Table of Contents

Chapter 1: Study Introduction ................................................................. 5
  Purpose & Need .................................................................................. 5
  Study Objectives ................................................................................ 5
  Mobility Assessment Area #11 Overview ............................................ 6

Chapter 2: Review of Pertinent Engineering, Planning and Policy Documents .... 8
  City of Phoenix General Plan ............................................................. 9
  City of Phoenix Comprehensive Bicycle Master Plan ...................... 10
  City of Phoenix Complete Streets Policy .......................................... 11
  ReInvent PHX Eastlake-Garfield TOD Policy Guide ....................... 12
  Maricopa Association of Governments (MAG) Complete Streets Guide 13
  NACTO Urban Bikeway Design Guide ............................................. 14
  NACTO Urban Street Design Guide .................................................. 15

Chapter 3: Existing Features Inventory ................................................. 16
  Existing Land Use & Zoning ............................................................... 16
    Land Use ...................................................................................... 16
    Zoning ......................................................................................... 16
    City Owned Properties .................................................................. 19
    Major Assets ............................................................................... 19
  Existing Socioeconomic Conditions in MA 11 ................................. 22
  Existing Roadway and Traffic Conditions ....................................... 32
    FHWA Roadway Functional Classifications ................................. 32
    Existing Vehicular Traffic Volumes ............................................... 32
    Crash Data .................................................................................. 32
    Existing Pavement Conditions ..................................................... 35
    Access Management Guidelines .................................................. 37
    Traffic Calming .......................................................................... 38
  Bicycle Infrastructure ...................................................................... 38
  Bicycle Lanes ................................................................................. 38
Bicycle Routes ....................................................................................................... 38
Bicycle Route Wayfinding ...................................................................................... 39
Bicycle Volumes ..................................................................................................... 39
Sharrows ................................................................................................................ 39
Bikeway Gaps ........................................................................................................ 40
Bike Share locations .............................................................................................. 40
Connection to Trails ............................................................................................... 40
Pedestrian Infrastructure ........................................................................................... 43
Sidewalks ............................................................................................................... 43
ADA Compliance .................................................................................................... 43
Curb Ramps ........................................................................................................... 43
Marked Intersection Crossings ............................................................................... 43
Mid-block Crossings and High Intensity Activated Crosswalk Beacon (HAWK) .... 44
Rectangle Rapid Flash Beacon (RRFB) ................................................................. 44
Grade-Separated Crossings .................................................................................. 44
Connections to trails ............................................................................................... 44
Transit Infrastructure .................................................................................................. 47
Existing Bus Routes ............................................................................................... 47
Light Rail ................................................................................................................ 47
ADA Compliance for Transit ................................................................................... 47
Park and Ride Locations ........................................................................................ 48
Transit Gaps ........................................................................................................... 48
Utilities and Lighting Infrastructure ............................................................................. 50
Utilities ................................................................................................................... 50
Lighting .................................................................................................................. 50
Chapter 4: Existing Corridor Safety Considerations ...................................................... 50
Vehicular Crash Data Analysis ............................................................................... 51
Injury Severity ........................................................................................................ 51
Intersection Relation .............................................................................................. 55
Collision Manner .................................................................................................... 55
Crashes by Year .................................................................................................... 58
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crashes by the Time of the Year</td>
<td>58</td>
</tr>
<tr>
<td>Crashes by the Day of the Week</td>
<td>59</td>
</tr>
<tr>
<td>Lighting Conditions</td>
<td>59</td>
</tr>
<tr>
<td>Bicycle Crash Data Analysis</td>
<td>60</td>
</tr>
<tr>
<td>Pedestrian Crash Data Analysis</td>
<td>60</td>
</tr>
<tr>
<td>Chapter 6: Stakeholder Interview Summary</td>
<td>62</td>
</tr>
<tr>
<td>Stakeholder Identified Opportunities and Constraints</td>
<td>64</td>
</tr>
</tbody>
</table>
List of Figures

Figure 1: Mobility Assessment Area #11 Study Area Boundary ............................................... 7
Figure 2: Garfield Historic District ........................................................................................ 9
Figure 3: Iterative Approach to Using the Bicycle Corridor/Project Prioritization Methodology .................................................................................................................. 10
Figure 4: Example of Complete Street in Phoenix ............................................................... 11
Figure 5: Eastlake-Garfield Mobility Inventory .................................................................... 12
Figure 6: Complete Street Planning Process for High Density/Intensity Suburban Context .......................................................................................................................... 13
Figure 7: Example of a Buffered Two-Way Cycle Track .................................................... 14
Figure 8: Conceptual Design of a Raised Intersection ....................................................... 15
Figure 9: Existing Land Use .................................................................................................. 17
Figure 10: Existing Zoning .................................................................................................. 18
Figure 11: City Owned Parcels .......................................................................................... 20
Figure 12: Major Assets .................................................................................................... 21
Figure 13: MA 11 Socioeconomic and Demographic Conditions at a Glance ................. 22
Figure 14: Total Population Density (Per Sq. Mile) ........................................................... 23
Figure 15: Total Housing Units ......................................................................................... 24
Figure 16: Percent Renter Occupied Housing Units ............................................................ 25
Figure 17: Percent of Population Living Below Poverty Level ........................................... 26
Figure 18: Percent of Population with Limited English Proficiency (LEP) ....................... 27
Figure 19: Percent No-Vehicle Households ....................................................................... 28
Figure 20: Percent of Population that Bike to Work ............................................................ 29
Figure 21: Percent of Population that Walk to Work ........................................................... 30
Figure 22: Percent of Population that take Public Transit to Work ..................................... 31
Figure 23: FHWA Functional Classification of Roadways .................................................... 33
Figure 24: Daily Traffic Volumes ......................................................................................... 34
Figure 25: Existing Pavement Conditions ........................................................................... 36
Figure 26: Existing Bicycle Infrastructure ......................................................................... 41
Figure 27: Existing Bicycle Volumes .................................................................................. 42
Figure 28: Existing Sidewalks and Curb Ramps ................................................................. 45
Figure 29: Crossing Types and Locations ......................................................................... 46
Figure 30: Existing Transit Facilities .................................................................................. 49
Figure 31: Percentage of Crashes by Injury Severity .......................................................... 51
Figure 32: Location of all Crashes based on Severity ......................................................... 53
Figure 33: Location of Pedestrian and Bicycle Crashes based on Severity ....................... 54
Figure 34: Crash Percentages based on Intersection Relation ........................................... 55
Figure 35: Percentage of Crashes by Collision Type .......................................................... 56
Figure 36: Location of Crashes based on Collision Manner .............................................. 57
Figure 37: Number of Crashes per Year ........................................................................... 58
List of Tables

Table 1: Review of Pertinent Engineering, Planning and Policy Documents .............. 8
Table 2: Crash Severity Comparison ......................................................................... 52
CHAPTER 1: STUDY INTRODUCTION

Purpose & Need
The City of Phoenix (City) has demonstrated a commitment to create better neighborhoods and a more livable city, and one of the major goals is to improve the city’s transportation. On August 25, 2015, Phoenix voters approved the Transportation 2050 (T2050) plan which places emphasis on street needs including street maintenance, new pavement, bike lanes, sidewalks and Americans with Disabilities Act (ADA) compliance and accessibility.

