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**AGENDA ITEM SUMMARY**

**Meeting Date:** 6/6/2022  
**Meeting Type:** Work Session  
**Staff Contact/Dept.:** Molly Markarian/DPW  
**Staff Phone No:** 541.726.4611  
**Estimated Time:** 60 Minutes  
**Council Goals:** Maintain and Improve Infrastructure and Facilities

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**SPRINGFIELD  
CITY COUNCIL**

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**ITEM TITLE:**

MAIN STREET FACILITY PLAN

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**ACTION****REQUESTED:**

Review Main Street needs and respond to discussion questions to inform developing possible Plan modifications for Council consideration in the Fall.

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**ISSUE****STATEMENT:**

On April 19<sup>th</sup>, the Mayor announced that the City is extending the timeline for the planning phase of the Main Street Safety Project to allow community members and Councilors additional time to review, comment, and examine the draft Main Street Facility Plan. The purpose of this Work Session is to: refamiliarize the Council with the project purpose statement and Main Street needs in the context of the draft Facility Plan; answer questions; and seek feedback on key questions to inform developing possible Plan modifications for Council consideration in the Fall.

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**ATTACHMENTS:**

Attachment 1: A Guide to the Main Street Facility Plan  
Attachment 2: Main Street Needs Chapter  
Attachment 3: Discussion Questions

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**DISCUSSION/  
FINANCIAL  
IMPACT:****Background:**

- Since 2018, Springfield and the Oregon Department of Transportation have been working with partner agencies and a broad range of community members to develop the Main Street Facility Plan (Plan).
- At their December 6, 2021 Work Session, the City Council directed staff to move the draft Plan into the adoption stage.
- On February 15, 2022, the Planning Commission held a duly noticed public hearing on a package of legislative amendments associated with the draft Plan.
- On April 5, 2022, after review of the staff report, evidence in the record, and public testimony, the Planning Commission ordered that a recommendation for approval be forwarded for City Council consideration by a vote of 4-3.
- In consideration of the amount of public comment and the size of supporting materials for the draft Plan, the Mayor and Council determined they need more time to read and consume the material, including the recommendations, before making such a significant decision for Springfield's Main Street.

**Work Session:** This is the first of four scheduled work sessions to dive more in-depth into the draft Plan to increase Council's understanding of the draft recommendations, and their benefits and costs. At each work session, staff will review excerpts from the draft Plan and seek Council responses to discussion questions to inform possible plan modifications.

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# A GUIDE TO THE SPRINGFIELD MAIN STREET (OR 126) FACILITY PLAN

Today, Springfield's Main Street is consistently ranked as one of the most unsafe city streets in Oregon based on the severity and frequency of traffic crashes. The Oregon Department of Transportation (ODOT) and the City of Springfield must address this problem to save lives, reduce injuries, and lessen property damage due to crashes.

In response to this need, ODOT and the City of Springfield initiated the Main Street Safety Project planning phase with the purpose of selecting infrastructure solutions that will make Main Street safer for people walking, biking, driving, and taking transit. ODOT owns the facility, and it is state and local government's role and responsibility to take care of public health and safety. The Springfield Main Street (OR 126) Facility Plan documents the result of the planning phase and:

- Pulls together analysis, outreach and design concepts
- Expresses community values
- Provides a framework for Main Street upgrades
- Positions agencies to obtain funding for detailed design and construction
- Refines the Springfield 2035 Transportation System Plan (TSP) and the Oregon Highway Plan (OHP)

Over the course of the planning phase, the Springfield City Council has acknowledged community input and reaffirmed that there is a serious safety problem on Main Street, that it is ODOT's and the City's duty to address the problem, and that the Main Street Safety Project's approach is sensible and responsible. They have also emphasized the importance of continuing to engage community members and make adjustments during future design phases.

This Facility Plan is divided into five chapters with a summary highlighting key themes at the end of each chapter. The Facility Plan chapters focus on the following:

- **Introduction (Chapter 1)** – This chapter provides an introduction to the long history of planning projects on Main Street and sets up the policy context that guided the Main Street Safety Project planning phase and the concepts considered for design. Chapter 1 summarizes the planning phase process, including the extensive community outreach and input that informed the development of the recommended solutions in this Facility Plan. The project goals and objectives are also documented in Chapter 1.
- **Main Street Needs (Chapter 2)** – This chapter discusses the current and future needs on Main Street. These needs are discussed in relation to the key project goal areas of Safety, Business Community, Mobility, Transportation Choices, and Vital Community. This system assessment, combined with the community's values, helped drive the development of solutions for Main Street.

- **Solutions Development and Evaluation Process (Chapter 3)** – This chapter discusses the infrastructure solution development and evaluation process. Specifically, it documents the stages used to develop and evaluate alternatives, refine elements and select elements for the recommended toolbox of solutions. This chapter documents how elements recommended in the toolbox of solutions achieve the project goals and objectives.
- **Recommended Toolbox of Solutions (Chapter 4)** – This chapter documents the recommended toolbox of solutions. The toolbox of solutions offers an approach that provides flexibility, phase ability and simplicity. It recommends cross section variations for location-specific constraints to limit property impacts – not a “one size fits all” approach. The recommended tools include raised medians, roundabouts and street cross section upgrades, as detailed in Chapter 4. The recommendation does not include EmX bus rapid transit service, but it does support existing transit service and provides flexibility to accommodate Enhanced Corridor transit service in the future. It would not prevent all left turns on Main Street and it would not need extensive right-of-way.
- **Implementing the Toolbox of Solutions (Chapter 5)** – This chapter discusses how the toolbox of solutions will be implemented on Main Street and discusses the next steps after the Facility Plan is adopted. Chapter 5 discusses potential funding sources to implement the recommended toolbox of solutions. This chapter includes a recommended phasing plan, as design and construction will occur in phases over the next five to 20 years, as funding becomes available. Chapter 5 documents key considerations for a future project design phase and documents the requirements that dictate more interagency coordination and adopted plans that will need to be amended as the result of Plan recommendations, or to ensure consistency between adopted plans.



