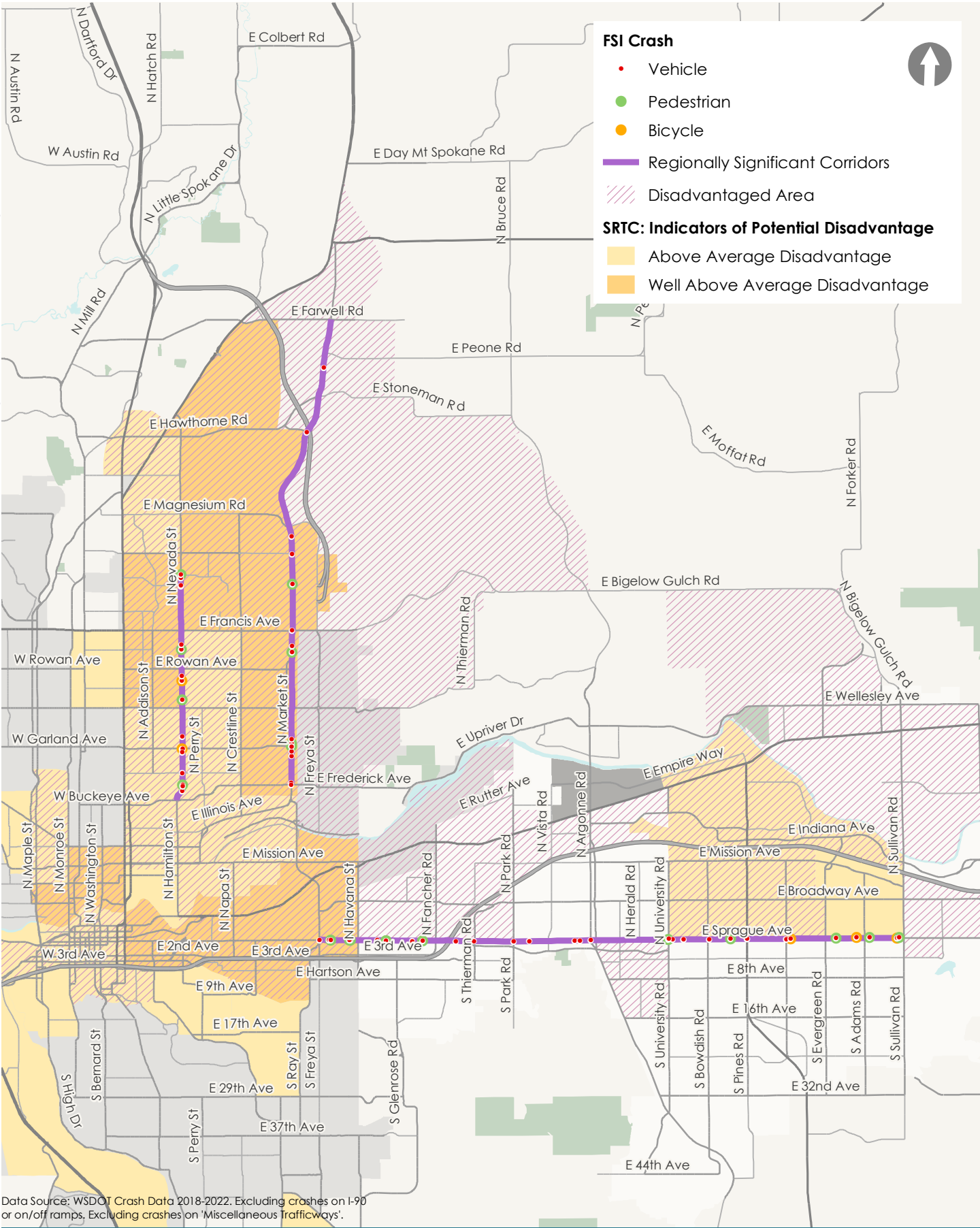




Appendix G  
**Project Prospectus Sheets**



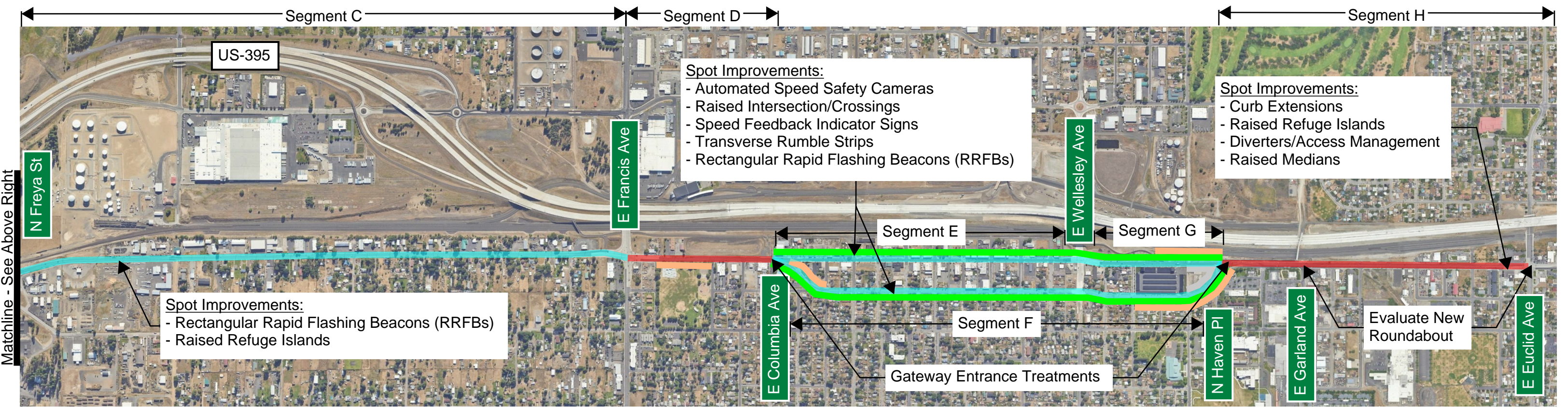
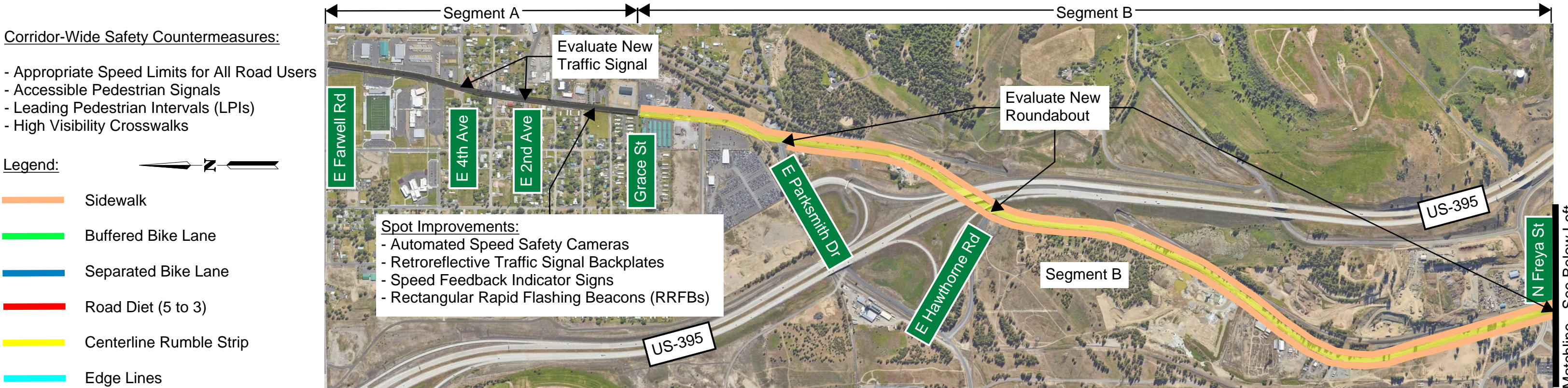


Data Source: WSDOT Crash Data 2018-2022. Excluding crashes on I-90 or on/off ramps, Excluding crashes on 'Miscellaneous Trafficways'.

Figure 1  
Regionally Significant Corridors



# Regionally-Significant Priority Project #1: Market St, E Farwell Rd to E Euclid Ave





## N Market St / E Farwell Rd to Euclid Ave



**Overall Score:** 517 to 657, out of 1,000.

**Equity Score:** 3.03 to 3.36, where -3.5 is very advantaged and 3.5 is very disadvantaged.

**Project Narrative:** The N Market St corridor extends from E Farwell Rd in the north to Euclid Ave in the south. The corridor runs through several jurisdictions including Mead, Spokane County, and Spokane. Improvements along the corridor will benefit underserved populations within SRTC as shown with the corridor's equity score ranging from 3.03 to 3.36. The corridor connects three high injury network (HIN) segments, which are segments that have the highest concentration of fatal or serious injury (FSI) crashes. The most common crash types that result in FSI crashes along the corridor involve drivers (angle, sideswipe, opposite direction left turn across path, fixed object, rear end) and pedestrians. Proposed improvements throughout the corridor are proposed based on the road type and surrounding land use contexts. The corridor is approximately seven miles long and has been broken into eight context-specific segments, noted as Segments A-H.

**Crash History Addressed:** The following crash types resulted in FSI crashes and are listed in order of highest frequency for the corridor. Refer to the Toolkit for definitions of these crash types.

- Angle
- Pedestrian
- Sideswipe
- Opposite Direction Left Turn Across Path
- Fixed Object
- Rear End



Table 1 lists the countermeasures selected for N Market St and indicates the corridor segments where the countermeasure is recommended, its level of effectiveness, relative cost, and potential funding opportunities.

