West Central Neighborhood Infrastructure Project

NOVEMBER 2024

A Community-led Process To Identify Multimodal Transportation Safety Projects

Acknowledgments

Project Management Team

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(Emily Gwinn and Kelly Cruz)

Public Advisory Committee Participants

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Jessie Norris, Reach West Central
Jim Frank, Greenstone
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City of Spokane
Spokane Transit Authority
West Central Neighborhood Council
Neighborhood Advisory Committee

Photo source: Kittelson & Associates, Inc.

Contents

Photo source: Kittelson & Associates, Inc.

01 Coming Together for West Central

Community-Led Street Improvements

This project—the West Central Neighborhood Infrastructure Project—is a community-led effort to identify ways to improve transportation safety and connection throughout West Central. Together, residents, the West Central Neighborhood Council, REACH West Central, the City of Spokane, and other community and nonprofit leaders have designed projects to address local transportation challenges and revitalize the neighborhood.

Through community-led design process, we developed concepts for traffic calming (slowing speeds), streetscape, and public space improvements that have the potential to make walking, biking, rolling, and driving on local streets safer and more convenient. Each project concept addresses selected intersections and corridor segments within the public right-of-way and focuses on improvements like crosswalk treatments, sidewalk enhancements, traffic circles, bump-outs and curb extensions, landscaping, and bicycle infrastructure.

We conducted extensive community outreach to identify what improvements are needed most to address transportation issues, what improvements have community support, and what improvements have the potential to support the neighborhood's economic development.

The recommended improvements offer West Central a bright future, one with improved transportation safety, improved connections to key destinations, and stronger economic activity.

Project Area

The part of West Central covered by this project stretches from the Spokane River east to North Monroe Street and north to West Boone Avenue and Nora Street (Figure 1).