## CHAPTER 2 SUMMARY

<p><b>SAFETY</b></p>	<p><b>WE'RE GROWING</b></p>	<p><b>THE HEART OF OUR CITY</b></p>	<p><b>A MAJOR TRANSIT CORRIDOR</b></p>	<p><b>A HEALTHY AND SAFE MAIN STREET FOR ALL</b></p>
<p>This section of Main Street is one of Oregon's most unsafe city streets for those who walk, bike and drive.</p>	<p>Traffic on this corridor will likely increase by 20-30% in 20 years, so problems will be even worse in the future.</p>	<p>Main Street is a key east-west transportation corridor, an economic engine in the heart of Springfield, and a major transit route.</p>	<p>This is one of the most heavily used transit routes in Lane County.</p>	<p>Improvements are needed to ensure safe, accessible transportation for everyone, whether by foot, bike, mobility device, bus or car.</p>

- There is a serious transportation safety problem on Main Street. Springfield's Main Street is consistently ranked as one of the most unsafe city streets in Oregon based on the severity and frequency of traffic crashes.
- The crash frequency on Main Street has been more than double the statewide average for urban arterial state highways. Between 2012 and 2016, there were 653 recorded crashes. Fifty-four percent of the crashes (354) resulted in an injury or fatality.
- Crashes are spread throughout the Main Street corridor.
- The majority of the crashes along the corridor are rear-end or turning movement crashes (80%), which are common on urban streets with a high density of driveways and intersections, such as Main Street, but 80% is particularly high.
- The primary causes of crashes are failure to yield right-of-way and following too closely.
- Since 2012, several spot safety improvements have been implemented on Main Street, including installation of enhanced pedestrian crossings and adjustments to the posted speed limit. Although these changes have helped improve safety on Main Street, additional engineering solutions and higher-level funding allocations are needed to significantly increase safety.
  - A review of preliminary 2017, 2018, and 2019 crash data indicated the safety problem continues after the installation of those improvements. The safety problems identified on Main Street require a comprehensive solution beyond isolated low-cost treatments to significantly reduce the risk of crashes and life changing injuries for all users.



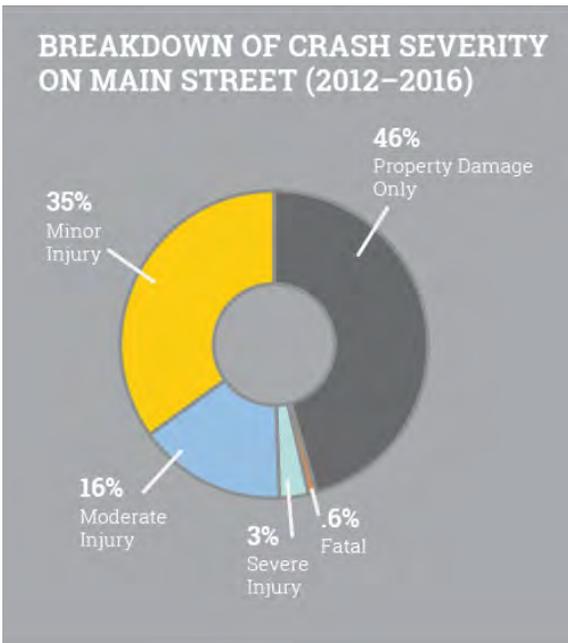
- While no streets are exactly like Main Street, a review of literature regarding economic impacts of roundabouts and raised medians on businesses found that in general businesses mostly did better after a street project and no businesses clearly declined because of a street project (some declined but the street project was not a clear cause).
- Based on a review of literature, business owners generally felt good about roundabouts after construction, perceiving better traffic flow. Business owners generally did not feel good about raised medians, even where sales numbers went up. They felt it was harder for customers to reach them.
- Several intersections will fail to meet adopted mobility targets in the future if no improvements are made to Main Street to enhance mobility.
- Conditions for people walking and biking on Main Street are generally high-stress due to the proximity to motor vehicle traffic, motor vehicle speeds and narrow sidewalks and bike lanes.
- Based on community feedback and technical analysis for transit along Main Street, the Main Street Governance Team removed EmX from further study and moved forward with Enhanced Corridor as the transit mode to analyze further.

## CHAPTER 2. MAIN STREET NEEDS

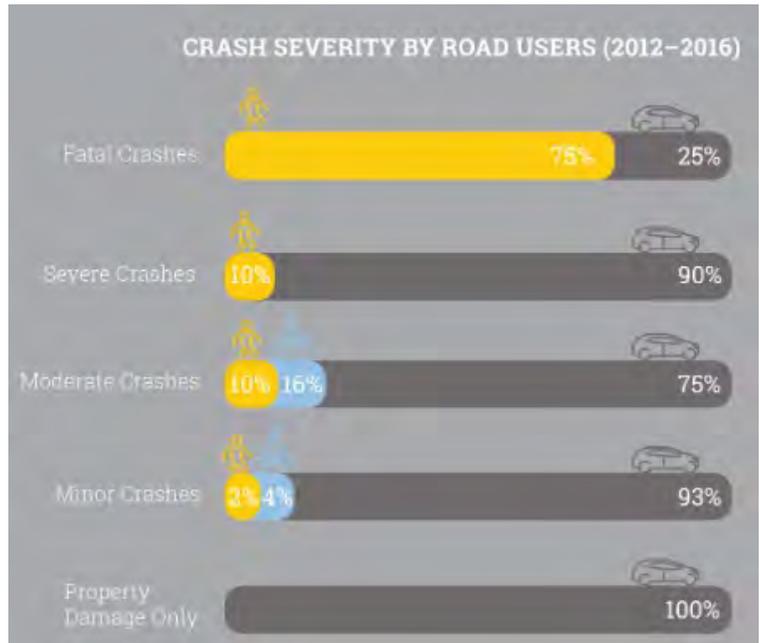
Community outreach, combined with a detailed technical analysis (included in Volume 2), helped provide the groundwork for understanding the transportation needs on Main Street today and into the future. The following sections summarize the needs on Main Street, organized according to the goals for this plan.

