Presented To:

City of Fort Collins

Presented By:

FEHR PEERS

Corridor Understanding Report

November 2015

West Elizabeth Enhanced Travel Corridor Plan

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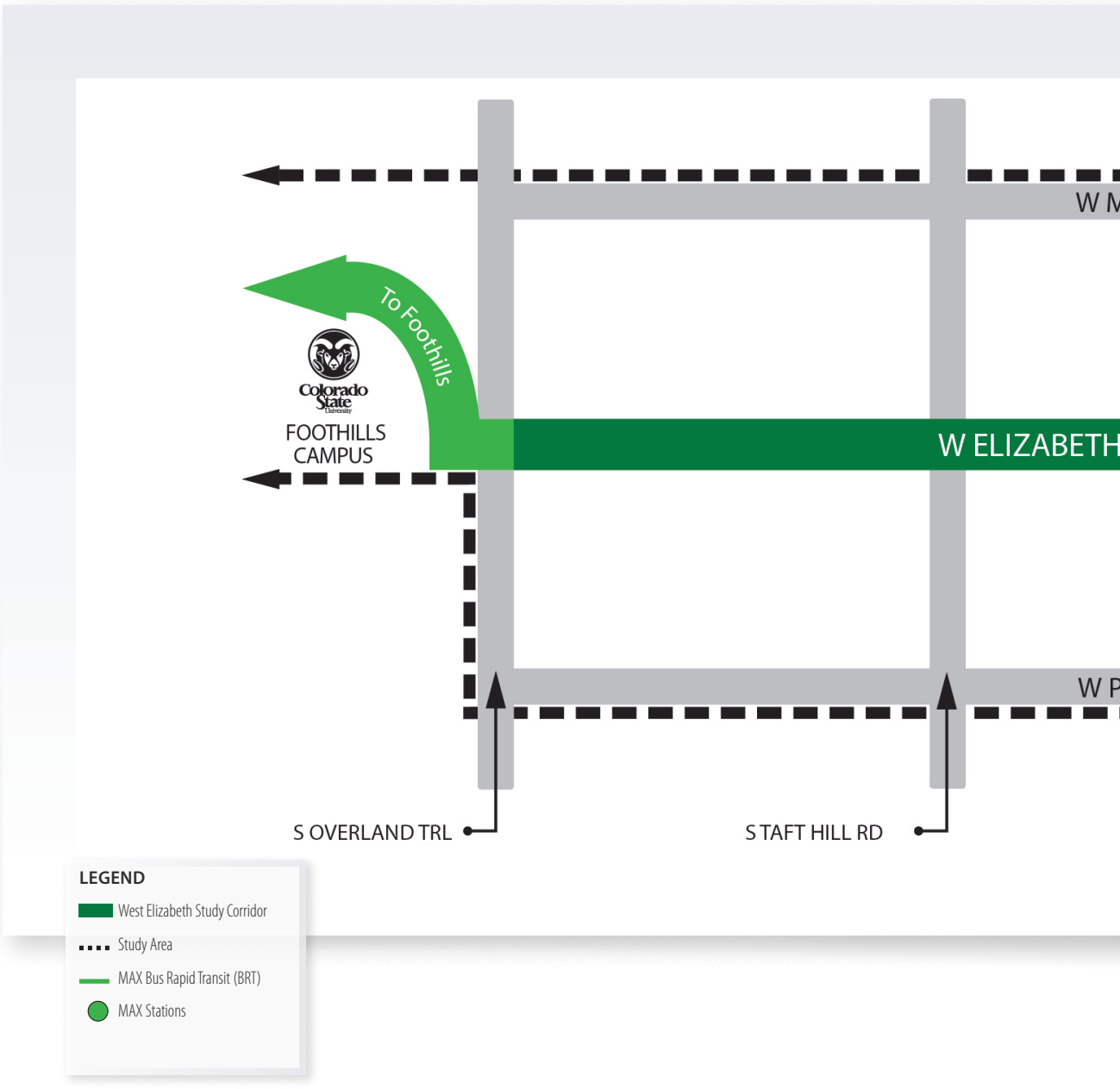
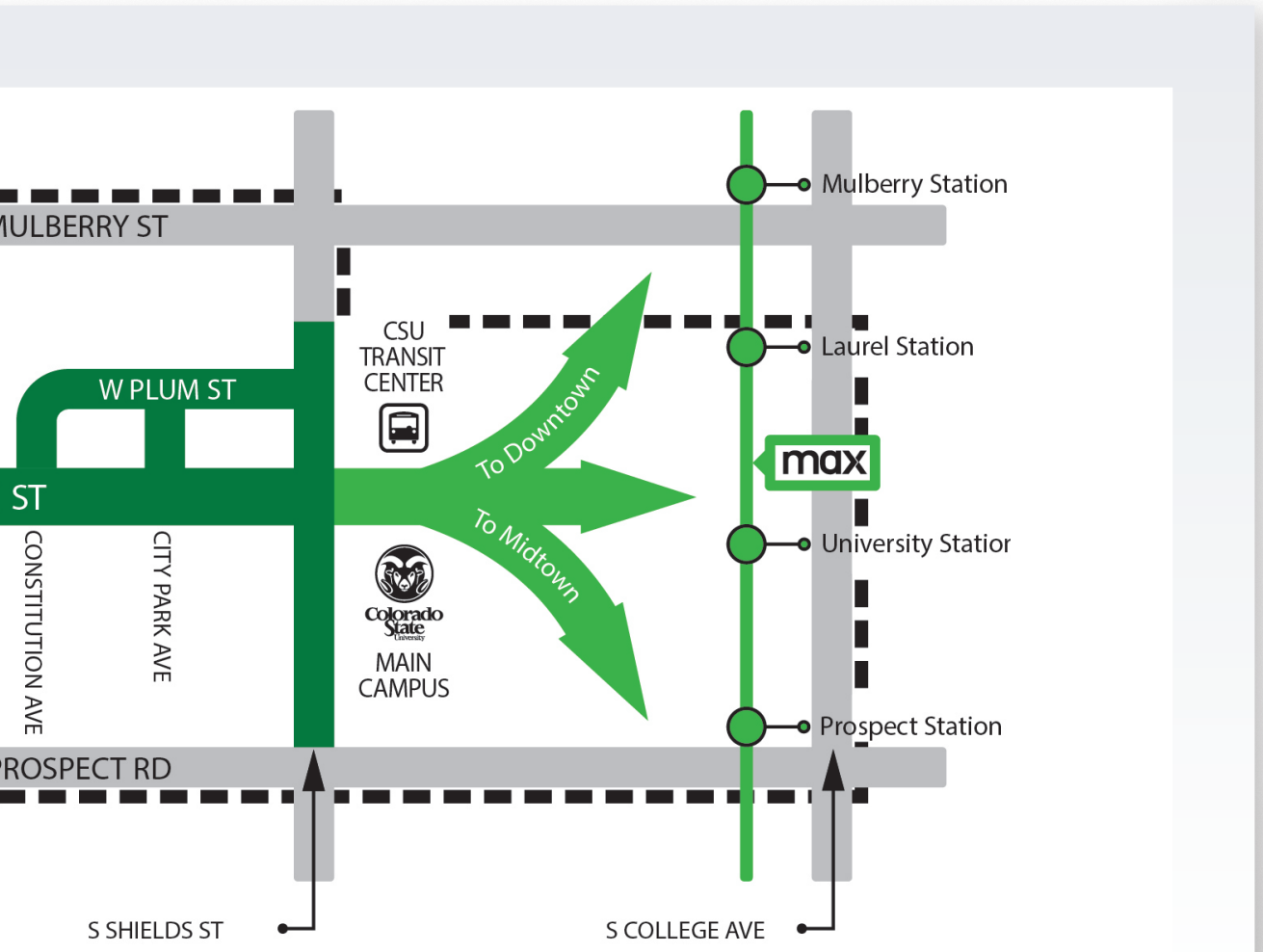
EXECUTIVE SUMMARY