**Proposed Countermeasures:** Countermeasures were selected for N Market St after an evaluation of the corridor’s context to determine the tools that would be most effective at reducing the most common FSI crash types. Effectiveness is presented as a crash reduction factor (CRF), which is the estimated percent reduction in crashes.

**Implementation Guidance:** Refer to the Toolkit for comprehensive descriptions of each tool listed below, including detailed implementation guidance. The Toolkit presents design tools known to reduce crashes involving people driving, bicycling, walking, or rolling, and outlines how each tool addresses safety and the expected reduction in crashes. The Toolkit also describes the applicable locations for each tool. Roadways throughout the region have different characteristics based on the number of lanes, vehicles per day, travel speeds, adjacent land use, and other factors. Therefore, different safety tools may be appropriate on different roadways.

The following considerations are critical for N Market St:

- Jurisdictions within SRTC should consider appropriate speed limits for all road users and reduce posted speed limits where feasible. In some cases, it may be feasible to reduce posted speed limits without additional engineering changes to the street. The City of Tacoma is a recent example of this, where residential street posted speed limits were reduced from 25mph to 20mph across the city.<sup>1</sup> The Washington State Injury Minimization and Speed Management Policy Elements and Implementations Recommendations is a resource for streets where additional engineering changes or evaluations may be needed to reduce the posted speed limit.<sup>2</sup>
- Gateway treatments, including speed reduction strategies, are recommended where N Market St acts as a main street for the Hillyard neighborhood of Spokane, beginning at E Columbia Ave and ending at N Haven Pl.
- Recommended traffic signals or roundabouts should be evaluated to determine if they are warranted.