A separate T2050 Mobility Improvements Program was established as a distinct element to implement additional projects that increase ADA accessibility and mobility through construction of new sidewalks and multimodal connectivity through this provision of new bicycle facilities and enhanced pedestrian amenities. The T2050 Mobility Improvements Program has allocated 15% of the T2050 funds for mobility projects. Phoenix Street Transportation staff analyzed 11 datasets to determine geographic areas of the community with the greatest mobility deficiencies and needs. After collection of all datasets, staff combined the data into a heat map, which acknowledged and ranked the 40 priority areas to move forward for additional analysis. The Citizens Transpiration Commission approved the top 11 priority study areas to be part of the first of four phases of Mobility Study Areas.

The primary purpose of the mobility study is to complete a mobility gaps analysis based on available data and information from previous area studies. The gaps analysis will lead to identification of a prioritized list of mobility improvements for presentation to the public for feedback at a public meeting. Upon receipt of project feedback, projects will be re-prioritized if necessary, and design, right-of-way, and construction schedule and cost estimates will be developed by the project team.

Study Objectives
The objective is to scope and prioritize sidewalk, bike facility, mid-block crossings, and other improvements that will improve walking and biking to key destinations within and adjacent to the study area. Upon completion of the study, identified and prioritized mobility projects will be considered for inclusion in a 5-Year T2050 Mobility program of projects for design and construction.

Ultimately, the goal of the various mobility studies is to develop and recommend mobility solutions that will improve the safety, accessibility, and multimodal connectivity for all users, regardless of age or ability, to places of employment, schools, markets, and recreational opportunities.
Mobility Assessment Area #11 Overview

Illustrated in Figure 1, the T2050 Mobility Assessment Area #11 (MA 11) is located just east of Downtown Phoenix and northwest of Phoenix Sky Harbor International Airport. MA 11 is generally bounded by Interstate 10 (I-10) to the north, Jackson Street to the south, I-10 to the east, and 9th Street to the west. MA 11 includes a mix of single and multi-family residential neighborhoods, public housing, schools, parks, and several retail centers.

The light rail traverses through the study area along Washington and Jefferson Street, with stations in both directions at 12th Street. The area adjacent to the 12th Street stations has potential capacity for transit-oriented Development and several dense residential projects are currently underway. The 12th Street stations act a major mobility hub for the community and enhancing connections to and from the station is critical.

MA 11 also contains two of the oldest residential communities in Phoenix; Eastlake and the Garfield neighborhoods.

Eastlake is larger of the two covering the area east of 16th Street between Moreland and Jackson Street. St. Luke’s Medical Center, Pro’s Ranch Market, and Edison Elementary School and Park are some of the major destinations within the Eastlake Neighborhood. South of Roosevelt Street is unique as it has a mix of vacant land, light industrial, commercial, warehouses, and multi-family housing. The northeast corner of the neighborhood has the most character with many single-story ranch-style homes.

In the southern half of the Eastlake neighborhood, single-family homes, small businesses, churches, and schools, including Faith North and Shaw Elementary, characterize the Eastlake Park neighborhood. Homes generally date back to the 1940s and 50s. Just south of Eastlake, along Jackson Street, is an industrial zone and rail yard.

The Garfield Neighborhood makes up the northwest corner of MA 11 and is approximately a half-mile from the light rail stops at 12th Street. The neighborhood is one of Phoenix’s first streetcar neighborhoods, with some housing dating back to the 19th century. Many properties are currently being restored and renovated, and there has been an increase in construction throughout the neighborhood. Verde Park, and Garfield Elementary are prominent locations, and the neighborhood is known for its active artist community, including Alwun House, a non-profit art gallery and notable landmark.
Figure 1: Mobility Assessment Area #11 Study Area Boundary
CHAPTER 2: REVIEW OF PERTINENT ENGINEERING, PLANNING AND POLICY DOCUMENTS

In order to develop a successful and effective plan for the City, understanding the previous planning efforts is important. Prior to this planning process several plans, studies, and reports have been completed that impact MA 11. A total of seven completed or ongoing plans, studies or reports are summarized in Table 1. The table identifies the title of the report, the type of report and the year the report was published. The following pages directly describe the document contents and their relevance to this study.

Table 1: Review of Pertinent Engineering, Planning and Policy Documents

<table>
<thead>
<tr>
<th>Title</th>
<th>Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Phoenix General Plan</td>
<td>General Plan</td>
<td>2015</td>
</tr>
<tr>
<td>City of Phoenix Comprehensive Bicycle Master Plan</td>
<td>Master Plan</td>
<td>2014</td>
</tr>
<tr>
<td>City of Phoenix Complete Street Policy</td>
<td>City Policy</td>
<td>2017</td>
</tr>
<tr>
<td>ReInvent Phoenix Eastlake-Garfield TOD Policy Plan</td>
<td>Policy Plan</td>
<td>2015</td>
</tr>
</tbody>
</table>
City of Phoenix General Plan
The City of Phoenix General Plan provides the vision and policies that determine phoenix will grow and develop. This plan was updated in 2015 and addresses topics such as land use, zoning, housing, neighborhoods, transportation, environmental, natural resources, energy, and public facilities.

The Garfield and Eastlake neighborhoods are both identified in the Plan as “Growth/Preservation Areas” to maintain their unique character and continue to develop the neighborhoods’ diverse and rich culture. In addition, the Garfield neighborhood is illustrated in Figure 2 and is identified as a Historic District. Preserving and enhancing the historic buildings, structures, and sites within the Garfield Historic District is key to ensuring that the heritage will continue to be enjoyed residents and visitors. The City has a goal to preserve the rich history of the Garfield neighborhood through incentive and designation programs.

Figure 2: Garfield Historic District

Source: City of Phoenix Historic Property Register
City of Phoenix Comprehensive Bicycle Master Plan

The purpose of the City of Phoenix Comprehensive Bicycle Master Plan is to establish a direction to transform the city into a bicycle-friendly community over a 20-year timespan. The goal is to improve levels of bicycle friendliness, as defined by the League of American Bicyclists’ Bicycle Friendly Communities program. Phoenix received an Honorable Mention in 2011, but the next goal is a Bronze Award, and then progressing up to the Platinum level as the projects recommended out the Bicycle Master Plan are implemented over time. The approach of the master plan, depicted Figure 3, called for a prioritization of corridors into the three separate tiers. However, none of the corridors selected in the three tiers fall within the MA 11 planning boundary. The following information describes the projects for each of the three tiers:

1. Completion of Tier I corridor projects will add 32 miles of bikeways and improve bicycle safety and mobility through 50 intersections. The planning level in-house cost estimate to implement these projects is $4,031,000.

2. Completion of Tier II corridor projects will add 33 miles of bikeways, make an important connection across the I-17 freeway, and improve bicycle safety and mobility through 108 intersections. The planning level in-house cost estimate to implement these projects is $14,008,000. An additional $9,320,000 would be invested to pave the Grand Canal Trail.

3. Completion of Tier III corridor projects will add 55 miles of bikeways and improve bicycle safety and mobility through 125 intersections. The planning level in-house cost estimate to implement these projects is $10,798,000. An additional $14,550,000 would be invested to pave the Arizona, Highline, Western, and CAP Canal Trails.