THE WEST ELIZABETH ENHANCED TRAVEL CORRIDOR PLAN WILL PROVIDE A ROAD MAP FOR BOTH SHORT-TERM RECOMMENDATIONS AND A LONG-TERM VISION FOR THE CORRIDOR BASED ON AN UNDERSTANDING OF THE TRANSPORTATION AND LAND USE NEEDS OF THE AREA.

ENHANCED TRAVEL CORRIDORS (ETCs) are defined by the City's Transportation Master Plan (TMP) as corridors that emphasize high-frequency transit, bicycling and walking. This Corridor Understanding Report documents the West Elizabeth Corridor's history and context, previous planning that has influenced the corridor, and existing conditions of the corridor's infrastructure and performance for different modes of transportation. Future steps of the West Elizabeth Enhanced Travel Corridor Plan development process will build upon the Corridor Understanding Report: developing a Purpose and Need Statement and Corridor Vision, developing and evaluating alternative improvement scenarios, and developing a preferred alternative, with both near-term and longer-term implementation recommendations.

STUDY AREA

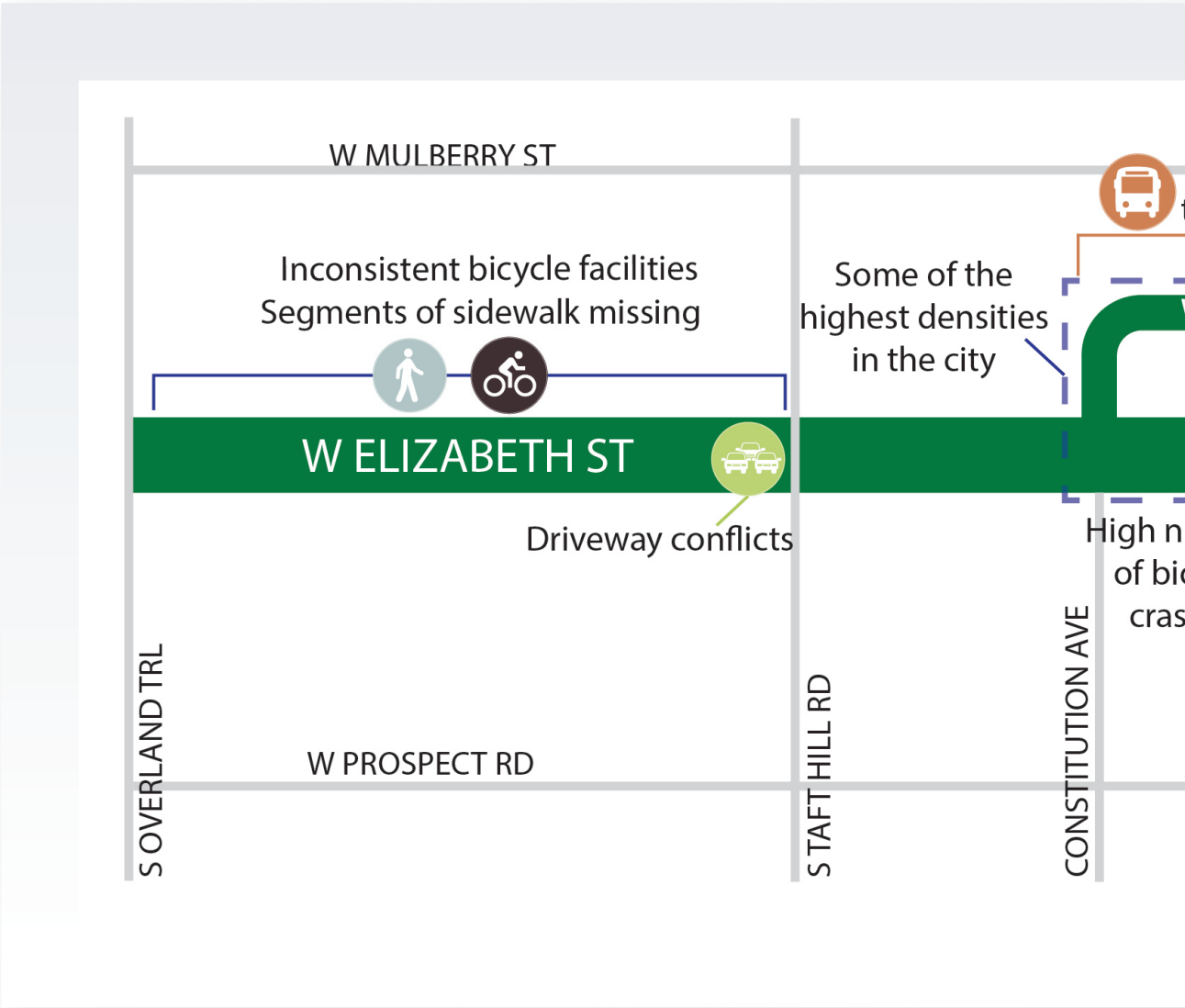

W M
To Foothills
Colorado State University
FOOTHILLS CAMPUS
W ELIZABETH
W P
S OVERLAND TRL
S TAFT HILL RD
LEGEND
West Elizabeth Study Corridor
Study Area
MAX Bus Rapid Transit (BRT)
MAX Stations

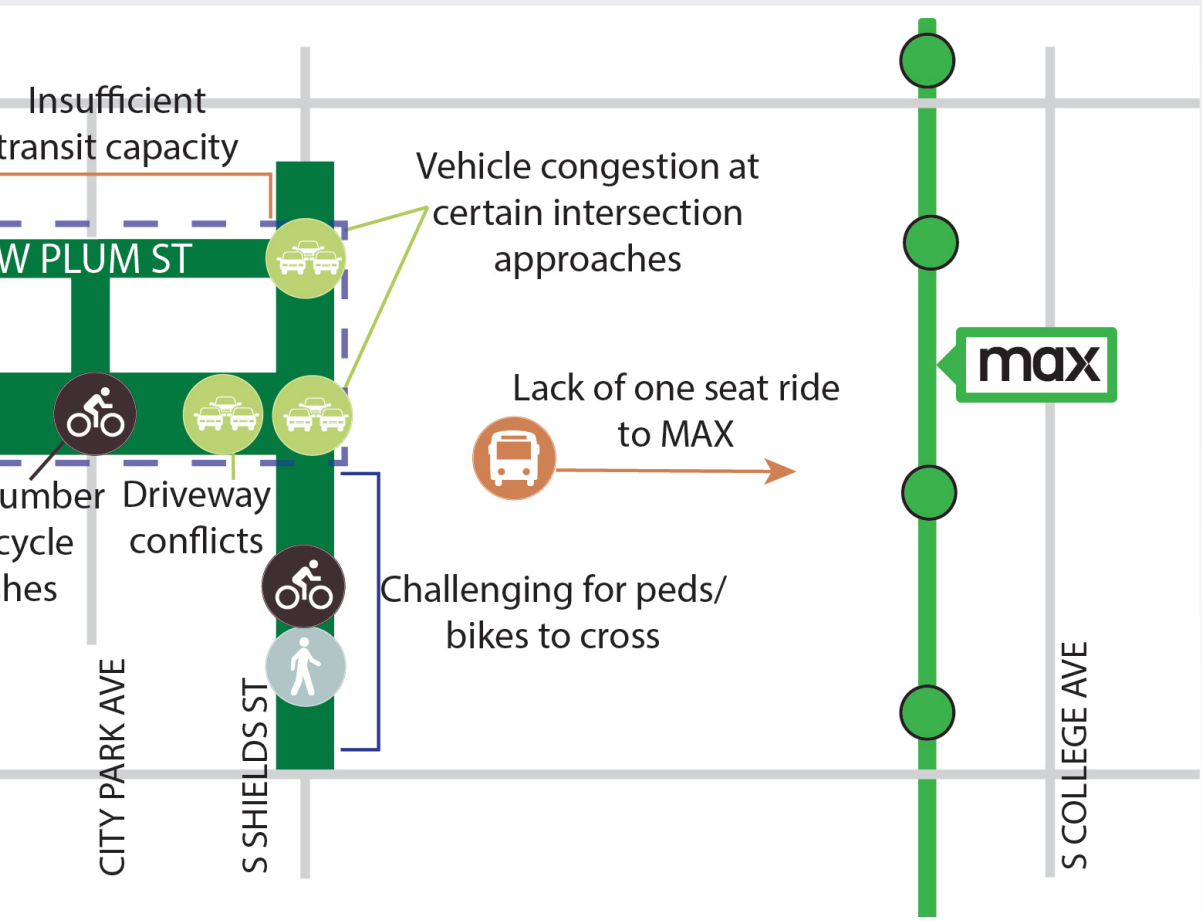


The West Elizabeth ETC focuses on West Elizabeth Street between Overland Trail and Shields Street, as well as segments of Plum Street, Constitution Avenue, and City Park Avenue. The study area also includes the surrounding network, and the plan will look at how this corridor connects with the CSU campuses and the rest of the community.