**Cost:** The planning-level cost estimate for each countermeasure is included in Table 1. The key for the planning-level cost estimate is provided below:

\$	Low – typically \$5,000 or less
\$\$	Medium – typically \$5,000 to \$100,000
\$\$\$	Moderate – typically \$100,000 to \$300,000
\$\$\$\$	High – typically \$300,000 or more

<sup>1</sup>

[https://cityoftacoma.org/UserFiles/Servers/Server\\_6/File/cms/PublicWorks/Engineering/VisionZero/VisionZero\\_SpeedLimitReduction\\_Factsheet\\_July2022.pdf](https://cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/PublicWorks/Engineering/VisionZero/VisionZero_SpeedLimitReduction_Factsheet_July2022.pdf)

<sup>2</sup> <https://wsdot.wa.gov/sites/default/files/2021-10/InjuryMinimization-SpeedManagement-PolicyElements-Recommendations.pdf>



**Funding Opportunity:** There are two types of projects that are flagged in the Toolkit, and in Table 1. The first is roadway safety countermeasures that could be applicable for SS4A Demonstration Grant funding. The second is roadway safety countermeasures that can be built using quick-build materials, before evaluating whether a permanent installation would be beneficial.

These project types are indicated in Table 1 using the following letters:

- SS4A Demonstration Grants (D or D\*, where the \* indicates that the tool must be constructed using quick build materials)
- Quick Build (Q)

Table 1: Summary of Proposed Countermeasures for N Market St

Proposed Countermeasure	Segment								Effective-ness <sup>3</sup>	Cost	Funding Opportunity
	A	B	C	D	E	F	G	H			
<b>Systemic</b>											
Accessible Pedestrian Signals	X	X	X		X			X	9-70%	\$	D
Automated Speed Safety Cameras	X				X	X			23-90%	\$\$\$	D
High Visibility Crosswalks	X	X	X	X	X	X	X	X	40%	\$	D
Leading Pedestrian Intervals (LPIs)	X	X	X		X			X	9-59%	\$\$	
Retroreflective Traffic Signal Backplates	X								15%	\$	
Sidewalks		X				X			65-89%	\$\$\$\$	
<b>Active Mode Facilities</b>											
Buffered Bicycle Lanes					X	X	X		30-49%	\$\$	Q, D
<b>Crossings and Signals</b>											
Curb Extensions and Bulb Outs								X	N/A	\$\$	Q, D*
Raised Intersections/Crossings					X	X			46%	\$\$	
Raised Refuge Islands			X					X	46-56%	\$\$	Q
Rectangular Rapid Flashing Beacons (RRFBs)	X		X		X	X			47-73%	\$\$	D
Traffic Signals	X								30-77%	\$\$\$\$	D
<b>Speed Management</b>											
Appropriate Speed Limits for All Road Users	X		X	X	X	X	X	X	N/A	\$	D
Edge Lines			X		X	X			22-37%	\$	D
Gateway Entrance Treatments					X	X			N/A	\$-\$-\$	D*
Roundabout		X						X	78-2%	\$\$\$\$	D
Speed Feedback Indicator Signs	X				X	X			N/A	\$\$	

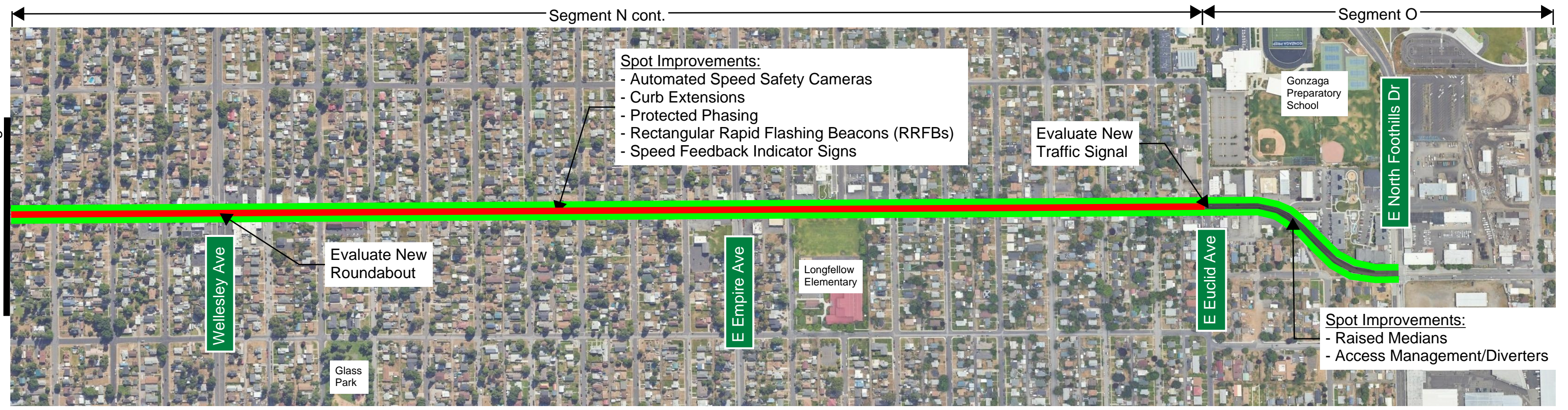
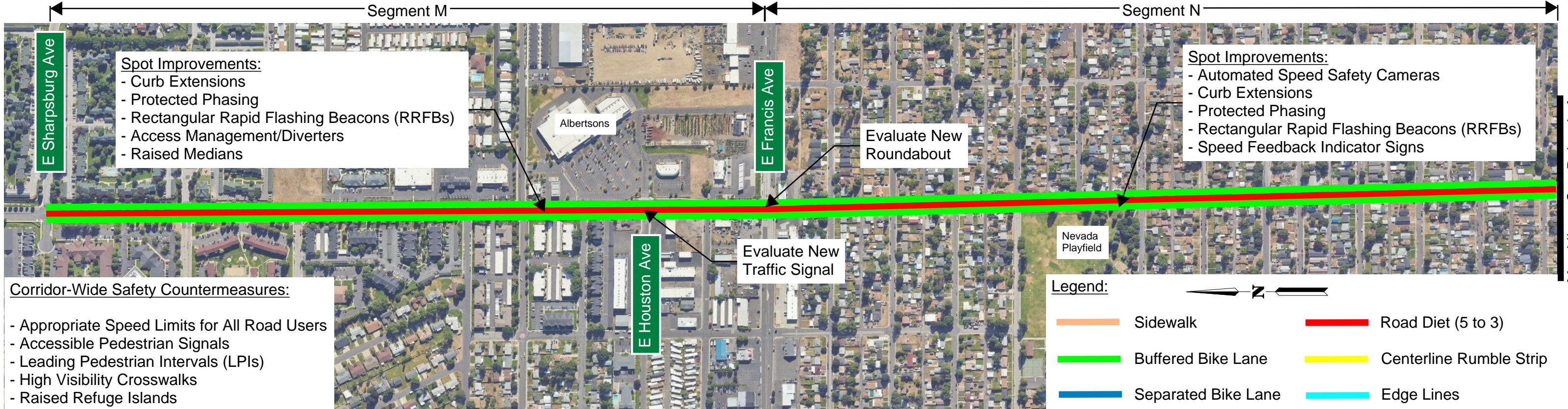
<sup>3</sup> Effectiveness is presented as a crash reduction factor (CRF), which is the estimated percent reduction in crashes.