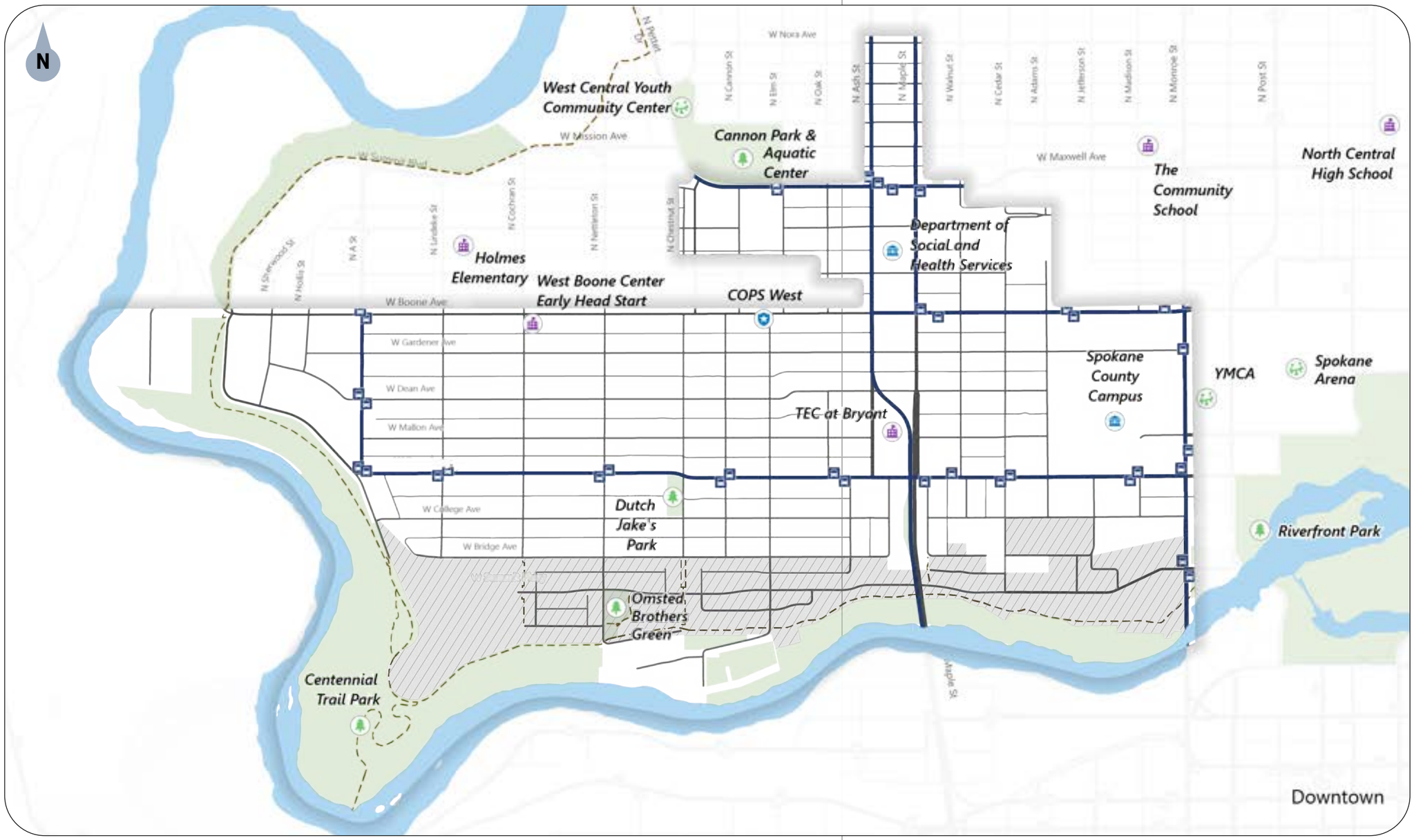
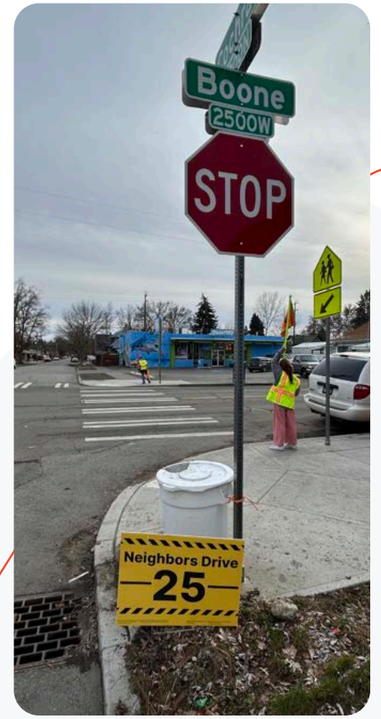


Figure 1. Project Area Map

- STA Bus Routes
- STA Bus Stops
- Centennial Trail
- Kendall Yards
- Park

West Central's Transportation Challenges

- Speeding
- Uncontrolled intersections and drivers who fail to yield
- Increased traffic from new development
- Pedestrian crossings that are not marked and feel unsafe
- Missing and damaged sidewalk
- Lack of accessible curb ramps
- Numerous traffic crashes
- Poor sight distances
- No bike lanes or bike routes
- High transit ridership
- Large street trees
- P



West Central has numerous transportation challenges, including speeding, cracked and broken sidewalks, and uncontrolled intersections, which create potential conflict points between drivers, bicyclists, and people crossing the street.

Photo source: Kittelson & Associates, Inc.

Streetcar tracks can still be seen along West Central's streets.

Photo source: Kittelson & Associates, Inc.

02 A Historic Neighborhood in Transition

West Central's Storied Past

Platted in 1887, West Central is one of the oldest neighborhoods in Spokane.

More than 75 percent of the neighborhood's homes were built between 1900 and 1912, when this area north of the Spokane River was a thriving, streetcar-connected suburb for the city's middle class. In the early twentieth century, this neighborhood was full of local shops, restaurants, and parks that were just a short walk or streetcar ride away.