Figure 3: Iterative Approach to Using the Bicycle Corridor/Project Prioritization Methodology

Source: City of Phoenix Comprehensive Bicycle Master Plan
City of Phoenix Complete Streets Policy

On June 28th, 2017, the City Council adopted the City of Phoenix Complete Streets Policy to further advance its goals to create a more sustainable transportation system that is safe and accessible for all users. Complete streets provide an environment that encourages walking, bicycling, transportation choices and increased connectivity.

Through this policy, the primary focus of street design will no longer be solely on the speed and efficiency of automobile travel, but on the safety and comfort of all users of the public right-of-way (ROW).

When designing, constructing and improving rights-of-way, including those in MA 11, City staff will incorporate this Policy to ensure the City’s rights-of-way:

- Are planned, designed, constructed, operated, and maintained with the ultimate goal of serving a variety of transportation modes
- Will contribute to active transportation and public health
- Accommodate transportation users of all ages and abilities
- Are economically and environmentally sustainable
- Are designed to be compatible with the surrounding contexts and connecting transportation networks
- Comply with state and federal law and City code and Ordinance S-41094
- Follow the Complete Streets Planning and Design Principles which will be integrated into the Street Transportation Design Guidelines
- Provide new or improved connectivity between all transportation modes and adjacent land uses.

Figure 4: Example of Complete Street in Phoenix

Source: City of Phoenix Complete Streets Initiative
ReInvent PHX Eastlake-Garfield TOD Policy Guide

The purpose of the Eastlake-Garfield TOD Policy Plan is to guide investment, policy and redevelopment in the Eastlake-Garfield area. This plan identifies community infrastructure investments that are linked to quantifiable, community-vetted outcomes. These include strategically-located projects of multiple types and sizes, from resident-driven tree planting initiatives to major infrastructure and real estate development. This guide will act as a tool to effectively leverage and coordinate the resources needed for implementation, it will be critical that we consistently use the Eastlake-Garfield plan to inform decision-making and identified projects in MA 11.

Figure 5: Eastlake-Garfield Mobility Inventory

Source: ReInvent PHX: Eastlake-Garfield TOD Policy Guide
Maricopa Association of Governments (MAG) Complete Streets Guide

The MAG Complete Streets Guide is a step to ensuring that facilities for bicycles, pedestrians, and transit are recognized as integral to a properly designed and functioning street. This policy guide provides sample outcomes, examples of best practices, and policy guidance to help ensure that all new and retrofitted streets in the MAG region serve as many transportation modes as practical and possible. The MAG Complete Streets Guide includes on information on the benefits of Complete Streets, what the MAG region is trying to accomplish with this Guide, how to plan a Complete Street in the MAG region, Complete Street plans and policies in other locations, and how to implement this Guide.

Portions of MA 11 would be categorized as both High Density/High Intensity Urban and Suburban Context, so planning techniques for those development contexts will be used in conjunction with the City’s Complete Streets Policy when developing the framework for recommendations related to complete streets within Study Area.

Figure 6: Complete Street Planning Process for High Density/Intensity Suburban Context
NACTO Urban Bikeway Design Guide
The purpose of the Urban Bikeway Design Guide published by National Association of City Transportation Officials (NACTO) is to provide cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists. The designs in this document were developed by cities for cities, since unique urban streets require innovative solutions. Most of these treatments are not directly referenced in the current version of the AASHTO Guide to Bikeway Facilities, although they are virtually all (with two exceptions) permitted under the Manual of Uniform Traffic Control Devices (MUTCD).

MA 11 is located in an Urbanized area. The design parameters referenced in the Urban Bikeway Design Guide shall be recognized in conjunction with City of Phoenix and MAG policy guidance during the design of the bike infrastructure for this corridor.

Figure 7: Example of a Buffered Two-Way Cycle Track

Source: NACTO Urban Bikeway Design Guide
**NACTO Urban Street Design Guide**
The NACTO Urban Street Design Guide shows how streets of every size can be designed to focus on safe driving and transit, biking, walking, and public activity. Unlike older, more conservative engineering manuals, this design guide is graphic oriented and has an emphasis on urban streets as public places and have a different function within communities’ other than exclusively being corridors for traffic.

This Guide will be the toolbox and unveil tactics to use to make streets safer, more livable, and more economically vibrant in MA 11. The Guide outlines both a clear vision for complete streets and a basic road map for how to bring them to fruition during the planning process.

**Figure 8: Conceptual Design of a Raised Intersection**

*Source: NACTO Urban Street Design Guide*
CHAPTER 3: EXISTING FEATURES INVENTORY
Chapter 3 provides an overview of the existing conditions and features of MA 11. This includes the latest information related to population demographics, land use and zoning, housing, property ownership, infrastructure (stormwater, sewer, water, power, gas, and broadband), and transportation facilities. Each of these topics is described in greater detail in this section. The data summarized in this section was either collected through a series of extensive site visits or provided to the project team by the City in electronic format. Where recent data could be collected, supporting figures and tables have been provided.

Existing Land Use & Zoning

Land Use
The existing land use is reviewed early in the planning process to develop a sense of how various land uses define the character of the planning area. Depicted in Figure 9, the study area is approximately one square mile and has light rail running along Washington and Jefferson Street with a stop at 12th Street. The land adjacent to the light rail and other major corridors has a commercial land designation and any adjacent residential is higher density attached townhouses, condos, or apartments at 10 to 15 dwelling units per acre (du/acre). The northwest area, or the Garfield Historic District has the traditional residential development pattern with single family homes at approximately 3.5-5 du/acre. The various Public/Quasi-Public land uses include the St. Luke’s Hospital, city facilities, places of worship and schools.

Zoning
In addition to the early review of existing land uses, existing zoning is also reviewed to understand the regulatory zoning framework that exists and its current and future impact on multimodal trip generation in MA 11. Illustrates the existing zoning within the MA 11. The study area is primarily zoned residential amongst the local and collector street network. The residential zoning is predominately multi-family and there currently exists multi-family dwelling units, however, there are more existing signal family homes within the neighborhood. The commercial zoning pattern is similar to the typical zoning practice adjacent to the major arterial corridors such as, Van Buren Street, Washington Street, Jefferson Street 16th Street, and 20th Street. MA 11 is unique because there are small pockets of commercial zoning integrated into the neighborhoods which include small restaurants and markets. The southern portion of the study area has a distinctive character compared to the rest of the MA 11 study area because it is primarily zoned Industrial as the Jackson Street corridor hosts many industrial buildings.
Figure 9: Existing Land Use

Source: City of Phoenix General Plan

Legend

- **Study Area**
  - MA 11

- **Existing Land Use**
  - 3.5 to 5 duacs - Traditional
  - 10 to 15 duacs - Higher density attached townhouses, condos, or apartments
  - 15+ duacs - Higher density attached townhouses, condos, or apartments
  - Park/Open Space - Publicly Owned
  - Commercial
  - Mixed Use (MU)
  - Public/Quasi-Public
  - Industrial
Figure 10: Existing Zoning

Source: City of Phoenix General Plan
City Owned Properties
There are 144 city owned properties displayed in MA 11 as shown in Figure 11. The properties are owned by various departments for various purposes. The Aviation Department owns 48 small properties in the southern portion of the study area as Sky Harbor International Airport is located less than a mile to southeast of MA 11. The Transit department owns 28 properties between Washington and Jefferson Street. These properties are all either vacant or paved as a parking lot. These properties have potential to support the light rail and adjacent bus routes. The Neighborhood Services Department owns 30 vacant properties, while the city Housing Department is the other major city property owner with all of the public housing available within the study area.