Proposed Countermeasure	Segment								Effective-ness <sup>3</sup>	Cost	Funding Opportunity
	A	B	C	D	E	F	G	H			
<b>Transverse Rumble Strips</b>					X	X			6-78%	\$\$	
<b>Other Road Design</b>											
<b>Access Control/Diverters</b>								X	25%	\$\$	
<b>Access Management</b>								X	5-31%	\$\$	
<b>Raised Medians</b>								X	46%	\$\$-\$\$\$	Q
<b>Road/Lane Diets</b>				X			X	X	19-47%	\$\$\$	
<b>Rumble Strips (Edge line or Centerline)</b>		X							13-64%	\$\$	

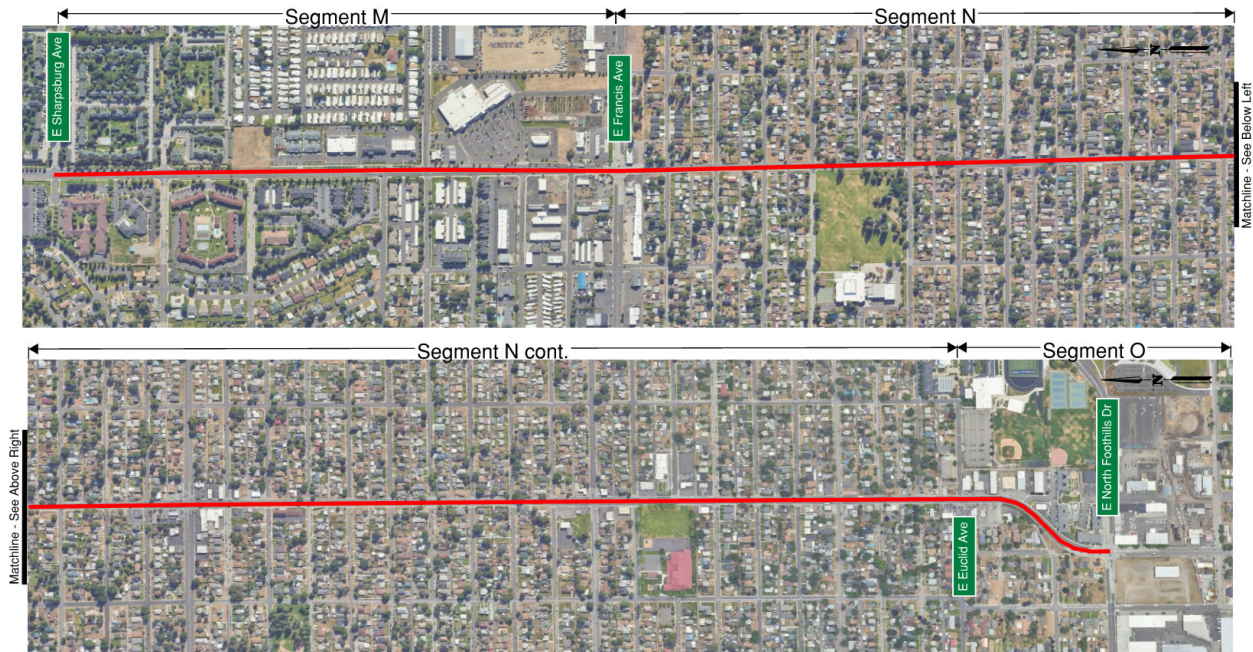


# Regionally-Significant Priority Project #3: N Nevada St, E Sharpsburg Ave to E North Foothills Dr





## N Nevada St / E Sharpsburg Ave to E North Foothills Dr



**Overall Score:** 471 to 761, out of 1,000.

**Equity Score:** 2.05 to 3.36, where -3.5 is very advantaged and 3.5 is very disadvantaged.

**Project Narrative:** The N Nevada St corridor extends from E Sharpsburg Ave in the north to E North Foothills Dr in the south. The corridor is located within the City of Spokane. Improvements along the corridor will benefit underserved populations within SRTC as shown with the corridor's equity score ranging from 2.05 to 3.36. The corridor connects three high injury network (HIN) segments, which are segments that have the highest concentration of fatal or serious injury (FSI) crashes. The most common crash types that result in FSI crashes along the corridor involve drivers (angle, opposite direction left turn across path, sideswipe, head on), bicyclists, and pedestrians. Proposed improvements throughout the corridor are proposed based on the road type and surrounding land use contexts. The corridor is approximately three miles long and has been broken into three context-specific segments, noted as Segments M-O.