West Central residents could hop on a streetcar to reach neighborhood destinations, downtown Spokane, or the thrills of Natatorium Park. (right)

Photo source: "Spokane -- Street railways (#14)," Spokane Public Library, accessed October 23, 2024, https://lange.spokanelibrary.org/items/show/2515.

In the late 1880s, West Central began transforming into one of Spokane's earliest residential havens. By the early twentieth century, West Central was in its heyday. Middle- and working-class homes filled neighborhood streets with an exciting array of architectural styles. Local shops and businesses—like Doyle's Ice Cream Parlor—popped up throughout the neighborhood. Residents used the neighborhood streetcar lines to access downtown and the famous Natatorium Park, which boasted manicured leisure grounds, an indoor swimming pool, a carousel, rollercoasters, a baseball diamond, and even a log-flume-like ride called The Chutes.

Doyle's has been scooping ice cream for nearly 100 years!

Photo source: Doyle's Ice Cream Parlor, Will Maupin, 2022, Wikimedia Commons.

Kendall Yards is a designed so that everything you need is a short walk or bike ride away.

Photo source: Kittelson & Associates, Inc.

As far back as 1915, the north river bank area was used as a switching yard and siding for the Union Pacific Railroad. When the area was cleared of rails in the 1970s, 77 acres of land were left vacant and contaminated from 30 years of railroad use. Today this area is Kendall Yards, a vibrant, mixed-use planned community.

With public investment, West Central can once again become a connected, thriving community.

Community Revitalization

With the Kendall Yards transformation on the north river bank, the West Central neighborhood has transformed considerably over the passing decades. Today, residents and visitors enjoy the Centennial Trail, which snakes along the the bluff of the Spokane River, and the annual Bloomsday race, which brings thousands of enthusiastic runners from across the region and nation right through the neighborhood. But, after years of disinvestment, the heart of West Central still remains one of the most impoverished communities in Spokane and the State of Washington.

Events like the annual Bloomsday race, which runs through the heart of West Central along Broadway Avenue, to the finish line on Monroe Street, bring residents and visitors together and benefit the whole community.

Photo source: Bloomsday Run Finish Line, Matthew Staben, 2010, Wikimedia Commons.

THE WEST QUADRANT TAX INCREMENT FINANCE DISTRICT

To help transform the Kendall Yards railyard and revitalize the neighborhood, the City of Spokane recognized the need for public investment and created the West Quadrant Tax Increment Finance (TIF) District in 2007. TIF district revenue is not "new money." It does not increase the rate at which property taxes are charged in the district. Instead, the TIF district reserves a portion of property tax dollars to be spent in the district and not elsewhere in the city or county. According to State law, TIF district funds can only be spent on public improvements and permanent affordable housing.

Here are some key things to know about the West Quadrant TIF District:

- TIF district revenue is generated only by increases in property values since 2007.
- The TIF district is split in two parts: the Kendall Yards subarea and the West Central Neighborhood Improvements area.
- Project funding for the Neighborhood Improvements area is recommended by the Neighborhood Project Advisory Committee and approved by the City Council.
- 100 percent of TIF district revenue for the Kendall Yards subarea is issued to the City for public improvements in Kendall Yards.
- Revenue generated in the Neighborhood Improvements area is split:
    - 70 percent of the TIF district revenue for the Neighborhoods Improvements area is issued to the City for public improvements in the West Central neighborhood.
    - 30 percent of the TIF district revenue for the Neighborhoods Improvements area is issued to the County for public improvements around the County courthouse campus.

It has been challenging to decide when and where to spend TIF funds to bring the most benefit to the neighborhood. In 2019, the City approved the use of TIF district funds for renovations of Dutch Jake's Park. Hundreds of residents in West Central came together to reimagine what was possible for their neighborhood park and what was needed to make their neighborhood healthier and more livable for everyone. Some TIF funds were directed to projects that did not directly benefit the local neighborhood, and some residents have been unhappy that funding has not been allocated equitably to infrastructure issues most important to the community.