Major Assets
Assets are the strengths that are currently existing within and around MA 11. These include major employers, schools, historic buildings, community organizations, initiatives, institutions and infrastructure. Asset mapping helps inform the planning process by creating an inventory for preserving, improving or further supporting the areas existing resources. While also identifying where residents and visitors will likely be traveling to and from. The major assets within MA 11 are depicted in Figure 12 and outlined below:

- Valley Metro Light Rail Stop
- Produce Distributor
- St. Luke’s Medical Center
- Pro’s Ranch Market
- Downtown
- Children’s Museum of Phoenix
- Historic Neighborhood
- Public Housing
- Shaw Elementary School
- Faith North Montessori School
- Teleos Preparatory Academy
- ASU Preparatory Academy
- Garfield Elementary School
- Edison Elementary School
- Eastlake Park
- Phoenix Fire Department
- Former Goodwill/Academy
- Economic Security Department
- New Times Building
- Senior Housing
- Booker Washington Child Development Center
- Phillips Memorial CME Church
- Verde Park
- La Tolteca
- Arnold’s Pickle House
- Helen K. Mason Performing Arts Center
- CO+HOOTS Coworking Space
- Azteca Bridal Wedding Plaza
- Immaculate Heart of Mary Catholic Church
- Historic Tanner Chapel AME Church
- First Institutional Baptist Church
- Pilgrim Rest Baptist Church
- Fire Station
- Edison Park
- Maricopa County Public Health Clinic
- New Pathways Center for Youth
- Southwest Autism Research & Resource Center
- (SAARC)
- 11th Street Bicycle & Pedestrian Improvements
Figure 11: City Owned Parcels

Source: City of Phoenix
Figure 12: Major Assets

1. Valley Metro Light Rail Stop
2. Produce Distributor
3. St. Luke’s Medical Center
4. Pro’s Ranch Market
5. Downtown
6. Children’s Museum of Phoenix
7. Historic Neighborhood
8. Public Housing
9. Shaw Elementary School
10. Faith North Montessori School
11. Teleos Preparatory Academy
12. ASU Preparatory Academy
13. Garfield Elementary School
14. Edison Elementary School
15. Eastlake Park
16. Phoenix Fire Department
17. Former Goodwill/Academy
18. Economic Security Department
19. New Times Building
20. Senior Housing
21. Booker T. Washington Child Development Center
22. Phillips Memorial CME Church
23. Verde Park
24. La Tolteca
25. Arnold’s Pickle House
26. Helen K. Mason Performing Arts Center
27. CO+HOOTS coworking space
28. Azteca Bridal Wedding Plaza
29. Immaculate Heart of Mary Catholic Church
30. Historic Tanner Chapel AME Church
31. First Institutional Baptist Church
32. Pilgrim Rest Baptist Church
33. Fire Station
34. Edison Park
35. Maricopa County Public Health Clinic
36. New Pathways Center for Youth
37. Southwest Autism Research & Resource Center
38. (SAARC)
39. 11th Street Bicycle & Pedestrian Improvements

Source: ReInvent PHX: Eastlake-Garfield TOD Policy Guide
Existing Socioeconomic Conditions in MA 11

This section offers an overview of the demographic, social and economic characteristics of MA 11. The data in used to generate Figure 13 through Figure 22 was developed from the MAG Demographic Viewer which generates data from American Community Survey (ACS) conducted by the US Census Bureau.

Figure 13: MA 11 Socioeconomic and Demographic Conditions at a Glance

- Total Population: 15,468
- Poverty Status: 57%
- Median Household Income: $17,991
- Percent of People with a High School Education: 28%
- Percent of People with Limited English Proficiency: 28%
- 16% Walk, Bike, or take Public Transit to Work
- Renter Occupied Housing Units: 77%
- Total Number of Housing Units: 5,148
- 16% Vacant
- 31% Zero-Vehicle Households

Source: Maricopa Association of Governments
Figure 14: Total Population Density (Per Sq. Mile)

Source: Maricopa Association of Governments
Figure 15: Total Housing Units

Source: Maricopa Association of Governments
Figure 16: Percent Renter Occupied Housing Units

Source: Maricopa Association of Governments
Figure 17: Percent of Population Living Below Poverty Level

Source: Maricopa Association of Governments
Figure 18: Percent of Population with Limited English Proficiency (LEP)

Source: Maricopa Association of Governments
Figure 19: Percent No-Vehicle Households

Source: Maricopa Association of Governments
Figure 20: Percent of Population that Bike to Work

Source: Maricopa Association of Governments
Figure 21: Percent of Population that Walk to Work

Source: Maricopa Association of Governments
Figure 22: Percent of Population that take Public Transit to Work

Source: Maricopa Association of Governments
Existing Roadway and Traffic Conditions
The major elements of existing transportation system in MA 11 are identified and documented in this section. The status or existing condition of each element are also summarized and illustrated. Major elements include pavement cross-sections and conditions as well as other modes of transportation including bikeways, sidewalks, and transit within MA 11.

FHWA Roadway Functional Classifications
Roadway functional classifications are the grouping of streets and highways into classes according to the level of service in which they are intended to provide. Figure 23 depicts the current functional classification of the roadways within the MA 11 study area. The City of Phoenix functional classification map identifies arterial and collector roadways only. Roadways within the study area that are not classified as arterial or collector roadways based on the City of Phoenix functional classification map are assumed as local roads (and thus not labeled on Figure 23).

Existing Vehicular Traffic Volumes
City of Phoenix provided the 24-hour hourly traffic volume data for the roadways within the MA 11 study limits. The dates when the traffic volume data was collected varied from February 2011 to September 2016. Figure 24 depicts the 24-hour average daily traffic volumes on roadways within MA 11 study area. The traffic volumes on Washington and Jefferson Street are consistent between the two experiencing approximately 10,000 to 13,000 vehicles a day on average. Due to their one-way characteristic, both Washington and Jefferson Street experience less than daily traffic than Van Buren Street, which hosts approximately 17,000 vehicles daily. The only two local streets with traffic counts are 11<sup>th</sup> and 12<sup>th</sup> Street. Both streets have a typical amount of daily traffic for a standard local street ranging from 1,000 to 3,000 daily vehicles. 12<sup>th</sup> Street does experience a higher amount of traffic compared to 11<sup>th</sup> likely due to the 12<sup>th</sup> Street bridge over I-10.

Crash Data
Crash data for the study area was obtained to identify trends, patterns, predominant crash types, and high crash locations. Crash data for the five-year period, from January 1, 2012 to December 31, 2016 was obtained from the City of Phoenix.