WEST ELIZABETH CORRIDOR

SUMMARY OF KEY ISSUES




Insufficient
transit capacity
W PLUM ST
Vehicle congestion at
certain intersection
approaches
Lack of one seat ride
to MAX
max
umber
cycle
hes
Driveway
conflicts
Challenging for peds/
bikes to cross
CITY PARK AVE
S SHIELDS ST
S COLLEGE AVE

EXECUTIVE SUMMARY

1»LAND USE

Land use on the West Elizabeth Corridor includes a mix of types and densities of development, including multi-family, single family, as well as commercial parcels near the West Elizabeth Street/Shields Street and West Elizabeth Street/Taft Hill Road intersections. Land use surrounding the Campus West area has **some of the highest densities allowed in the city,** including dense multi-family housing on Plum Street affiliated with Colorado State University. A large proportion of the study area's residents are renters, many of whom are CSU students.

2»RIGHT-OF-WAY

Right-of-way on the corridor **varies from 60 to 100 feet** between Shields Street and Overland Trail.

3»CROSS SECTIONS

West Elizabeth Street's cross section includes **two to four travel lanes** between Shields Street and Overland Trail. Near Shields Street, West Elizabeth Street has four travel lanes (two in each direction) with a two-way left-turn lane. West of Skyline Drive, West Elizabeth Street has two travel lanes with a two-way left-turn lane. West of Kimball Drive, West Elizabeth Street has two travel lanes.

4»TRAVEL DEMAND

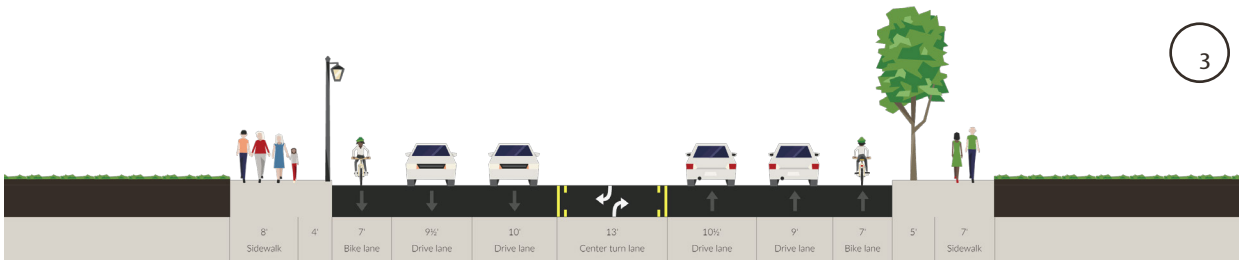
The amount of traffic on West Elizabeth Street generally increases from west to east. Near Timber Lane the Average Daily Traffic (ADT) is 4,400 vehicles per day and near Shields Street the ADT is over 18,000 vehicles per day. West Elizabeth Street also carries a large number of transit passengers, bicyclists and pedestrians. **Transfort routes in the study area have an average weekday ridership of almost 5,000 passengers per day.** Over 2,000 bicyclists per day use West Elizabeth Street west of Shields Street and over 100 pedestrian crossings occur during peak hours at Shields Street/West Elizabeth Street, City Park Avenue/West Elizabeth Street and Plum Street/Shields Street intersections. **Furthermore, the Plum Street/Shields Street intersection has the largest number of transit passengers, bicyclists and pedestrians in the study area.**