TIF district revenue is not "new money." It does not increase the rate at which property taxes are charged in the district. Instead, the TIF district reserves a portion of property tax dollars to be spent in the district and not elsewhere in the city or county.

Photo source: Kittelson & Associates, Inc.

03 A Brighter Future for West Central

Real Community Planning

Funded by the West Quadrant TIF District, this project took a community-guided co-design approach. To help the right projects get funded and built—and to make sure they will be used by those who depend on them most—we turned to the West Central experts: the people who live, work, and recreate in the neighborhood. Our project managers were West Central residents who worked with support from City staff to develop the recommendations and designs featured in this plan.

Our project team was made up of three groups:

The Project Management Team

which included representatives from the City Planning and Economic Development Department, REACH West Central, the West Central Neighborhood Council, and the West Quadrant Tax Increment Finance District Neighborhood Project Advisory Committee.

The Public Advisory Committee

which included, City Council representatives, developers, business owners, property owners, neighborhood agencies, and nonprofit organizations.

The Technical Advisory Committee

which included representatives from the City Integrated Capital Management Department, Parks and Recreation, Planning Services, Streets Department, and Development Services Center, and the Spokane Transit Authority, and Spokane Regional Transportation Council.

A team united around 4 goals

- *Improve connectivity and safety for people walking, biking, and driving*
- *Support economic development*
- *Provide the community with meaningful opportunities to identify and prioritize improvements*
- *Leverage West Quadrant TIF district funds and other funding sources to build improvements*

for a safer, connected neighborhood.

The transportation improvements outlined in this plan—measures to slow drivers down, sidewalk and accessibility enhancements, crosswalk treatments, bicycle facilities, and landscaping opportunities—can help residents get to their jobs, schools, transit stops, grocery stores, and other key destinations safely and efficiently. These improvements offer our community improved safety for all roadway users, smoother traffic flow, more connected pedestrian and bicycle networks, and a stronger foundation for economic development. Together, these improvements offer West Central a promising future.

Photo source: Kittelson & Associates, Inc.