During the five-year period, a total of 1,020 crashes were reported within the MA 11 study area. 973 of the 1,020 crashes were vehicular crashes, 15 were bicycle related and the remaining 32 were pedestrian related crashes. Detailed crash analysis for the study area is included within the Existing Corridor Safety Conditions section of this report.
Figure 23: FHWA Functional Classification of Roadways

Source: City of Phoenix Street Classification Map
Figure 24: Daily Traffic Volumes

Source: City of Phoenix
Existing Pavement Conditions
The pavement surface for all roadways within the MA 11 study area are asphalt concrete. Pavement condition data for the study area was obtained from City of Phoenix. According the data obtained from City of Phoenix, pavement conditions for the study area are defined as:

**Excellent Condition:** Like new pavement, with no visible distresses and require no maintenance.

**Good Condition:** Like new pavement with few defects as perceived by field reviewers, no sign of cracking and pavement deterioration, no maintenance is required as cracks are barely visible or well-sealed.

**Fair Condition:** Slight rutting, and/or cracking, and/or roughness that became noticeable by field reviewers. The road may also be bumpy but not enough to reduce vehicle speed, and may have some pavement raveling.

**Poor Condition:** Multiple cracks, potholes, roughness, and/or bleeding are apparent on roadway. Roadway may be uncomfortable to vehicle occupants and drivers may need to correct or avoid road defects. Previous road repairs are deteriorated and require maintenance.

As Figure 25 demonstrates, the pavement conditions for roadways within MA 11 range from excellent to poor. Roadways south of Roosevelt Street between 9th and 16th Street are in poor condition. Roadways along the southern portions of the study area are generally in fair condition. All roadways along the northern portion of the study area, north of Roosevelt Street are in good or excellent condition. 16th Street between Jefferson and Van Buren Street is considered to be in poor condition.
Figure 25: Existing Pavement Conditions

Source: City of Phoenix
Access Management Guidelines

Access Management is the control and management of every point of access on the public roadway network. The purpose of this control is to limit vehicular and pedestrian conflicts. Access Management guidelines for City of Phoenix are included in Chapter 8 of the City of Phoenix Street Planning and Design Guidelines document published in December 2009.

Access Management guidelines for City of Phoenix are summarized below:

1. Single-family residential driveways should not be located within the curb radius return on a corner lot.
2. A single parcel or contiguous parcels comprising of one development should be limited to one driveway, unless traffic volume or street frontage warrants additional driveways.
3. On major arterial and arterial streets, the sharing of driveways between adjacent properties and common ingress/egress easements are strongly encouraged. Existing driveways that are unnecessary or substandard should be removed or upgraded in conjunction with any new on-site or street construction.
4. On major arterial and arterial streets, large developments should consolidate major driveways at 1/4 or 1/8 mile locations and align them with the driveways on the opposite side of the street.
5. Driveways to corner lots should be located as far away from the intersection as practical.
6. Driveways are prohibited within the passenger waiting area of bus stops unless relocation of the facility is approved by Public Transit. Driveways should be located such that bus stop improvements are beyond the projection of driveway visibility triangles and drivers will be able to see around bus stop improvements, both existing and planned. Driveways are not to be located within the flat portion of the bus bay (bus standing area).
7. Driveway connections should be placed at locations that facilitate the efficient entry and exit of vehicles to properties on both sides of a street and minimize conflicts with transit facilities, left turn pockets as well as traffic on the streets or neighboring properties.
8. The Driveway Ordinance prohibits access from commercial property to alleys that abut residential property. Access to alleys must be applied for and shall be considered by the Development Services Director or designee.
9. Median island opening will be allowed at 660-foot intervals as required in the City of Phoenix Street Classification System General Policy Document and Technical Supplement. Openings other than at the 660-foot locations may be permitted if approved by the Street Transportation Department.
Traffic Calming
Traffic calming uses physical design or other measures to slow or reduce traffic in order to enhance safety for pedestrians and motorists, including narrowed roads, speed humps etc. Traffic calming is the most effective way to reduce speeding on residential streets, avoid traffic accidents and prevent fatalities.

There are a number of traffic management techniques used by City of Phoenix to help alleviate cut-through traffic problems in neighborhoods. Several traffic management techniques used by the City are listed below:

1. Right-turn diverters,
2. Traffic circles,
3. Diagonal diverters,
4. Semi-diverters,
5. Turn restrictions,
6. Chicanes, and
7. Speed humps.

Traffic management technique examples and the standards details for traffic calming devices are included in Section 7.4 of the City of Phoenix Street Planning and Design Guidelines.

Bicycle Infrastructure

Bicycle Lanes
Striped bike lanes exist on various roadways within the study area. Existing striped bike lanes in both directions along the roadways within the study area are shown in Figure 26 and are listed below:

1. 11th Street, between Moreland Street and Monroe Street,
2. 12th Street, between Van Buren Street and Jefferson Street,
3. 20th Street, between Roosevelt Street and Washington Street,
4. Moreland Street, between 11th Street and 12th Street,
5. Roosevelt Street, between 16th Street and 20th Street,
6. Washington Street, between 9th Street and 20th Street, and
7. Jefferson Street, between 9th Street and 20th Street.

Bicycle Routes
A signed bicycle route is typically designated along more lightly traveled residential or secondary roads and is indicated by signs with or without a specific route number and /or dedicated stripping. This type of facility should have appropriate directional and informational markers. Signed bicycle routes are designated by the jurisdiction having authority over the roadways included in the bicycle route system. Bicycle routes are often utilized to direct bicyclists to less-congested roadways that may follow the same general corridor as more heavily traveled arterial roadways.

Existing bicycle routes within MA 11 are depicted in Figure 26 and are listed below:
1. Fillmore Street, between 9th Street and 12th Street, and continues east to 20th Street.
2. 11th Street, between Jefferson Street and Monroe Street, and
3. Monroe Street, between 11th Street and 12th Street.

**Bicycle Route Wayfinding**
A bicycle wayfinding system consists of comprehensive signing and/or pavement marking to guide bicyclists to their destinations along preferred bicycle routes. Signs are typically placed at decision points along bicycle routes; typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes.

Bicycle wayfinding signs within MA 11 study area exist on Fillmore Street, west of 10th Street and on Roosevelt Street, east of 20th Street.

**Bicycle Volumes**
The average weekday bike volumes collected within MA 11 are depicted in Figure 27, which highlights three corridors where bicycle counts have been conducted. Bicycle counts were conducted on 12th Street north of Taylor Street, Washington Street between 16th Street and 24th Street, and Jefferson Street west of 20th Street. 12th Street and Washington Street experience approximately more than twice as many cyclists as Jefferson Street. The data collected on Washington Street should be investigated because counts were only collected in a small segment between 16th Street and 24th Street, and Washington Street has a bike lane throughout the entire corridor. The count data conducted on 12th Street should also be revisited as the bike facility on 12th Street jobs west to 11th Street on Mooreland Street, thus majority of cyclists traveling north/southbound on 12th Street would utilize the facilities on 11th Street. This is also an opportunity to better navigate cyclists at this location through wayfinding signage. Ultimately, there is a need for more thorough count data within MA 11, particularly adjacent to schools and along activity corridors such as Washington, Jefferson, Roosevelt, Fillmore/Villa, 9th, 11th, 12th, and 20th Street.

**Sharrows**
Shared Lane Markings (SLM’s), or “Sharrows” are road markings used to indicate a shared lane environment for bicycles and automobiles. Among other benefits, shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance. The shared lane marking is not a facility type, it is a pavement marking with a variety of uses to support a complete bikeway network.