### SAFETY

Springfield’s Main Street is consistently ranked as one of the most unsafe city streets in Oregon based on the severity and frequency of traffic crashes. Over the past several years, the crash frequency on Main Street has been more than double the statewide average for urban arterial state highways. During the five-year studied period between 2012 and 2016 that was analyzed, there were 653 recorded crashes. Fifty-four percent of the crashes (354) resulted in an injury or fatality, (see Figure 7 below) which is a frequency of approximately 1-1/3 injuries or fatalities along the corridor each week. By mode, pedestrians are disproportionately involved in fatal and severe injury crashes as shown in Figure 8.



**FIGURE 8: BREAKDOWN OF CRASH SEVERITY ON MAIN STREET (2012-2016)**

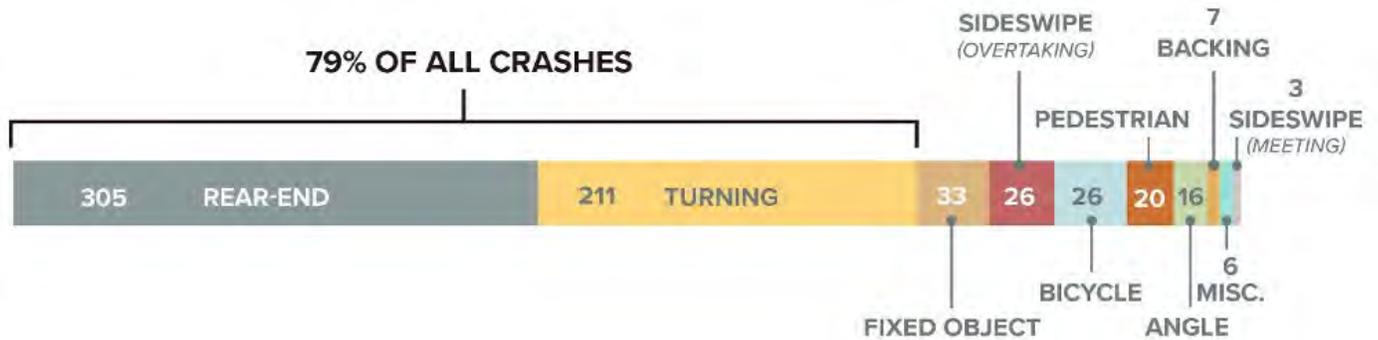


**FIGURE 7: CRASH SEVERITY BY ROAD USERS (2012-2016)**

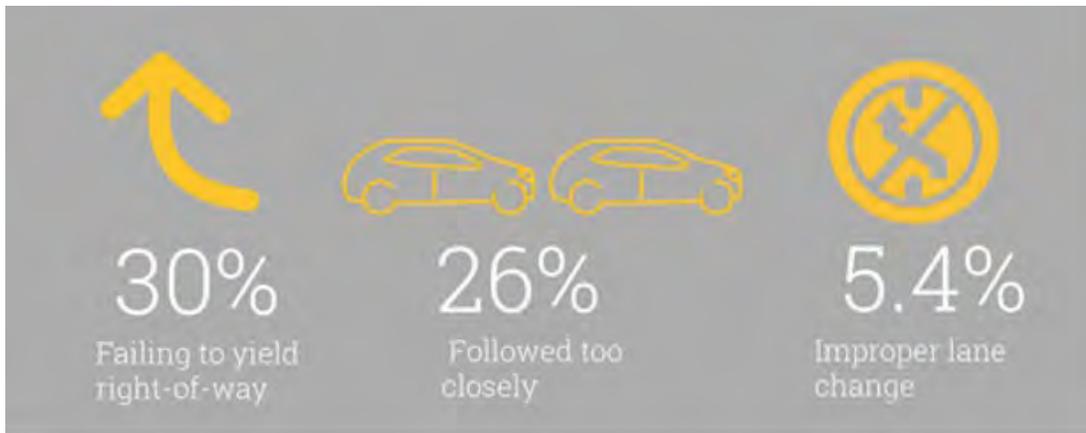
Note that the 2012 to 2016 data was the most recent crash data available at the time of analysis. Since then, a supplemental safety analysis was also conducted using more recent safety data (safety data from 2017 and a subset of fatal or severe injury crashes on Main Street between 58<sup>th</sup> Street and 69<sup>th</sup> Street from January 2018 to March 2019, which was obtained from local law enforcement), which indicated similar trends and patterns as the 2012 through 2016 data. Since the 2016 data was analyzed, several more fatal crashes have occurred on Main Street, particularly around the intersection at 54<sup>th</sup> Street. The Highway Safety Manual predictive methodology confirms that the existing crash risk factors along Main Street will be exacerbated by additional travel demand and the frequency of crashes will continue to increase over time if safety improvement are not implemented.

The majority of the crashes along the corridor were rear-end or turning crashes (80%), as shown in Figure 9. Both rear-end and turning movement crashes are common on corridors with a high density of access points and intersections, such as Main Street, but these crashes are overrepresented on Main Street. The primary causes of all crashes on Main Street are shown in Figure 10.

**FIGURE 9: CRASH TYPE (2012-2016)**



**FIGURE 10: PRIMARY CAUSES OF CRASHES ON MAIN STREET (2012-2016)**



Other crash trends on Main Street include:

- Impairment from drugs or alcohol contributed to only five percent of overall crashes on Main Street but accounted for 12.5 percent of fatal or severe injury crashes.
- Excessive speed and distraction contributed to approximately 10 percent of all crashes but were involved in a small proportion of fatal and severe injury crashes (less than half a percent).
- Approximately 77 percent of crashes occurred during daylight and just 14 percent occurred in darkness. This reflects typical travel patterns throughout the day – more people are driving, biking, and walking on Main Street during daylight hours.

As shown in Figure 12 (pg. 36), the entire Main Street corridor experiences a high frequency of crashes with numerous fatal and serious injury (injury level A) crashes occurring along the segment. Clusters of crashes are observed near major intersections, areas with high access density, and areas with increased multimodal travel demand.