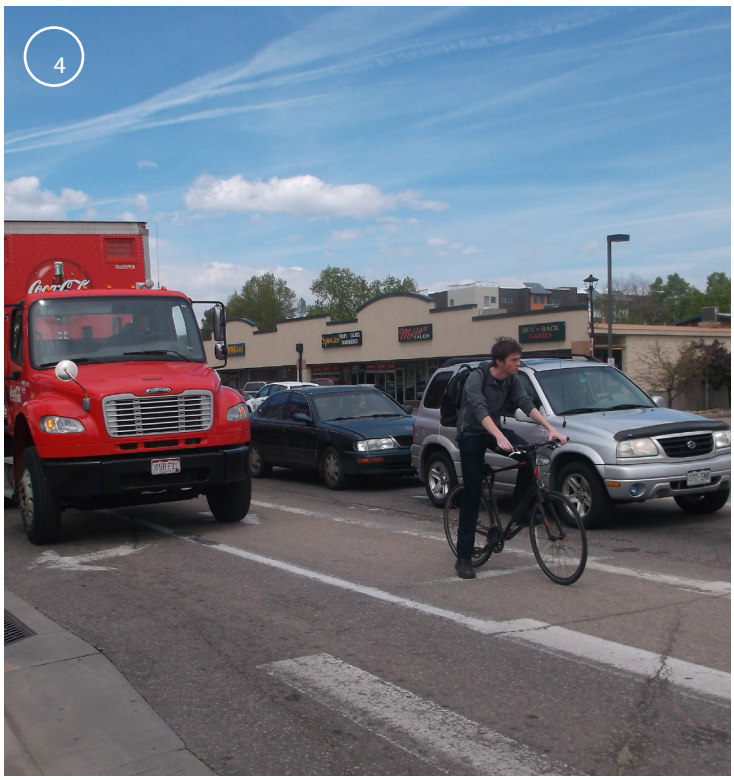
5» VEHICLE OPERATIONS

Analysis shows that most study intersections operate at an acceptable vehicle level of service (LOS), a measure of average vehicle delay, during peak hours. **However, key approaches to certain intersections experience notable congestion:** the northbound left-turn, eastbound left-turn, and eastbound right-turn at the West Elizabeth Street/Shields Street intersection and the eastbound and westbound movements at the Plum Street/Shields Street intersection.


WHICH WAY
Pizza
Available
970.372.3007
720.528.6334
1


2


8' Sidewalk
4'
7' Bike lane
9½' Drive lane
10' Drive lane
13' Center turn lane
10½' Drive lane
9' Drive lane
7' Bike lane
5'
7' Sidewalk
3


4


5


31
31 VIA PLUM
6

This Corridor Understanding Report documents the West Elizabeth Corridor's history and context, previous planning that has influenced the corridor, and existing conditions of the corridor's infrastructure and performance for different modes of transportation.

6 » TRANSIT

Several Transfort bus routes serve the study area, the majority of which connect to the CSU Transit Center. Route 31, which connects West Elizabeth Street and Plum Street to the CSU Transit Center, runs every 10 minutes. The HORN and MAX also run every 10 minutes. Most other routes operate every 30 minutes. **Transfort ridership in the area is generally high. In fact, ridership is so high on some routes bound for CSU that drivers regularly have to turn away passengers because the buses are full, even with the addition of trailer buses during peak hours.** Top ridership stops in the study area include the CSU Transit Center, stops along Plum Street, Constitution Avenue between Shields Street and West Elizabeth Street, and stops on West Elizabeth Street just west of Taft Hill Road. Some of the study area's routes, including Route 31, Route 32, and Route 2, have a high productivity as measured by weekday passengers per revenue hour and weekday passengers per revenue mile.

7 » PEDESTRIANS

For pedestrians, a variety of sidewalk conditions exist on the corridor. Some sidewalks are attached, some are detached, and **there are many locations where no sidewalk exists or sidewalk width is too narrow for people using mobility devices.** In addition to marked crossings at signalized intersections, there are two midblock crossings on the corridor: one west of Shields Street and another west of Skyline Drive. Pedestrian delay at signalized intersections is relatively high at most study intersections during peak hours. **Significant lengths of West Elizabeth Street have a low pedestrian level of service, a measurement of the quality of the pedestrian environment that accounts for sidewalk presence and width as well as other amenities.**

8 » BICYCLISTS

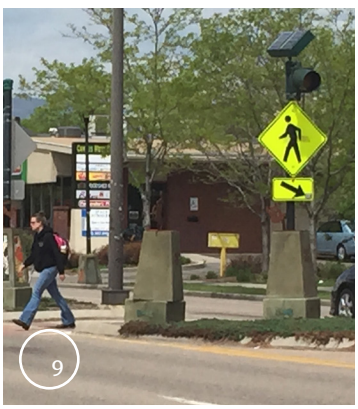
Bike lanes are provided along the majority of the corridor, but are missing from key segments of West Elizabeth Street, including several segments west of Taft Hill Road. Most of the corridor is sufficiently comfortable for the many residents and college students who currently ride on West Elizabeth Street. However, these segments are generally not comfortable for lower-confidence adults/college students as well as children.