**Crash History Addressed:** The following crash types resulted in FSI crashes and are listed in order of highest frequency for the corridor. Refer to the Toolkit for definitions of these crash types.

- Angle
- Opposite Direction Left Turn Across Path
- Bicyclist
- Pedestrian
- Sideswipe
- Head On



**Error! Reference source not found.** lists the countermeasures selected for N Nevada St and indicates the corridor segments where the countermeasure is recommended, its level of effectiveness, relative cost, and potential funding opportunities.

**Proposed Countermeasures:** Countermeasures were selected for N Nevada St after an evaluation of the corridor's context to determine the tools that would be most effective at reducing most common FSI crash types. Effectiveness is presented as a crash reduction factor (CRF), which is the estimated percent reduction in crashes.

**Implementation Guidance:** Refer to the Toolkit for comprehensive descriptions of each tool listed below, including detailed implementation guidance. The Toolkit presents design tools known to reduce crashes involving people driving, bicycling, walking, or rolling, and outlines how each tool addresses safety and the expected reduction in crashes. The Toolkit also describes the applicable locations for each tool. Roadways throughout the region have different characteristics based on the number of lanes, vehicles per day, travel speeds, adjacent land use, and other factors. Therefore, different safety tools may be appropriate on different roadways.

The following considerations are critical for N Nevada St:

- For detailed implementation guidance for each countermeasure, refer to the Toolkit. Jurisdictions within SRTC should consider appropriate speed limits for all road users and reduce posted speed limits where feasible. In some cases, it may be feasible to reduce posted speed limits without additional engineering changes to the street. The City of Tacoma is a recent example of this, where residential street posted speed limits were reduced from 25mph to 20mph across the city.<sup>1</sup> The Washington State Injury Minimization and Speed Management Policy Elements and Implementations Recommendations is a resource for streets where additional engineering changes or evaluations may be needed to reduce the posted speed limit.<sup>2</sup>
- Recommended traffic signals or roundabouts should be evaluated to determine if they are warranted.
- Automated speed safety cameras and/or speed feedback indicator signs are recommended near parks and schools along the corridor, where lower vehicular speeds are warranted.
- The north end of the corridor has an access control diverter, which are recommended in other locations along the corridor, in conjunction with high visibility crosswalks, enhanced crossings like RRFBs, and/or openings for bicyclists to access neighborhood streets.
- Curb extensions and bulb outs are recommended along Segments M and N generally, and especially at E Empire Ave, which has a high rate of FSI crashes. The outer lanes on E Empire Ave quickly merge into one lane after the intersection with N Nevada St. Rather than having two lanes at the intersection, curb extensions can reduce the intersection width to one lane in each

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1

[https://cityoftacoma.org/UserFiles/Servers/Server\\_6/File/cms/PublicWorks/Engineering/VisionZero/VisionZero\\_SpeedLimitReduction\\_Factsheet\\_July2022.pdf](https://cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/PublicWorks/Engineering/VisionZero/VisionZero_SpeedLimitReduction_Factsheet_July2022.pdf)

<sup>2</sup> <https://wsdot.wa.gov/sites/default/files/2021-10/InjuryMinimization-SpeedManagement-PolicyElements-Recommendations.pdf>

direction on E Empire Ave. Protected phasing may also be warranted at E Empire Ave to reduce FSI crashes.

**Cost:** The planning-level cost estimate for each countermeasure is included in **Error! Reference source not found.** The key for the planning-level cost estimate is provided below:

\$	Low – typically \$5,000 or less
\$\$	Medium – typically \$5,000 to \$100,000
\$\$\$	Moderate – typically \$100,000 to \$300,000
\$\$\$\$	High – typically \$300,000 or more

**Funding Opportunity:** There are two types of projects that are flagged in the Toolkit, and in **Error! Reference source not found.** The first is roadway safety countermeasures that could be applicable for SS4A Demonstration Grant funding. The second is roadway safety countermeasures that can be built using quick-build materials, before evaluating whether a permanent installation would be beneficial.

These project types are indicated in **Error! Reference source not found.** using the following letters:

- SS4A Demonstration Grants (D or D\*, where the \* indicates that the tool must be constructed using quick build materials)
- Quick Build (Q)

Table 1. Summary of Proposed Countermeasures for N Nevada St

Proposed Countermeasure	Segment			Effectiveness	Cost	Funding Opportunity
	M	N	O			
<b>Systemic</b>						
Accessible Pedestrian Signals	X	X	X	9-70%	\$	D
Automated Speed Safety Cameras		X		23-90%	\$\$\$	D
High Visibility Crosswalks	X	X	X	0.4	\$	D
Leading Pedestrian Intervals (LPIs)	X	X	X	9-59%	\$\$	
<b>Active Mode Facilities</b>						
Buffered Bicycle Lanes	X	X	X	30-49%	\$\$	Q, D
<b>Crossings and Signals</b>						
Curb Extensions and Bulb Outs	X	X		N/A	\$\$	Q, D*
Protected Phasing	X	X		31-100%	\$	
Raised Refuge Islands	X	X	X	46-56%	\$\$	Q
Rectangular Rapid Flashing Beacons (RRFBs)	X	X		47-73%	\$\$	D
Traffic Signals	X	X		30-77%	\$\$\$\$	D
<b>Speed Management</b>						
Appropriate Speed Limits for All Road Users	X	X		N/A	\$	D
Roundabout	X	X		78-2%	\$\$\$\$	D
Speed Feedback Indicator Signs		X		N/A	\$\$	