While crashes are spread throughout Main Street within the study area, the figure below (Figure 11) shows the intersections and segments on Main Street with a higher-than-expected number of crashes. These locations include:

- Intersections:
  - Main Street & 28<sup>th</sup> Street
  - Main Street & 30<sup>th</sup> Street
  - Main Street & 32<sup>nd</sup> Street
  - Main Street & 41<sup>st</sup> Street
  - Main Street & 42<sup>nd</sup> Street
  - Main Street & 54<sup>th</sup> Street
- Segments:
  - Main Street from 35<sup>th</sup> Street to 45<sup>th</sup> Street
  - Main Street from 51<sup>st</sup> Street to 54<sup>th</sup> Street

**FIGURE 11: INTERSECTIONS AND ROADWAY SEGMENTS WITH A HIGHER-THAN-EXPECTED NUMBER OF CRASHES (2012-2016)**

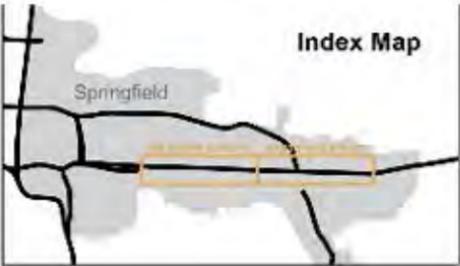


FIGURE 12: FATAL AND INJURY CRASHES



OR 126 MAIN STREET SAFETY STUDY  
Springfield, Oregon

Figure 12  
**FATAL & INJURY A, B, C CRASHES**  
1/1/2012–12/31/2016



**Legend**

- ▲ FATAL CRASH
- INJURY A CRASH
- INJURY B CRASH
- INJURY C CRASH

0 0.25 0.5  
MILES

▲  
N

To help understand the safety performance of intersection and segments along Main Street, several different safety measures were evaluated. The measures evaluated include:

- **Highway Safety Manual (HSM) Predictive Method:** The HSM Predictive Method provides a means for understanding the safety performance of a segment, intersection, or corridor compared to the expected safety performance of a facility with the same characteristics. This method includes excess crashes, which indicate how many more crashes occur on Main Street than is expected for a similar facility.
- **ODOT Safety Priority Index (SPIS):** SPIS identifies high-crash locations on all roadways in the state by evaluating the crash frequency, crash severity, and traffic volume of a roadway in 0.10-mile increments. Top 10<sup>th</sup>-percentile SPIS locations are those with SPIS scores that are higher than 90-percent of all statewide locations of that type, which are considered the highest priority locations for safety investigations and treatments.
- **Critical Crash Rates:** This method compares the observed crash rate at each intersection to a "critical" or threshold value. In Oregon, the critical value is either based on statewide safety trends or trends at nearby locations with similar characteristics, if sufficient data is available. If the observed crash rate exceeds the associated critical crash rate, that location is flagged for further investigation.
- **ARTS Evaluation:** The ODOT All Roads Transportation Safety (ARTS) program aims to reduce fatal and serious injury crashes on all Oregon roads by using a data-driven process to identify, prioritize, and fund safety projects. In 2015, ODOT completed the first round of the ARTS program which utilized a consultant to identify hot-spot safety projects across the state and flagged locations on Main Street.

Tables 1 and 2 list which Main Street intersections and segments, respectively, were flagged as a concern in at least one of the performance measures listed above. There are several locations along Main Street that have a high-risk for crashes and warrant safety treatments, as indicated by being flagged by one or more safety measures.



**TABLE 1: SUMMARY OF STUDY INTERSECTIONS FLAGGED IN SAFETY EVALUATION**

LOCATION* (MAIN STREET INTERSECTION)	EXCEEDS EXPECTED CRASH FREQUENCY (HSM)	EXCESS CRASH TYPES	TOP 10% SPIS** PRIORITY LOCATIONS	EXCEEDS CRITICAL CRASH RATE (ODOT)	ELIGIBLE FOR ARTS FUNDING
<b>INTERSECTIONS</b>					
28 <sup>TH</sup> STREET	x	x			
30 <sup>TH</sup> STREET	x	x		x	
32 <sup>ND</sup> STREET	x	x	x		
36 <sup>TH</sup> STREET	x	x			
41 <sup>ST</sup> STREET	x	x	x	x	x
42 <sup>ND</sup> STREET	x		x	x	x
CHAPMAN LANE (NON-STUDY INTERSECTION)			x		
48 <sup>TH</sup> STREET	x				
S. 51 <sup>ST</sup> STREET	x	x			
53 <sup>RD</sup> STREET (NON-STUDY INTERSECTION)			x		
54 <sup>TH</sup> STREET	x		x		x
BOB STRAUB PKWY	x	x	x		x
58 <sup>TH</sup> STREET	x	x	x		
62 <sup>ND</sup> PLACE	x	x			
69 <sup>TH</sup> STREET	x		x		
71 <sup>ST</sup> STREET (NON-STUDY INTERSECTION)			x		

\*For information on why 21<sup>st</sup> Street intersection is not included in the table but part of the proposed changes in this plan, see pages 14-15 of [Tech Memo #9](#) and pages 19-21 of [Tech Memo #15](#); for further information on the non-study intersections of Chapman Lane and 53<sup>rd</sup> Street (Mountain Gate), see page 36 of [Tech Memo #15](#).

\*\* See page 35 for ODOT Safety Priority Index (SPIS) definition and rating information.