Sharrows within MA 11 study area exists on Roosevelt Street between 9th Street and 11th Street, on 12th Street between Roosevelt Street and Diamond Street and on Jefferson Street west of 11th Street.
**Bikeway Gaps**
Bikeway gaps within MA 11 study area exists on Roosevelt Street between 9th Street and 15th Street within the study area, and are shown in **Figure 26.**

**Bike Share locations**
A bicycle sharing system is a service in which bicycles are made available for shared use to individuals on a very short-term basis for a price. Bike share schemes allow people to borrow a bike from one location and return it at another location.

Bike share locations exists at the following locations within MA 11 study area:

- 41. Roosevelt Street and 10th Street,
- 42. Van Buren Street and 9th Street, and
- 43. Washington Street and 11th Street.

**Connection to Trails**
Paved multi-use paths exists on 10th Street and on 18th Street north of Moreland Street. These multi-use paths enable the pedestrians and bicyclists to travel across Interstate 10 to access various facilities across the City.
Figure 26: Existing Bicycle Infrastructure

Source: City of Phoenix Street Transportation Bike Map
Figure 27: Existing Bicycle Volumes

Source: City of Phoenix Comprehensive Bicycle Master Plan
Pedestrian Infrastructure
Pedestrian infrastructure existing within MA 11 is discussed in the following sections.

Sidewalks
Sidewalks exist on the majority of all roadways within the study area. Figure 28 shows the existing sidewalk locations and sidewalk widths within the study area. Based on the observations from the field reviews, the existing sidewalks within the study area are in good condition with no major damages.

The only sidewalk gaps identified within MA 11 are along the following streets:
• Jackson Street, from 9th Street to 20th Street,
• Monroe Street, 19th Street to 20th Street,
• 19th Street, from Monroe Street to Washington Street, and
• 20th Street, from Monroe Street to Washington Street.

ADA Compliance
The minimum continuous and unobstructed clear width of a pedestrian access route shall be 1.2 m (4.0 feet), exclusive of the width of the curb. Where a pedestrian access route turns or changes direction, it should accommodate the continuous passage of a wheelchair or a scooter.

As shown in Figure 28, all the existing sidewalks within MA 11 study area are 4 feet or greater, therefore, the existing sidewalks are ADA compliant.

Curb Ramps
According to the Americans with Disabilities Act (ADA), detectable warnings at curb ramps shall consist of a surface of truncated domes aligned in a square or radial grid pattern. Figure 28 depicts the location of curb ramps with truncated domes or non-truncated domes within MA 11 study area. During the field visits, Washington Street, Jefferson Street, Roosevelt Street, and 11th Street were the only corridors that primarily had truncated domes at the crossing locations. Otherwise, non-truncated domes have been primarily installed on other corridors.

Marked Intersection Crossings
Crosswalks exists at all signalized intersections and in the vicinity of Schools within the study area. Crosswalks exists at the following unsignalized intersections within the study area:

1. Moreland Street and 11th Street,
2. Roosevelt Street and 11th Street,
3. Roosevelt Street and 13th Street,
4. Roosevelt Street and 14th Street,
5. Roosevelt Street and 18th Street,
6. Roosevelt Street and 20th Street,
7. Garfield Street and 13th Street,
8. Garfield Street and 14th Street,
9. Garfield Street and 17th Street,  16. 9th Street and Polk Street,
10. Garfield Street and 18th Street,  17. 18th Street and Villa Street,
11. McKinley Street and 13th Street,  18. 14th Street and Monroe Street,
12. McKinley Street and 14th Street,  19. 14th Street and Van Buren Street,
13. McKinley Street and 17th Street,  and 20. 12th Street and Van Buren Street.
14. McKinley Street and 18th Street,  
15. Fillmore Street and 9th Street,  

**Mid-block Crossings and High Intensity Activated Crosswalk Beacon (HAWK)**

A HAWK is a traffic control device used to stop road traffic and allow pedestrians to cross safely. The only HAWK within MA 11 exists on Van Buren Street at 13th Street. The 13th Street HAWK exists because 13th Street has an offset alignment, and also because Van Buren Street acts as a barrier between the community north of Van Buren Street and Augustus Elementary School to the south, so the 13th Street helps children cross Van Buren Street Safely.

**Rectangle Rapid Flash Beacon (RRFB)**

RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. There are currently no RRFB’s located within MA 11.

**Grade-Separated Crossings**

Pedestrian bridges, underpasses or any other types of grade-separated crossings do not exist within the study area.

**Connections to trails**

Paved multi-use paths exists on 10th Street and on 18th Street north of Moreland Street. These multi-use paths enable the pedestrians and bicyclists to travel across Interstate 10 to access various facilities across the City.
Figure 28: Existing Sidewalks and Curb Ramps

Source: City of Phoenix
Figure 29: Crossing Types and Locations

Source: City of Phoenix
Transit Infrastructure
The Valley Metro Regional Public Transportation Authority, more popularly known as “Valley Metro”, is the unified provider of the regional transit system in and around the Phoenix metropolitan area. Within the system, it is divided between Valley Metro Bus, which runs all bus operations, and Valley Metro Rail, which is responsible for light rail operations in the valley.

Both Valley Metro bus and light rail system runs within MA 11.

Existing Bus Routes
Valley Metro bus system runs along the following roadways within MA 11 study area:

**East-West Direction:**
1. Moreland Street between 11th Street and 12th Street (1 stop),
2. Roosevelt Street through the study area (16 stops),
3. Van Buren Street through the study area (7 stops),
4. Washington Street through the study area (7 stops), and
5. Jefferson Street through the study area (8 stops).

**North-South Direction:**
1. 11th Street between Moreland Street and Washington Street (7 stops),
2. 12th Street north of Moreland Street and between Van Buren Street and Jefferson Street (2 stops), and
3. 16th Street through the study area (11 stops).

*Figure 30* shows the bus routes and the bus stop locations within MA 11 study area.

**Light Rail**
Valley Metro light rail system runs along Washington Street and Jefferson Street within MA 11 with stations in both directions at 12th Street. *Figure 30* shows the light rail routes and light rail stations within MA 11.

**ADA Compliance for Transit**
ADA non-accessible bus stops exist at the following locations within MA 11:

1. Roosevelt Street east and west of 11th Street,
2. Roosevelt Street west of 12th Street,
3. Roosevelt Street west of 20th Street,
4. 16th Street north of Portland Street,
5. 16th Street south of McKinley Street,
6. 16th Street south of Van Buren Street, and
7. Van Buren Street west of 12th Street.
**Park and Ride Locations**
The closet park-and-ride location to the MA 11 is at Washington Street and 38th Street. This park-and-ride can be accessed by both Valley Metro bus and light rail system along Washington Street and Jefferson Street.

**Transit Gaps**
Based on the field observations and as shown in Figure 30, no gaps were present along the bus or light rail routes through MA 11.
Figure 30: Existing Transit Facilities

Source: Valley Metro
Utilities and Lighting Infrastructure

Utilities
There are many existing utilities along the street network within MA 11. These include visible utilities such as overhead telephone and APS power lines, fire hydrants, traffic signal equipment, storm drains, SRP irrigation structures, private irrigation equipment, backflow preventers, and private utility cabinets. Additionally, there are many underground utilities such as Century Link cable TV and fiber, City of Phoenix water and sewer, COX cable TV and fiber, telecommunications, APS electric, communication and fiber, Southwest Gas and XO Communications fiber.