N Nevada St / E Sharpsburg Ave to E North Foothills Dr

Proposed Countermeasure	Segment			Effectiveness	Cost	Funding Opportunity
	M	N	O			
<b>Other Road Design</b>						
Access Control/Diverters	X		X	25%	\$\$	
Access Management	X		X	5-31%	\$\$	
Raised Medians	X		X	46%	\$\$-\$\$\$	Q
Road/Lane Diets	X	X		19-47%	\$\$\$	



# Regionally-Significant Priority Project #2: Sprague Ave, N Freya St to Sullivan Rd

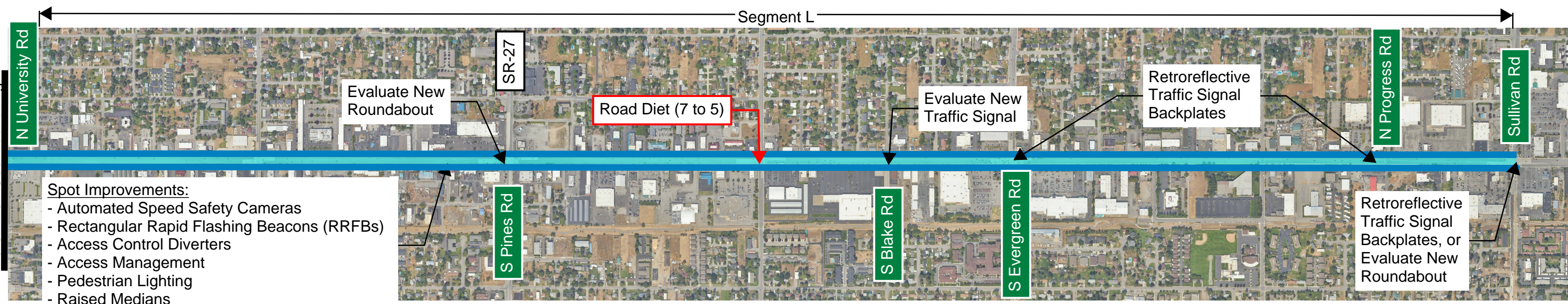
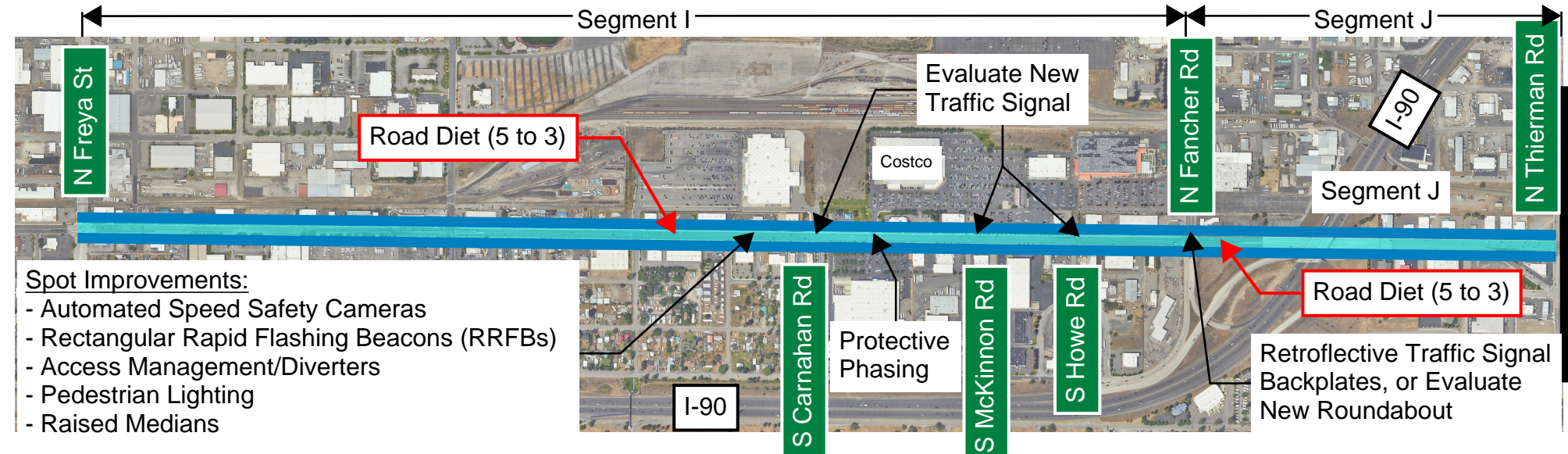
## Corridor-Wide Safety Countermeasures:

- Appropriate Speed Limits for All Road Users
- Accessible Pedestrian Signals
- Leading Pedestrian Intervals (LPis)
- Signal Clearance
- High Visibility Crosswalks
- Curb Extensions
- Raised Refuge Islands
- Edge Lines



## Legend:

- Sidewalk
- Buffered Bike Lane
- Separated Bike Lane
- Road Diet (varies)
- Centerline Rumble Strip
- Edge Lines