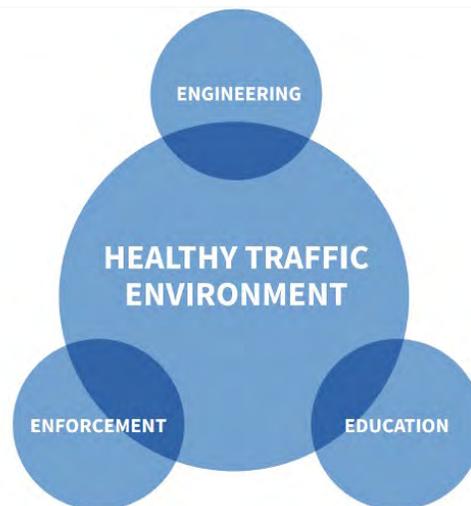
**TABLE 2: SUMMARY OF STUDY CORRIDOR SEGMENTS FLAGGED IN SAFETY EVALUATION**

LOCATION* (SEGMENT EXTENTS)		EXCEEDS EXPECTED CRASH FREQUENCY (HSM)	EXCESS CRASH TYPES	TOP 10% SPIS** PRIORITY LOCATIONS	EXCEEDS CRITICAL CRASH RATE (ODOT)	ELIGIBLE FOR ARTS FUNDING
<b>SEGMENTS</b>						
28 <sup>TH</sup> STREET	30 <sup>TH</sup> STREET	X		X	X	X
30 <sup>TH</sup> STREET	32 <sup>ND</sup> STREET	X	X			X
32 <sup>ND</sup> STREET	35 <sup>TH</sup> STREET	X				X
36 <sup>TH</sup> STREET	41 <sup>ST</sup> STREET	X	X		X	X
41 <sup>ST</sup> STREET	42 <sup>ND</sup> STREET	X	X		X	X
42 <sup>ND</sup> STREET	48 <sup>TH</sup> STREET	X	X	X	X	X
S. 51 <sup>ST</sup> STREET	54 <sup>TH</sup> STREET	X	X		X	X
BOB STRAUB PKWY.	58 <sup>TH</sup> STREET	X				X
58 <sup>TH</sup> STREET	62 <sup>ND</sup> PLACE	X	X			X
62 <sup>ND</sup> PLACE	69 <sup>TH</sup> STREET	X	X	X		X
69 <sup>TH</sup> STREET	S. 72 <sup>ND</sup> STREET	X	X			X

\*For information as to why 21<sup>st</sup> Street to 28<sup>th</sup> Street Segment is not included in the table but part of the proposed changes in this plan, see pages 14-15 of [Tech Memo #9](#).

\*\* See page 35 for ODOT Safety Priority Index (SPIS) definition and rating information.

The Main Street Safety Project identifies infrastructure solutions. Engineered solutions need to work hand in hand with education and enforcement. Since 2014, the City has produced a series of safety educational videos, created safety informational cards, distributed materials through multiple channels including social media posts, and hosted or participated in traffic safety programs and events. The Police Department seeks grants annually to support increased traffic patrols to enforce speed, seatbelt, and impaired and distracted driving laws. Enforcement is citywide with an emphasis on streets that would benefit from additional patrols, including Main Street.



**FIGURE 13: ENGINEERING, EDUCATION AND ENFORCEMENT WORK TOGETHER TO CREATE A HEALTHY TRAFFIC ENVIRONMENT**



The City and ODOT have also been working collaboratively to make other safety upgrades on Main Street This has included:

- Since 2012, the City and ODOT installed seven enhanced pedestrian crossings with marked crosswalks and median islands according to recommendations in the 2011 Main Street Safety Study. The new crosswalks have increased pedestrian access to safer crossing opportunities.
- In 2017, at the request of the City of Springfield, ODOT reduced the posted speed limit from 20<sup>th</sup> Street to 60<sup>th</sup> Place along Main Street from 40 miles per hour to 35 miles per hour. While the posted speed reduction has helped to slow traffic by about one to two miles per hour in some locations, the traveling public still drives at similar speeds and severe crashes still occur.
- In 2020, ODOT initiated design for interim traffic signal safety improvements at Main Street and 54<sup>th</sup> Street to improve accessibility and safety. The design will include added left turn lanes on 54<sup>th</sup> Street, upgraded traffic signal timing to allow pedestrians to cross during an exclusive walk phase, updated street lighting and upgraded ADA curb ramps.
- In 2021, Oregon Transportation Commission (OTC) Oregon legislature allocated \$10 million for pedestrian safety improvements on a few high-priority corridors. A portion of this funding was allocated for improvements on Main Street. This included upgrading turn signals at intersections, upgrading crossing detectors (to extend the crossing time for pedestrians when needed), upgrading the lighting along the corridor, refreshing and adding pavement markings and striping, installing speed feedback signs, maintaining and replacing signs, and updating an existing barrier (from short to tall) on the OR 126 Expressway near the intersection with Main Street (to help direct pedestrians to safer crossing locations).

Although these changes have helped improve safety on Main Street, additional engineering solutions and higher-level funding allocations are needed to significantly increase safety. A review of preliminary 2017, 2018, and 2019 crash data showed crash frequency and severity trends consistent with the 2012-2016 data, indicating persistent safety deficiencies after the implementation of many of the improvements listed above. The safety concerns identified on Main Street require a comprehensive solution beyond isolated low-cost treatments to significantly reduce the risk of crashes for all road users. Over the course of this planning phase, the Springfield City Council has acknowledged community input and reaffirmed that there really is a serious safety problem on Main Street and that it is ODOT's and the City's duty to tackle the problem.

## BUSINESS COMMUNITY

An inventory of existing businesses<sup>17</sup> was conducted on Main Street using Quarterly Census of Employment and Wages (QCEW) data. Employment and average wages were summarized by business category<sup>18</sup> within a quarter mile buffer of the Main Street corridor, as well as for a 500-foot buffer designed to capture businesses most directly affected by the corridor redesign. The larger buffer captured businesses likely impacted by accessibility from Main Street, while the smaller buffer captured businesses most impacted by visibility from the Main Street corridor. The inventory indicated that on Main Street:

- There were 282 businesses employing 2,577 persons (nine percent of citywide total employment representing six percent of the citywide total payroll) within a 500-foot buffer.
- There were 418 businesses employing 3,789 persons (14 percent of citywide total employment representing 10 percent of the citywide total payroll) within a quarter mile buffer.
- Pass-by businesses (businesses that rely upon high visibility, ease of access and pass-by traffic) made up approximately 67 percent of businesses along Main Street while destination businesses (where customers typically plan their trips in advance) made up approximately 28 percent of businesses along Main Street.<sup>19</sup>
- The greatest number of existing pass-by businesses were located between 42<sup>nd</sup> Street and 54<sup>th</sup> Street.

On Main Street, concerns related to site usage and access for specific locations received from adjacent business and property owners during the Main-McVay Transit Study and the Main Street Safety Project were documented by City staff in an online comment map.<sup>20</sup> Many of the comments centered around concerns regarding:

- Potential right-of-way impacts on adjacent properties and businesses
- Impact of construction on adjacent property and businesses
- Potential impacts to existing business signage
- Ability of customers and deliveries to access businesses

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<sup>17</sup> This process examined only the existing inventory of businesses in the corridor (as of Spring 2019) and did not reflect any expectation of future business mix nor the economic impacts of COVID-19.