The City worked with various private utility companies to provide pertinent engineering documents and maps to the project team. Due to security and sensitivity of the information, the data was not shared in a form to readily create figures to depict the location of utilities on an exhibit map at this time. However, the provided data and maps of existing utilities will be extensively evaluated when determining recommendations and solution sets to evaluate potential utility conflicts and/or if any improvements to the utilities can be made in tandem with the multimodal mobility and connectivity recommendations produced from this study.

Lighting
As part of an effort to become more sustainable, Phoenix has launched a Citywide initiative to convert all street lights to LED by the end of 2018. The city is divided into 22 zones which all have a dedicated schedule of completion. MA 11 falls under Zone 2 which is scheduled to be completed by the end of 2017. During the field visits conducted by the project team, the following corridors had a completed conversion of all street lights to LED:

- Washington Street
- Jefferson Street
- 11th Street
- 12th Street
- 14th Street
- Roosevelt Street
- Van Buren Street
- Taylor Street

The following corridors were identified to be partially converted:

- 11th Street
- 12th Street
- 14th Street

CHAPTER 4: EXISTING CORRIDOR SAFETY CONSIDERATIONS
A crash analysis was conducted for the MA 11 study area to identify trends, patterns, predominant crash types, and high crash intersections. The purpose of the crash analysis is to discover safety hazard locations that need to be addressed to improve area safety. Crash data for the five-year period from January 1, 2012 to December 31, 2016 was obtained from the City of Phoenix.
Generally speaking, the 16th Street corridor especially at the Washington, Van Buren and Roosevelt Intersections’ experience the highest incidents of crashes. Otherwise, the arterial streets typically have the greatest frequency of crashes. Perhaps a noteworthy observation are the 2-3 severe injury crashes near the 12th Street and Garfield Road warranting further consideration.

**Vehicular Crash Data Analysis**

During the five-year analysis period, 1,020 crashes occurred within MA 11 study area. The following sections discuss the crashes within the study area during the five-year analysis period.

**Injury Severity**

There were four fatalities reported in the analysis period within the study area in the year 2016 at the following locations:

1. Roosevelt Street and 18th Street – pedestrian related,
2. Roosevelt Street and 20th Street – bicyclist related,
3. Jefferson Street and 9th Street – vehicle related, and
4. 16th Street and Portland Street – pedestrian related.

Figure 31 illustrates the percentage of crashes that occurred within the study area during the five-year analysis period based in the severity of crashes.

**Figure 31: Percentage of Crashes by Injury Severity**

![Pie chart showing the percentage of crashes by injury severity: No Injury 70%, Possible Injury 16%, Non-incapacitating 9%, Incapacitating 4%, Fatal 1%]
A comparison of total crashes that occurred in the five-year period within the MA 11 study and the Statewide average is shown in Table 2. As shown in Table 2, 299 of 1,020 crashes (29.3%) within the study corridor resulted in an injury crash, which is slightly less than the statewide average injury crash percentage for the year 2012 to 2016 (31%).

Table 2: Crash Severity Comparison

<table>
<thead>
<tr>
<th>Crash Severity</th>
<th>Number</th>
<th>MA 11 %</th>
<th>Statewide Average %*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>4</td>
<td>0.4%</td>
<td>1%</td>
</tr>
<tr>
<td>Injury</td>
<td>299</td>
<td>29.3%</td>
<td>31%</td>
</tr>
<tr>
<td>Property Damage Only</td>
<td>717</td>
<td>70.3%</td>
<td>68%</td>
</tr>
</tbody>
</table>

Source: Arizona Department of Transportation (ADOT)

Figure 32 and Figure 33 illustrate the locations of all crashes based on severity within the study area for all crashes and bicycle/pedestrian related crashes respectively. Consistent with the overall crash data presented above, the 16th Street corridor (especially at the 16th Street and Roosevelt Street intersection and to the north) is the location for the most frequent number of bicycle and pedestrian related collisions.
Figure 32: Location of all Crashes based on Severity

Source: City of Phoenix
Figure 33: Location of Pedestrian and Bicycle Crashes based on Severity

Source: City of Phoenix
**Intersection Relation**

As shown in Figure 34, 87% of the crashes within MA 11 study area during the five-year analysis period occurred at an intersection. For the purposes of this analysis, intersection related crashes were assumed to be the crashes that occurred within 150 feet of an intersection.

**Figure 34: Crash Percentages based on Intersection Relation**

![](Intersection_Relation.png)

**Collision Manner**

Figure 35 illustrates the percentage of crashes that occurred within the study during the five-year study period by collision type. As shown in the Figure, 29% of the total crashes during the analysis year were angled other than left-turns collisions, 21% were rear end collisions, 18% were sideswipe collisions, 16% were single vehicle collisions, 9% were left-turn related crashes, 3% (32) were pedestrian related crashes and 2% (15) were bike related crashes.
Figure 35: Percentage of Crashes by Collision Type

Figure 36 illustrates the locations of all crashes based on the collision type within the study area.
Figure 36: Location of Crashes based on Collision Manner

Source: City of Phoenix
**Crashes by Year**

*Figure 37* illustrates the total number of crashes that occurred within the MA 11 during the five-year study period in each year. As shown in the Figure, the corridor experienced the highest number of crashes in the year 2016 (with total 257 crashes). The number of crashes has increased 46% overall since 2012.

*Figure 37: Number of Crashes per Year*

![Crashes by Year Graph](image)

**Crashes by the Time of the Year**

*Figure 38* illustrates the total number of crashes that occurred in each month within the study during the five-year analysis period. As shown in the Figure, April and May had the highest number of crashes followed by December, March, June and September.

*Figure 38: Total Crashes by Month*

![Crashes by Month Graph](image)
**Crashes by the Day of the Week**

Figure 39 illustrates the number of crashes by day of week within the study area during the five-year analysis period. Weekdays tend to experience more crashes than the weekends, with Friday experiencing the most crashes.

**Figure 39: Total Crashes by Day of the Week**

![Bar chart showing crashes by day of week](image)

**Lighting Conditions**

Figure 40 illustrates the percentage of total crashes that occurred within the study area during the five-year analysis period based on the lighting conditions of the study area. As shown in the Figure, 74% of the total crashes occurred during daylight and 22% of the crashes occurred during dark lighted conditions.

**Figure 40: Crash Percentages by Lighting Conditions**

![Pie chart showing crash percentages](image)
**Bicycle Crash Data Analysis**

As mentioned in the *Collision Manner* section of this report, 15 of the 1,020 crashes (1.5%) within the study area were bicycle related crashes. **Figure 41** illustrates the total number of bicycle related crashes that occurred within the study area during the five-year analysis period based on injury type.

One of the 15 bicycle related crashes resulted in a fatality in the year 2015 just east of the intersection of Roosevelt Street and 20th Street on the bridge over I-10. The bicycle related fatality occurred as the vehicle that was involved in the collision failed to keep in the proper lane and occurred during dark lighted conditions. Alcohol was a factor in the reported fatality. Of the remaining bicycle related crashes, 3 were no injury crashes and 11 were injury crashes.