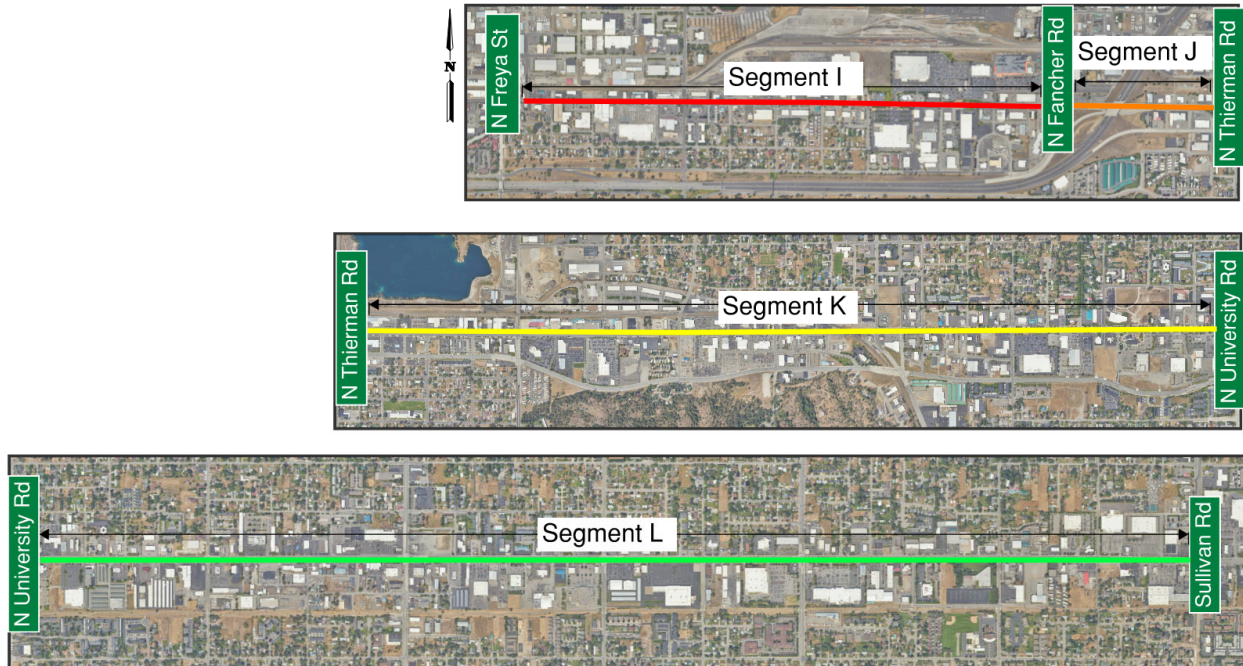
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## Sprague Ave / N Freya St to Sullivan Rd



**Overall Score:** The overall score for the corridor ranges from 327 to 524. The analysis overlays the High Injury Network (HIN) with the ETC Explorer tool<sup>1</sup> and SRTC's Indicators of Potential Disadvantage (IPD) for each individual jurisdiction and the Spokane Region as a whole and identifies disadvantaged areas and populations that are impacted by a higher number of fatal and severe crashes. The crashes are weighted so fatal or serious injury (FSI) crashes are given 10 times the weight of non-FSI crashes. Excluding WSDOT facilities, City of Spokane roads funded through Safer Streets and Roads for All, and roads with planned reconstruction, the highest overall score in the region is 761. The four segments on Sprague Ave rank 19<sup>th</sup>, 46<sup>th</sup>, 53<sup>rd</sup>, and 57<sup>th</sup> overall for the region, out of 128 segments.

**Equity Score:** The equity score for the corridor ranges from 0.72 to 1.0. The minimum and maximum equity scores range from -3.5 (very advantaged) to 3.5 (very disadvantaged). The equity score is calculated using the ETC Explorer tool and the SRTC's IPD. SRTC identified disadvantaged populations in its Public Participation Plan. These are identified through six indicators of potential disadvantage: individuals with low incomes, race, limited English proficiency (LEP), limited vehicle access, age dependency (elderly and youth), and disabilities.

The Sprague corridor equity score is in a disadvantaged category.

### Project Narrative:

- **Extents:** Sprague Ave, from N Freya St in the west to Sullivan Rd in the east.
- **Jurisdiction:** City of Spokane and City of Spokane Valley
- **Land Use Context:** General Commercial, Regional Commercial, Corridor Mixed Use, and Parks, Recreation, and Open Space.
- **Cross Sections:**

<sup>1</sup> US DOT. ETC Explorer. <https://www.transportation.gov/priorities/equity/justice40/etc-explorer-indicator-table>

- **Segment I (N Freya St to N Fancher Rd):** four lanes with a two-way left turn lane, turn lanes at signalized intersections, sidewalks on both sides.
- **Segment J (N Fancher Rd to N Thierman Rd):** six to four lanes with right and left turn lanes at N Fancher Rd, interchange on and off ramps, transition to one-way facility on east side of I-90, two-way left turn lane on east side of I-90 before one-way transition, sidewalks on both sides.
- **Segment K (N Thierman Rd to University Rd):** one-way street, four to five lanes, paint-buffered bicycle lane or bicycle lane on north side, sidewalks on both sides.
- **Segment L (University Rd to Sullivan Rd):** six lanes with a two-way left turn lane, turn lanes at signalized intersections, sidewalks on both sides.
- **Crash Patterns:** Within the corridor, there were 263 total crashes, 16 of which were FSI crashes, between 2018 and 2022.
- **Overall Goal of Project Implementation:** The corridor connects four HIN segments and includes three HIN intersections (University Rd, McDonald Rd, and N Gillis Rd). The 7.5-mile corridor has been broken into four context-specific segments, noted as Segments I-L. The goal of project implementation is to increase safety for disadvantaged communities in the Cities of Spokane and Spokane Valley to reduce FSI crashes.