<sup>18</sup> Categorization of businesses are limited by non-disclosure requirements placed upon the distribution of QCEW data.

<sup>19</sup> Note that approximately five percent of businesses were vacant at the time of the inventory.

<sup>20</sup> <https://bit.ly/SpfldORMainStreetCommentsMap>



In particular, some business owners expressed that freight deliveries currently use the center turn lane to park and stage delivery. While this may be convenient, it is not permitted and can be dangerous particularly as Springfield continues to become more urban. Alternative staging and delivery options could include deploying smaller vehicles for the 'last mile' of delivery, using adjacent travel lanes to stage during off-peak hours or directly accessing sites or standing via side streets or alleys.

Understanding that some of the safety recommendations could include raised medians or roundabouts, a review of literature regarding economic impacts of these elements on businesses was conducted. While no studies exactly replicate conditions on Main Street, some similar patterns in the literature indicated:

- Businesses mostly did better afterward. No business clearly declined because of a street project. (Some declined, but the street project was not a clear cause.)
- Any effect on a business after a street project was less than during construction. But steps to reduce decline during construction are clear: keep business access open, with clear signage.
- Property real-estate values tended to increase after a street project.

Customers of destination businesses typically plan their trips in advance and will be more tolerant of some additional time that it may take to access business properties when raised medians are installed. However, pass-by businesses that rely upon high visibility, ease of access, and pass-by traffic may experience some loss of patronage associated with the added time it takes to access their property by driving. Based on a review of available literature, there is some evidence that businesses in mid-block locations were also more susceptible to lower customer visitation resulting from access restrictions (turning movements, sight lines, etc.). Improvements that make businesses easier to access by people walking, biking, or using transit could offset some of this anticipated loss of patronage. In a number of studies<sup>21</sup>, bike and walk trips are associated with more frequent business patronage but with smaller per trip expenditures.

Apart from the data in the literature review, business owners also shared feelings in the literature, including:

- Business owners felt good about roundabouts after construction, perceiving better traffic flow.
- Business owners did not feel good about raised medians, even where sales numbers went up. They felt it was harder for customers to reach them.

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<sup>21</sup> Such as: East Village Shoppers Study, Transportation Alternatives; Polk Street Intercept Survey Results, San Francisco Municipal Transportation Agency, 2013.

## MOBILITY

Main Street is a five-lane corridor with a posted speed of 35 to 45 miles per hour. A number of public intersections and driveways located along the corridor are closely spaced, with short distances between access points that do not meet ODOT access spacing standards for the facility.

Today there are approximately 16,000 to 20,000 vehicles trips per day, of which truck traffic accounts for approximately two to four percent. Peak hour traffic volumes (typically occurring between 4:00 p.m. and 6:00p.m.) range from approximately 1,400 to 1,750 vehicles, with higher traffic volumes on OR 126 east of Bob Straub Parkway. The intersection of Main Street and Bob Straub Parkway experiences some of the highest turning movements along the corridor, with numerous vehicles commuting northbound on the OR 126 Expressway during the a.m. peak hour and southbound during the p.m. peak hour. By 2040, peak hour traffic volumes are expected to increase on Main Street by approximately 20 to 30 percent, as Springfield and surrounding communities continue to grow. The risks from crashes will increase with the increase in traffic volumes unless ODOT and the City act now to change the street design to save lives, reduce injuries, and lessen property damage.

## MOBILITY TARGETS

Transportation agencies typically specify mobility targets for maintaining acceptable levels of motor vehicle mobility. Mobility targets often require intersections to meet level of service (LOS) or volume-to-capacity (v/c) intersection operation thresholds.

- The intersection LOS is similar to a “report card” rating based upon average vehicle delay. Level of service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of service D and E are progressively more congested operating conditions with more motor vehicle delay. Level of service F represents conditions where average motor vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues, vehicles failing to clear the intersection during one green phase, and delays.
- The volume-to-capacity (v/c) ratio represents the level of saturation of the intersection or individual movement. It is determined by dividing the peak hour traffic volume by the maximum hourly capacity of an intersection or turn movement. When the v/c ratio approaches 0.95, operations become unstable and small disruptions can cause the traffic flow to break down, as seen by the formation of excessive queues and vehicles not clearing the intersection during one green phase.

The entire Main Street corridor is located within the City of Springfield, serves as a regional route for the Eugene-Springfield Metropolitan Area, and is an ODOT facility classified as a Statewide Highway. According to the 1999 Oregon Highway Plan (OHP), ODOT mobility targets are given as v/c ratios and are based on the highway category. The mobility targets in the OHP are based on conditions during the 30<sup>th</sup> highest annual hour of traffic (30 HV). In Springfield, the 30 HV



typically occurs during weekday p.m. peak hours in the summer months. The existing mobility targets for Main Street (OR 126) are listed in Table 3. The City of Springfield’s mobility standards (which are based on LOS rather than ODOT’s v/c metric) are also listed in Table 3.

**TABLE 3: MAIN STREET INTERSECTION MOBILITY TARGETS**

MAJOR ROADWAY	JURISDICTION	MOBILITY TARGET
MAIN STREET (OR 126)	ODOT (Statewide Highway)	0.85 v/c <sup>1</sup> (0.95 for unsignalized side street approaches)
MAIN STREET (OR 126)	City of Springfield	LOS D or better

<sup>1</sup> Alternative mobility targets were adopted in April 2020 for two intersections on Main Street: at 42<sup>nd</sup> Street (v/c < 0.95) and at Bob Straub Parkway (v/c < 0.90).

### INTERSECTION OPERATIONS

Table 4 compares existing (year 2018) and future (year 2040) No-Build traffic operations along Main Street to the adopted mobility targets. The table shows that all of the signalized intersections meet City and ODOT targets for motor vehicle delay and mobility today. However, some of the stop-controlled side streets (not shown in Table 4 below<sup>22</sup>) experience significant delay during peak periods today, which can encourage drivers to take more risks and utilize shorter, less safe gaps in traffic to turn onto Main Street. This condition likely contributes to some of the turning movement crashes along Main Street.