9» SAFETY

The study area has some intersections and roadway segments with a higher than expected number of crashes. For example, **the West Elizabeth Street/Shields Street intersection** has more crashes than expected compared to similar locations, and the **West Elizabeth Street/City Park Avenue intersection** has more bicyclist-vehicle crashes than expected compared to similar locations. **West Elizabeth Street between Shields Street and City Park Avenue** also has more crashes than expected compared to similar locations.

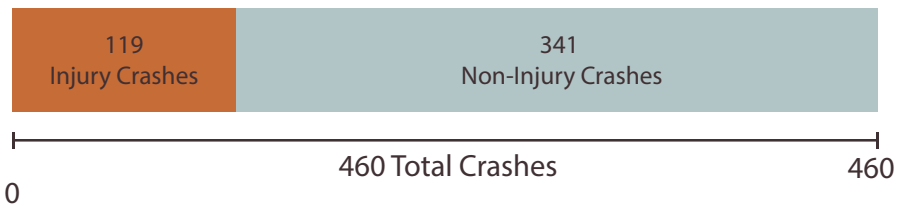
10» DELAY BY MODE

Over half of the users at the intersection of Shields Street and Plum Street are using transit, walking or biking. At this intersection, transit passengers, pedestrians and bicyclists experience a lot of delay, while vehicle drivers and passengers do not experience a lot of delay.

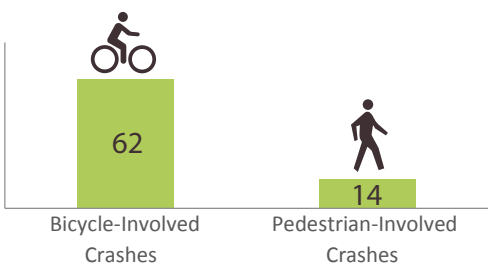


WEST ELIZABETH CORRIDOR
EXISTING CONDITIONS HIGHLIGHTS

SAFETY
CRASHES ON WEST ELIZABETH STREET BETWEEN
2010 & 2014



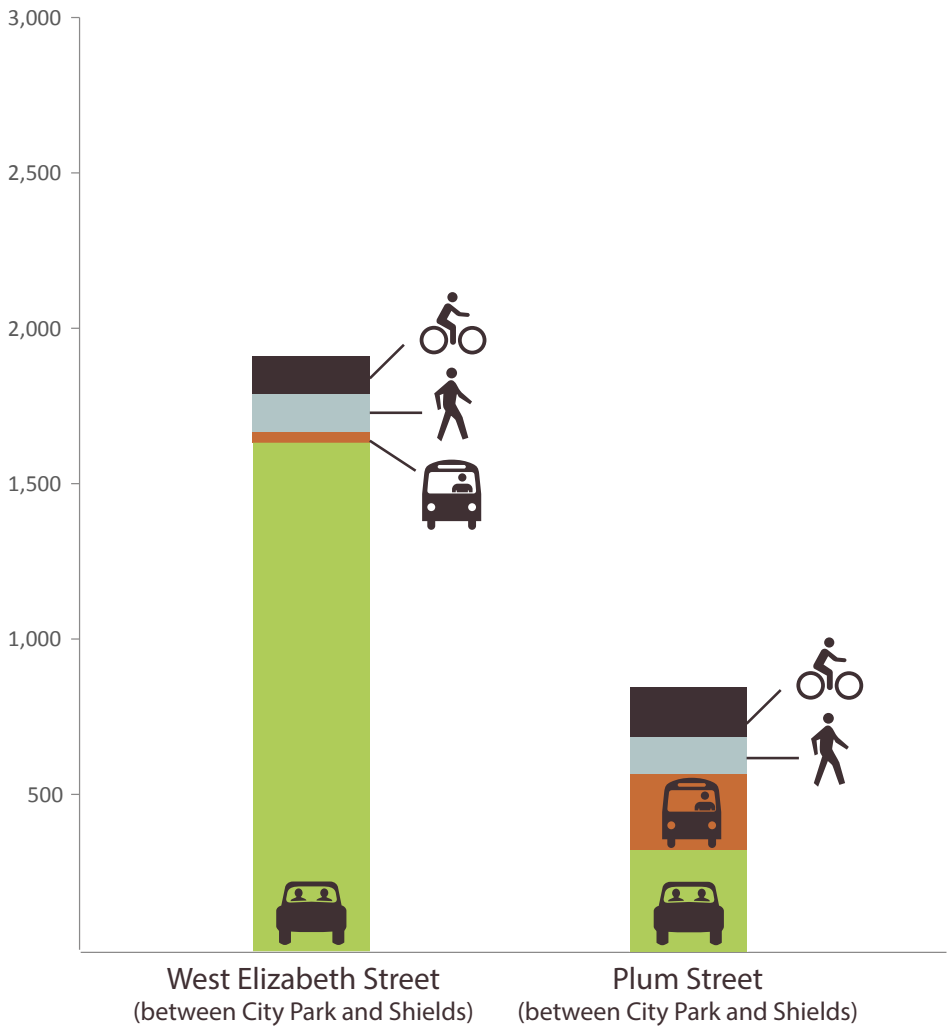
Average of 1 crash every 4 days.