**Figure 41: Bicycle Crash Summary**

---

**Pedestrian Crash Data Analysis**

As mentioned in the *Collision Manner* section of this report, 32 of the 1,020 crashes (3.1%) within MA 11 were pedestrian related crashes. **Figure 42** illustrates the total number of pedestrian related crashes that occurred within the study area during the five-year analysis period.

Two of the 32 pedestrian related crashes resulted in fatalities in the year 2016, one at the intersection of Roosevelt Street and 18th Street and the other at the intersection of 16th Street and Portland Street. One of the fatalities occurred because the pedestrian did not use the crosswalk, the other due an improper left-turning vehicle. One of the fatalities occurred during daylight condition and the other during dark lighted condition. Alcohol was a factor in one of the reported fatalities. Of the remaining pedestrian related crashes, one was an no injury crash and 29 were injury crashes.
Figure 42: Pedestrian Crash Summary
CHAPTER 6: STAKEHOLDER INTERVIEW SUMMARY

The project team developed a standard stakeholder interview questionnaire designed to solicit input and feedback from stakeholders on their daily mobility patterns and safety concerns and considerations. A group of stakeholders were selected to interview to explore their issues, concerns and objectives for mobility challenges, priorities, and desired improvements within MA 11. The interviews were either conducted over the phone or in person and their input is summarized below:

Michael Lafferty – President: Lafferty Development

- The greatest mobility/transportation issues existing on and along Roosevelt Street and 20th Street and believes these corridors have the most potential in the study area. These corridors need to be more walkable with wider and buffered sidewalks and additional shade trees.
- Mr. Lafferty would like to see the introduction of bike lanes and shade trees on Van Buren Street, as well as a community ride and educational event with Grid Bike Share to educate the community members on how to safely ride a bike and use the bike share system.
- In his opinion, the most prominent destinations are:
  - Places along Washington and Jefferson Street between 14th and 2nd Street,
  - 20th Street north of Van Buren Street,
  - 12th Street Light Rail Station and the area between Washington and Jefferson Street,
  - El Rancho Market at 16th and Roosevelt Street,
  - Middle Eastern Market on 20th Street, and
  - Restaurants at 12th Street and Pierce Street.

Joe Perez – Bicycle Coordinator: City of Phoenix Transportation Department

- Mr. Perez thinks Roosevelt Street has major mobility and transportation issues because it is unsafe for pedestrians and cyclists due to the lack of traffic control and the high volume and speed of vehicular traffic. Joe thinks there should be buffered bike lanes on Roosevelt Street east of 16th Street.
- Some other outcomes Joe would like to see is a road diet on 16th Street to make the corridor a complete street from Jackson Street to Almeria Street. A two-way cycle track on Villa/19th Street Adjacent to St. Luke’s Hospital. And bike lanes and wayfinding signage to the Pedestrian bridges on Mooreland Street.
- In his opinion, the most prominent destinations are:
  - El Rancho Market at 16th and Roosevelt Street,
  - Food City,
  - Edison Park,
  - Eastlake Park, and
  - Garfield Elementary, Edison Elementary, and Augustus Elementary Schools.
Virgil Berry – President: Berry Realty & Associates

- The greatest mobility/transportation issue within MA 11 is the ability to access the 12th Street light rail stations. He believes more thought needs to go into how to get to the station from further distances.
- Mr. Berry would like to see some traffic calming introduced to the frontage roads on Washington and Jefferson Street as well as more shade trees planted and lighting installed near the 12th Street light rail stations, which would increase ridership at the station.
- In addition to infrastructure related improvements, Vigil discussed the need for a branding initiative for the neighborhoods and MA 11.
- In his opinion, the most prominent destinations are:
  - 12th Street light rail stations,
  - Grocery Stores,
  - St. Lukes Hospital, and
  - The various places of worship throughout MA 11.

Roberto Frietz - Neighborhood Specialist: City of Phoenix Neighborhood Services

- The greatest mobility/transportation issue or need discussed with Roberto was how Van Buren Street needs to be completely reconstructed to become a complete street from 7th Street to 24th Street. He believes Van Buren Street has the greatest potential for multimodal trips and beieves the redesign of the street would result in economic development.
- Mr. Frietz has heard from community members that 13th Street is in desperate need of drainage improvements, as well as sidewalk improvements and the additions of bike lanes.
- The importance of fair and equal distribution of improvements amongst all neighborhoods and communities within MA 11 is imperative.
- In his opinion, the most prominent destinations are:
  - Roosevelt Street in general between 16th Street and 7th Street,
  - El Rancho Market,
  - St. Luke Hospital,
  - Restaurants,
  - Bus Stops, and
  - Schools.

Devney Pruess - Executive Director: Phoenix Community Alliance

- The greatest mobility/transportation concern in her mind is the questionable connection multimodal connection between he Garfield and Eastlake neighborhoods. There is also a need for a regional north-south connection.
- The streets are very wide within MA 11 leading to long crossing times for pedestrian, so the instruction of more mid-block crossings would be very beneficial.
- Ms. Pruess believes the City needs to improve the process of how to address multimodal accessibility for incoming businesses, especially because she thinks this area I expected to experience high amount of growth.
In her opinion, the most prominent destination is:
  o The Eastlake Park and Recreation Center

Dr. Warren Stewart – Pastor: First Institutional Baptist Church
• The greatest mobility/transportation issue in MA 11 for Dr. Warren Stewart is the lack of lighting for pedestrians thought the area, as well as the lack of destination along Van Buren Street.
• The high speed of traffic on Washington, Jefferson, and Van Buren Street poise a great threat to pedestrian and cyclists and is the main reason it is not safe or pleasant for people to ride or walk within MA 11.
• He would like to see more events within the community to promote walking and cycling as it will educate the community members while also create a more vibrant community.
• In his opinion, the most prominent destinations are:
  o Roosevelt Street in general between 16th Street and 7th Street,
  o El Rancho Market,
  o St. Luke Hospital,
  o Restaurants,
  o Bus Stops, and
  o Schools.

Sean Sweat – Resident and Active Member of Phoenix Complete Streets Committee
• Although not within the boundaries of MA 11, Sean believes the greatest mobility/transportation issue impacting the area is crossing 7th Street as it acts as a major barrier between communities.
• The introduction of two-way cycle tracks on Jefferson and Washington Street would be a fluid improvement due to the streets one-way characteristic.
• Addition of more painted crosswalks throughout MA 11 would be an easy and low-cost improvement. However, there needs to be consistency amongst the designs between the crosswalks at signalized and unsignalized intersections.
• In his opinion, the most prominent destinations are:
  o Recreants: Welcome Diner and Gallo Blanco,
  o Verde Park and Eastlake Park,
  o St. Luke’s Hospital, and
  o The 10th Street and 18th Street Pedestrian Bridges over I-10

Stakeholder Identified Opportunities and Constraints
As the stakeholder interviewing process continues, an Opportunities and Constraints graphic (Figure 43) will be produced that depicts the various corridors and spot opportunities and constraints, as well as the location of safety concerns.
Figure 43: Stakeholder Identified Opportunities and Constraints