By 2040, the following three intersections on Main Street fail to meet existing OHP mobility targets:

- Main Street & 28<sup>th</sup> Street
- Main Street & Bob Straub Parkway
- Main Street & 58<sup>th</sup> Street

Main Street and 42<sup>nd</sup> Street will experience increased delay. It does not exceed the mobility target in the Future No-Build year due to an alternative mobility target that was adopted in 2020 that accepts the additional delay.

<sup>22</sup> Intersection operations for some stop-controlled side streets reported in *Technical Memorandum #5: Existing Intersection Operations* in Volume 2.



**TABLE 4: INTERSECTION OPERATIONS ON MAIN STREET UNDER EXISTING (2018) AND FUTURE NO-BUILD (2040) CONDITIONS (PM PEAK HOUR)**

INTERSECTION ON MAIN STREET	EXISTING MOBILITY TARGET (V/C) <sup>A</sup>	EXISTING (2018)			FUTURE NO-BUILD (2040)		
		V/C	LOS	Delay(s)	V/C	LOS	Delay(s)
<b>INTERSECTIONS</b>							
21 <sup>ST</sup> STREET	0.85	0.46	A	9	0.64	A	10
28 <sup>TH</sup> STREET	0.85	0.82	D	37	0.95 <sup>C</sup>	E	62
S. 32 <sup>ND</sup> STREET	0.85	0.70	B	20	0.81	C	30
42 <sup>ND</sup> STREET	0.95 <sup>B</sup>	0.80	D	37	0.92	E	61
54 <sup>TH</sup> STREET	0.85	0.39	B	14	0.54	D	40
BOB STRAUB PKWY	0.90 <sup>B</sup>	0.79	D	49	1.16 <sup>C,D</sup>	F	96
58 <sup>TH</sup> STREET	0.85	0.76	D	46	0.90	E	61
69 <sup>TH</sup> STREET	0.85	0.38	A	9	0.52	A	10

Notes:

<sup>A</sup> V/C = Volume-to-capacity ratio; LOS = Level of Service

<sup>B</sup> Alternative mobility target adopted in 2020

<sup>C</sup> Highlighted values indicate that the current mobility target is not met.

<sup>D</sup> Improvements are included in the Springfield Transportation System Plan and are assumed to be funded and constructed by 2035. These improvements would significantly reduce the expected congestion (v/c) shown.

The intersection operations analysis was based on available data and planning from before COVID-19. The “Stay at Home” orders and significant shift to remote work, increased flexible schedules, and other commute-related policy changes are still evolving and will likely have transportation system operation impacts in the years and decades to come. This Plan’s recommendations are based on the best available information at the time of development, and future design efforts will continue to monitor the impacts of COVID-19 and adjust accordingly.

## TRANSPORTATION CHOICES

Conditions for multimodal users on Main Street (people walking, biking and taking transit) are documented below. A level of traffic stress (LTS) analysis was conducted for both pedestrian and bicycle facilities. LTS breaks road segments into four classifications to qualitatively rate the effects of traffic-based stress on people walking and biking. The measure of traffic stress quantifies the perceived safety issue of being in close proximity to vehicles, primarily considering the physical distance to traffic and the speed of traffic. LTS is measured on a scale from LTS 1 to LTS 4. LTS 1 represents a facility with little traffic stress and is tolerable for all ages and abilities of users while LTS 4 represents high-stress conditions that are tolerable only for experienced and able-bodied adults and are generally perceived to be unsafe. Generally, LTS 1 or 2 is a reasonable minimum target on roadway facilities, which is acceptable to the majority of people.

## PEDESTRIAN ACTIVITY AND FACILITIES

While most of Main Street has continuous sidewalk on both sides of the street, the sidewalk is typically curb tight or buffered by narrow landscape buffers. After accounting for obstructions in the sidewalk (such as power poles), the effective sidewalk width in many areas of Main Street is less than 6.5 feet (the minimum based on current ODOT design standards), and as narrow as 3.5 feet in some areas. In addition to signalized crossings of Main Street, there are seven enhanced midblock pedestrian crossings throughout the corridor (primarily near transit stops), including near 35<sup>th</sup> Street, 41<sup>st</sup> Street, 44<sup>th</sup> Street, 48<sup>th</sup> Street, 51<sup>st</sup> Street, Chapman Lane and 66<sup>th</sup> Street.

Pedestrian activity at intersections within the corridor is moderate, with approximately ten to 30 pedestrians crossing at study intersections along Main Street during the morning and evening peak hours. Main Street and 32<sup>nd</sup> Street, Main Street and 42<sup>nd</sup> Street, and Main Street and 58<sup>th</sup> Street intersections experienced the highest pedestrian activity at the study intersections (approximately 30 pedestrians during the p.m. peak hour for the first two and approximately 30 pedestrians during the a.m. peak hour for 58<sup>th</sup> Street). South of the intersection of Main Street and 32<sup>nd</sup> Street is the Bob Keefer Center and Les Schwab Sports Park, which are both major activity generators. North of 58<sup>th</sup> Street is Thurston High School and there are shopping centers on both the north and south sides of the intersection. There are also heavily used Route 11 bus stops near all three intersections.

The high speeds of motor vehicle traffic and proximity of vehicles to pedestrians combined with the limited physical buffers between narrow sidewalks and the roadway leads to a high-stress (LTS 3 or 4) environment for pedestrians. In addition, many of the intersections throughout the corridor do not meet current standards for ADA compliant curb ramps or accessible push buttons at traffic signals. Any significant future infrastructure projects on Main Street will require ADA upgrades of the pedestrian facilities.

## BICYCLE ACTIVITY AND FACILITIES

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While bicycle lanes are present along the full extent of the corridor, the bicycle lanes are narrow (typically five feet) and are not buffered from motor vehicle travel lanes. Several of the cross-streets on Main Street are marked with bike lanes.

Bicycle activity along the corridor is generally limited to ten bicycles or fewer at study intersections during the morning and evening peak hours. Overall, the corridor provides a high-stress (LTS 3 or 4) cycling environment due to the many unsignalized intersection and driveway crossings, higher travel speeds, two lanes of traffic present in each direction and a center turn lane, and bike lanes that are five to seven feet wide and do not have a buffer.