Indicates more crashes than expected compared to similar **intersections** within the city

Indicates more crashes than expected compared to similar **segments** within the city

NUMBER OF PEOPLE BY MODE
PM PEAK HOUR
WEST ELIZABETH STREET & PLUM STREET



WEST ELIZABETH CORRIDOR
EXISTING CONDITIONS HIGHLIGHTS

TRANSIT

Almost **5,000** riders a day within the study area (9 routes):
Highest ridership in the city

Over **3,700** passengers left behind on Route 31 from January to April 2015. That's equivalent to over **37** MAX buses or **75** standard Transfort buses.

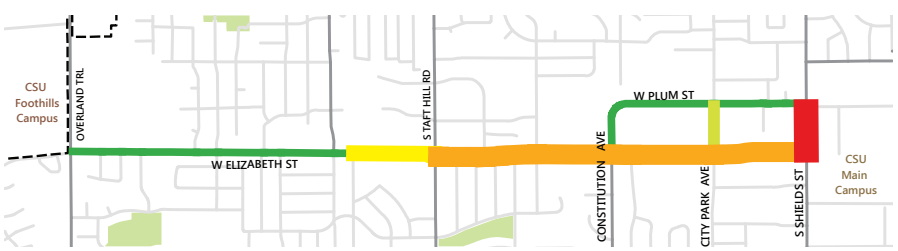
TRANSIT BOARDINGS

Transit boardings from January - April 2015 APC Data

● < 100 ● 100 - 200 ● > 200

DRIVING

AVERAGE DAILY TRAFFIC



Average Daily Traffic (ADT)

< 5,000 | 5,001 - 10,000 | 10,001 - 15,000 | 15,001 - 20,000 | > 20,000

WALKING

36%

of sidewalks in the corridor are non-ADA compliant, of which:

7%

are missing sidewalks.

PEDESTRIAN LEVEL OF COMFORT* CORRIDOR-WIDE

Low Pedestrian Comfort	Medium Pedestrian Comfort	High Pedestrian Comfort
30%	42%	28%

*Pedestrian Level of Comfort is based on a technical analysis of existing data

AVERAGE PM PEAK HOUR PEDESTRIAN DELAY

West Elizabeth Street & City Park Avenue

After 30 seconds, research has indicated that pedestrians partake in more risk-taking behavior.

West Elizabeth Street & Shields Street

BICYCLING

BICYCLIST LEVEL OF COMFORT | CORRIDOR-WIDE

Low Bicyclist Comfort	Medium Bicyclist Comfort	High Bicyclist Comfort
1%	50%	49%

*Bicyclist Level of Comfort is based on a Level of Traffic Stress (LTS) technical analysis of existing data sources