
CATEGORY SUBTOTAL				\$65,377.00	
SITE FURNISHINGS					
Planter Pots - Large	EA.	\$1,500.00	19	\$28,500.00	
Tree Grates	EA.	\$1,500.00	30	\$45,000.00	
Café Seating	EA.	\$4,800.00	28	\$134,400.00	
Bench	EA.	\$2,000.00	13	\$26,000.00	
Trash Receptacles	EA.	\$800.00	13	\$10,400.00	
CATEGORY SUBTOTAL				\$244,300.00	
IRRIGATION					
Irrigation	ALLOW	\$5,000.00	1	\$5,000.00	Irrigation adjustments/improvements
CATEGORY SUBTOTAL				\$5,000.00	
SUBTOTAL				\$1,714,639.00	
15% Design Contingency				\$257,195.85	
20% Contractor Mobilization/General Conditions/Profit				\$342,927.80	
10% City Administrator and Management Fees				\$171,463.90	
8% Design Fees				\$137,171.12	
GRAND TOTAL				\$2,623,397.67	

Pershing Boulevard Complete Streets

Estimate of Probable Costs

Plan Date: July 2015

Prepared by: Russell + Mills Studios

ITEM	UNIT	UNIT COST	QTY.	EXTENDED COST	NOTES
Phase 3 - Commercial Core (Dunn Ave. - Logan Ave.)					
DEMOLITION					
Remove existing Concrete and Asphalt	S.F.	\$3.00	9,503	\$28,509.00	
Remove existing Asphalt for Median Treatment	S.F.	\$3.00	11,750	\$35,250.00	
Remove existing Curb & Gutter	L.F.	\$15.00	110	\$1,650.00	
Saw Cutting Pavement for Removal	L.F.	\$8.00	3,000	\$24,000.00	
Remove existing Street Trees	EA	\$700.00	10	\$7,000.00	
Remove existing Traffic Signal	EA	\$2,000.00	4	\$8,000.00	
Remove existing Street Lights	EA	\$1,000.00	3	\$3,000.00	
CATEGORY SUBTOTAL				\$107,409.00	
LIGHTING					
New Traffic Signal	EA	\$25,000.00	4	\$100,000.00	
Pedestrian Lights w/ Banners	EA	\$5,000.00	41	\$205,000.00	
CATEGORY SUBTOTAL				\$305,000.00	
SITE WORK					
Grading Allowance	ALLOW	\$4,000.00	1	\$4,000.00	
Median Monument	EA	\$2,500.00	1	\$2,500.00	
Curb & Gutter	L.F.	\$20.00	150	\$3,000.00	
Color Concrete Plaza	S.F.	\$17.00	906	\$15,402.00	
Median curb and gutter	L.F.	\$20.00	3,046	\$60,920.00	
ADA Curb Ramp	EA	\$2,500.00	14	\$35,000.00	
Asphalt Patching	S.F.	\$15.00	1,700	\$25,500.00	
Colored Concrete - bulb-outs/crosswalks	S.F.	\$17.00	5,198	\$88,366.00	
Concrete Sidewalk - Extension	S.F.	\$15.00	6,642	\$99,630.00	
Striping	ALLOW	\$4,000.00	1	\$4,000.00	
CATEGORY SUBTOTAL				\$338,318.00	
LANDSCAPE					
Soil Prep - Compost and fertilizer as required	C.Y.	\$25.00	311	\$7,775.00	All planted areas - 6" depth
Mulch	C.Y.	\$35.00	47	\$1,645.00	Shredded Cedar - 3" depth
Deciduous Tree	EA.	\$350.00	70	\$24,500.00	2" caliper
Turf Grass - tree lawn	S.F.	\$0.60	11,710	\$7,026.00	
Shrubs/Grasses/Perennial	S.F.	\$6.00	5,092	\$30,552.00	
CATEGORY SUBTOTAL				\$71,498.00	
SITE FURNISHINGS					
Planter Pots - Large	EA.	\$1,500.00	4	\$6,000.00	
Tree Grates	EA.	\$1,500.00	22	\$33,000.00	
Café Seating	EA.	\$4,800.00	6	\$28,800.00	
Bench	EA.	\$2,000.00	2	\$4,000.00	
Trash Receptacles	EA.	\$800.00	4	\$3,200.00	
CATEGORY SUBTOTAL				\$75,000.00	
IRRIGATION					
Irrigation	ALLOW	\$5,000.00	1	\$5,000.00	Irrigation adjustments/improvements
CATEGORY SUBTOTAL				\$5,000.00	
SUBTOTAL				\$902,225.00	
15% Design Contingency				\$135,333.75	
20% Contractor Mobilization/General Conditions/Profit				\$180,445.00	
10% City Administrator and Management Fees				\$90,222.50	
8% Design Fees				\$72,178.00	
GRAND TOTAL				\$1,380,404.25	

Pershing Boulevard Complete Streets

Estimate of Probable Costs

Plan Date: July 2015

Prepared by: Russell + Mills Studios

ITEM	UNIT	UNIT COST	QTY.	EXTENDED COST	NOTES
Phase 4 - Multi-Use Path/Planted Medians (Evans Ave. - Airport Parkway)					
DEMOLITION					
Remove existing Asphalt for Median Treatment	S.F.	\$3.00	17,011	\$51,033.00	
Saw Cutting Pavement for Removal	L.F.	\$8.00	3,205	\$25,640.00	
Remove existing Traffic Signal	EA	\$2,000.00	4	\$8,000.00	
	CATEGORY SUBTOTAL			\$84,673.00	
LIGHTING					
New Traffic Signal	EA	\$25,000.00	4	\$100,000.00	
	CATEGORY SUBTOTAL			\$100,000.00	
SITE WORK					
Grading Allowance	ALLOW	\$4,000.00	1	\$4,000.00	
Median curb and gutter	L.F.	\$20.00	4,771	\$95,420.00	
Asphalt Patching	S.F.	\$15.00	5,791	\$86,865.00	
Concrete Sidewalk - Extension	S.F.	\$15.00	7,186	\$107,790.00	
Striping	ALLOW	\$4,000.00	1	\$4,000.00	
	CATEGORY SUBTOTAL			\$298,075.00	
LANDSCAPE					
Soil Prep - Compost and fertilizer as required	C.Y.	\$25.00	136	\$3,400.00	All planted areas - 6" depth
Mulch	C.Y.	\$35.00	68	\$2,380.00	Shredded Cedar - 3" depth
Deciduous Tree	EA.	\$350.00	18	\$6,300.00	2" caliper
Shrubs/Grasses/Perennial	S.F.	\$6.00	7,367	\$44,202.00	
	CATEGORY SUBTOTAL			\$56,282.00	
IRRIGATION					
Irrigation	ALLOW	\$5,000.00	1	\$5,000.00	Irrigation adjustments/improvements
	CATEGORY SUBTOTAL			\$5,000.00	
			SUBTOTAL	\$544,030.00	
			15% Design Contingency	\$81,604.50	
			20% Contractor Mobilization/General Conditions/Profit	\$108,806.00	
			10% City Administrator and Management Fees	\$54,403.00	
			8% Design Fees	\$43,522.40	
			GRAND TOTAL	\$832,365.90	