The Virginia-Daisy Bikeway route serves as a lower-stress parallel bicycle route south of Main Street. However, safe bicycle and pedestrian crossings across Main Street are limited. In addition, given the limited east-west connectivity through Springfield, Main Street serves as one of the few east-west connections for people biking between 28<sup>th</sup> Street and 32<sup>nd</sup> Street.

## TRANSIT

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Main Street serves approximately three thousand daily transit boardings and alighting. The vast majority of transit trips are on Route 11 which has the second-highest ridership in the Lane Transit District (LTD) system. The Springfield Transportation System Plan and LTD's Long Range Transit Plan identify the Main Street corridor as a Frequent Transit Network route, which includes frequency of buses arriving (referred to as "headways") at least every 10-15 minutes during peak travel times. Currently, the transit travel time through the corridor is relatively quick (ranging from nine to thirteen minutes between 21<sup>st</sup> Street and Bob Straub Parkway) with short average headways (ranging from ten to thirty minutes). However, as congestion on Main Street increases in the future, transit travel times will increase and may no longer meet the Frequent Transit Network definition if street design upgrades are not implemented. In addition, a lack of pedestrian accessibility to transit stops serves as a barrier to riders.

Based on community feedback and technical analysis for transit along Main Street, the Main Street Governance Team removed EmX (bus rapid transit) from further study in July 2019, and moved forward with Enhanced Corridor as the transit mode to analyze further in coordination with the Main Street Safety Project. Enhanced Corridor includes features to improve reliability, reduce transit travel times, and increase passenger comfort, such as roundabouts, stop enhancements and amenities, and adjustments to stop locations. The Transit Design Recommendations are noted on page 85 and 86 below. Additional details for the transit enhancements will be determined after this Facility Plan is adopted and a transit project moves into Phase 3: Project Design.

## VITAL COMMUNITY

### MAJOR ACTIVITY CENTERS

Main Street serves as a key connection through Springfield, with people traveling along Main Street to access businesses and major activity centers. Major activity centers near Main Street include schools, parks, commercial and employment districts (previously shown in Figure 1). Between 21<sup>st</sup> Street and Bob Straub Parkway, the largest land use type is retail that includes small walk-in stores, drive-through fast food, and retail stores with large yards providing space for lumber and automobiles. As an auto-oriented corridor, with high traffic volumes, the area provides good visibility for retailers. There are industrial properties, including some that have been there for decades. North and south of Main Street is a mix of residential, commercial, and industrial uses.

Between Bob Straub Parkway and 72<sup>nd</sup> Street, the current uses are predominantly residential with regional and community-scale shopping and services clustered near the Bob Straub Parkway intersection. It has very little office space and no industrial space.

### MAIN STREET VISION

The community vision for Main Street has been documented in the 2015 Main Street Corridor Vision Plan (MSVP). The MSVP articulates a strategic vision for Main Street which is consistent with the goals of this project. The community vision along Main Street includes:

- Mid-Springfield Business Corridor (23<sup>rd</sup> Street to Bob Straub Parkway) will remain an affordable place to operate a business with good visibility and access while offering new employment opportunities in a more attractive and safer environment.
- Thurston Area (Bob Straub Parkway to 69<sup>th</sup> Street) will remain a quiet and walkable neighborhood offering a wide range of housing choices, nearby schools with regional and neighborhood-serving commercial uses in a more attractive and safer environment.

The MSVP includes goals around transportation choices for multimodal travel that will improve safety for all users and enhancement of the public realm, including streetscape amenities.

### ENVIRONMENTAL CONSTRAINTS AND CONSIDERATIONS

Along Main Street, the following environmental constraints were identified:

- Two eligible historical resources were identified between 25<sup>th</sup> Street and 32<sup>nd</sup> Street. No archaeological sites have been documented in the study area but there is a high potential for discovery of archeological resources during construction, particularly on the older, west end of the study area.



- Several potential wetlands and ditches were identified, including near 48<sup>th</sup> Street, Mountaingate Drive, 65<sup>th</sup> Place and 70<sup>th</sup> Street. Additional wetlands exist off Main Street but are not within 200 feet of the roadway. Environmental resources were documented, including wetlands and historical resources.
- Several hazardous materials contaminant sources are located within or immediately adjacent to the study area. Additional detailed study will be required during future design phases to pinpoint areas of concern and recommend further action for mitigation, if necessary.
- Air quality and noise studies will likely be necessary with any future improvements to Main Street.

**Please note that the safety data findings in this chapter were based on a) the most recent five years of crash data that was available at the time the project's safety evaluation of existing conditions was prepared (2012-2016) and b) the crash data addendum prepared in fall 2019 that evaluated 2017 crash data and supplemental (partial) crash data for 2018 and 2019. Since then, ODOT has finalized 2018, 2019, and 2020 data and made it available for use. A second crash data addendum that compares the corridor-wide 2017-2019 crash trends to the 2012-2016 crash trends was prepared in winter 2022 to determine whether notable changes in crash patterns have occurred since the development of the Main Street Safety Project recommended improvements. Findings from that second addendum will be shared with Council during the June 6, 2022 Work Session. A copy of all technical memos and addenda can be found on the project website at <http://mainstreetsafety.org>.**

**Discussion Questions**

- After reviewing the updated safety data, what safety problems do you see on Main Street?
- The Main Street Safety Project's purpose statement<sup>1</sup> has guided the project since it was endorsed by the Springfield City Council and the Main Street Governance Team in 2018. Does the purpose statement still ring true? Are there any refinements to the purpose statement Council would like to make?

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<sup>1</sup> Springfield's Main Street is consistently ranked as one of the most unsafe city streets in Oregon based on the severity and frequency of traffic crashes. ODOT and the City must address this problem to save lives, reduce injuries, and lessen property damage due to crashes. **The purpose of the Main Street Safety Project is to select infrastructure solutions that will make Main Street safer for people walking, biking, driving, and taking transit.** The selected safety improvements will provide for the movement of goods and people, support the economic viability of the corridor, accommodate current bus service and future transit solutions, and complement safety education and traffic enforcement.