**Crash History Addressed:** The following crash types resulted in FSI crashes and are listed in order of highest frequency for the corridor.

- **Pedestrian:** Any crash involving a pedestrian.
- **Rear End:** Rear end crashes involve at least two drivers traveling in the same direction.
- **Sideswipe:** Sideswipe crashes involve at least two drivers where the drivers are traveling in the same or opposite directions, and both are going straight. One driver could be stopped, or both could be moving.
- **Angle:** Angle crashes involve a driver hitting another driver at an angle, or the “Angle (T)” WSDOT crash classification.<sup>2</sup>
- **Bicyclist:** Any crash involving a bicyclist.
- **Opposite Direction Left Turn Across Path:** Crashes where one driver is turning left across the path of a driver traveling straight in the opposite direction. This is a subset of the Angle category.

**Error! Reference source not found.** lists the countermeasures selected for Sprague Ave and indicates the corridor segments where the countermeasure is recommended, its level of effectiveness, relative cost, and potential funding opportunities.

**Proposed Countermeasures:** Countermeasures were selected for Sprague Ave after an evaluation of the corridor’s context to determine the tools that would be most effective at reducing most common FSI crash types. Effectiveness is presented as a crash reduction factor (CRF), which is the estimated percent reduction in crashes. Countermeasures are design tools known to reduce crashes involving people driving, bicycling, walking, or rolling.

**Implementation Guidance:** Roadways throughout the region have different characteristics based on the number of lanes, vehicles per day, travel speeds, adjacent land use, and other factors. Therefore, different safety tools may be appropriate on different roadways.

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<sup>2</sup> <https://wsdot.wa.gov/sites/default/files/2022-01/NHFP-crash-data-dictionary.pdf>

The following considerations are critical for Sprague Ave:

- Jurisdictions within SRTC should confirm appropriate speed limits for all road users after the implementation of the recommended countermeasures, which is noted as a corridor-wide countermeasure. This can be done in the form of a before-and-after speed study during implementation of recommended countermeasures. The Washington State Injury Minimization and Speed Management Policy Elements and Implementations Recommendations is a resource for streets where additional engineering changes or evaluations may be needed to reduce the posted speed limit.<sup>3</sup>
- Some countermeasures are dependent on the implementation of a road/lane diets, or the presence of a parking lane or two-way turn lane. These dependent countermeasures include:
  - Separated Bicycle Facilities
  - Curb Extensions or Bulb Outs
  - Raised Refuge Islands
  - Roundabouts
  - Access Controls/Diverters
  - Raised Medians
- Recommended traffic signals or roundabouts should be evaluated to determine if they are warranted. A roundabout at University St could help reduce confusion regarding the switch from one-way to two-way vehicle travel.
- Sprague Ave is a transit corridor and there are many stops within the project corridor where transit stops are not located near crosswalks. It will be important for pedestrian safety to construct protected crossings like RRFBs near transit locations. Due to the width of Sprague Ave, RRFBs should be coupled with a road/lane diet and/or raised refuge islands.

**Cost:** The planning-level cost estimate for each countermeasure is included in **Error! Reference source not found.** The key for the planning-level cost estimate is provided below:

\$	Low – typically \$5,000 or less
\$\$	Medium – typically \$5,000 to \$100,000
\$\$\$	Moderate – typically \$100,000 to \$300,000
\$\$\$\$	High – typically \$300,000 or more

**Funding Opportunity:** There are two types of projects that are flagged in the Toolkit, and in **Error! Reference source not found.** The first is roadway safety countermeasures that could be applicable for SS4A Demonstration Grant funding. The second is roadway safety countermeasures that can be built using quick-build materials, before evaluating whether a permanent installation would be beneficial.

These project types are indicated in **Error! Reference source not found.** using the following letters:

- SS4A Demonstration Grants (D or D\*, where the \* indicates that the tool must be constructed using quick build materials)
- Quick Build (Q)

<sup>3</sup> <https://wsdot.wa.gov/sites/default/files/2021-10/InjuryMinimization-SpeedManagement-PolicyElements-Recommendations.pdf>



Table 1. Summary of Proposed Countermeasures for Sprague Ave

Proposed Countermeasure	Segment				Effectiveness	Cost	Funding Opportunity
	I	J	K	L			
<b>Systemic</b>							
Accessible Pedestrian Signals	X	X	X	X	9-70%	\$	D
Automated Speed Safety Cameras	X		X	X	23-90%	\$\$\$	D
High Visibility Crosswalks	X	X	X	X	0.4	\$	D
Leading Pedestrian Intervals (LPIs)	X	X	X	X	9-59%	\$\$	
Retroreflective Traffic Signal Backplates	X	X	X	X	0.15	\$	
<b>Active Mode Facilities</b>							
Separated Bicycle Facilities	X	X	X	X	40-66%	\$\$\$	Q, D
<b>Crossings and Signals</b>							
Curb Extensions and Bulb Outs			X		N/A	\$\$	Q, D*
Protected Phasing	X	X	X	X	31-100%	\$	
Raised Refuge Islands	X			X	46-56%	\$\$	Q
Rectangular Rapid Flashing Beacons (RRFBs)	X		X	X	47-73%	\$\$	D
Signal Clearance	X	X	X	X	3-20%	\$	
<b>Speed Management</b>							
Appropriate Speed Limits for All Road Users	X	X	X	X	N/A	\$	D
<b>Other Road Design</b>							
Road/Lane Diets	X	X	X	X	19-47%	\$\$\$	