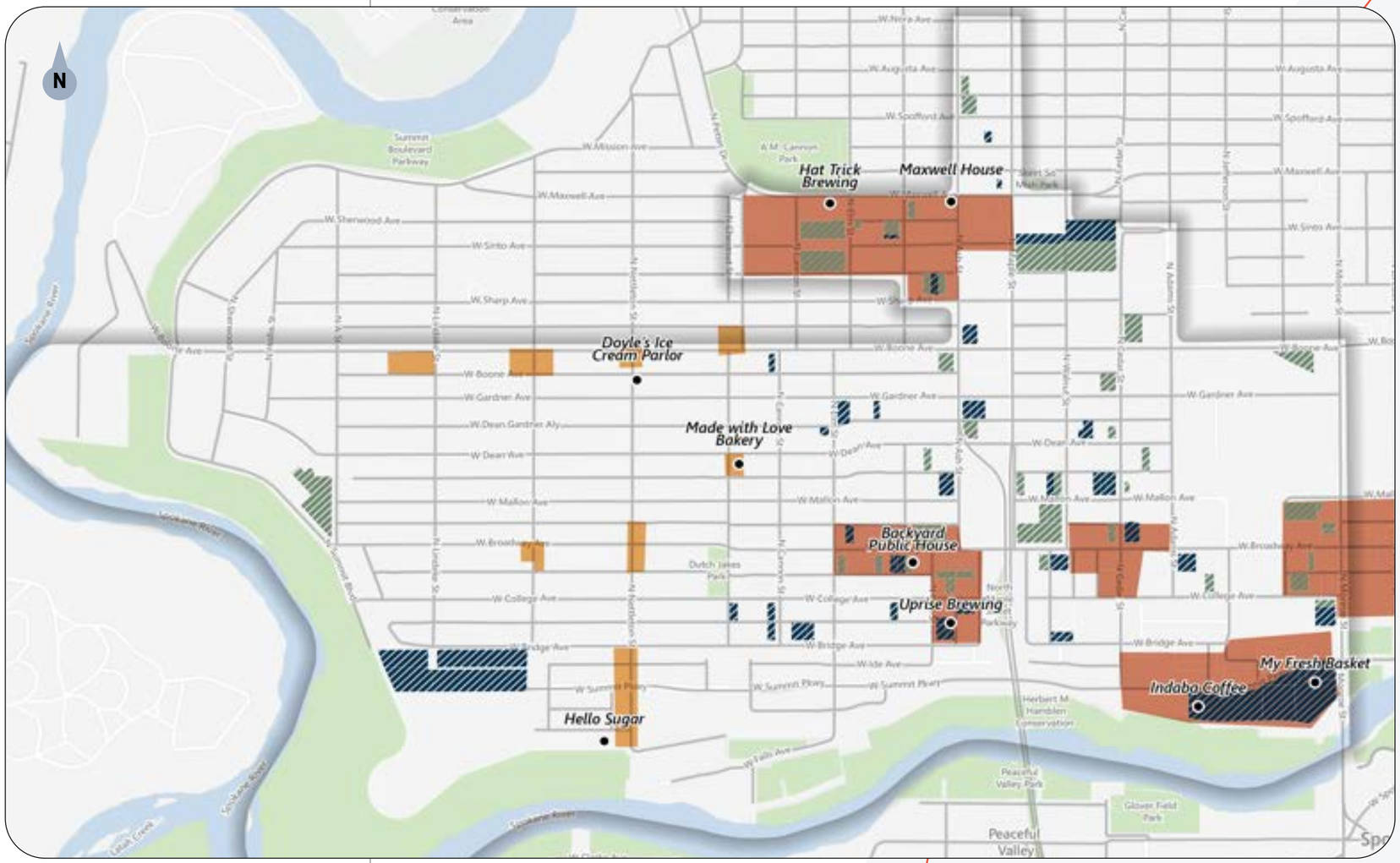
Infrastructure That Encourages Private Investment

Multimodal infrastructure is good for business. Compared to drivers, people who walk, bike, or take transit, spend more on average at restaurants, bars, and convenience stores each month. Multimodal infrastructure investments also can signal to large private investors that a city is prioritizing the area and that the area is worth investing in.

West Central has several underdeveloped areas with the potential to attract the right businesses: small-scale ones that serve local residents.

Figure 2 maps out vacant and underused areas and their relationship to areas with major and minor commercial activity. Multimodal improvements that support the neighborhood's existing businesses, commercial nodes, and these areas of opportunity could help jumpstart bigger private investments into the local economy.

Figure 2. West Central's Opportunity Sites



Development Without Displacement

The socioeconomic makeup of West Central is already changing. In 2012, the median income in our neighborhood was about 30% below the city average. By 2022, just ten years later, the median income was 50% above the city average, largely due to Kendall Yards.

According to the City's Housing Action Plan, the West Central neighborhood is at moderate to high risk of displacement. To help prevent displacement in our community, intentional strategies need to be put in place to produce more affordable housing and commercial space and to preserve existing affordable housing and small businesses (Figure 1).

Strategies that can help mitigate displacement include:

RESIDENTIAL

- Incentives for affordable housing
- Public investments in infrastructure to support development
- Zoning and building code reforms
- Right-to-purchase programs
- Preserving low-cost rental housing
- Community land trusts

COMMERCIAL

- Incentives for commercial investments
- Small developer technical assistance
- Storefront improvement programs
- Small business alliances
- Local vendor collectives

Figure 3. An Anti-Displacement Framework

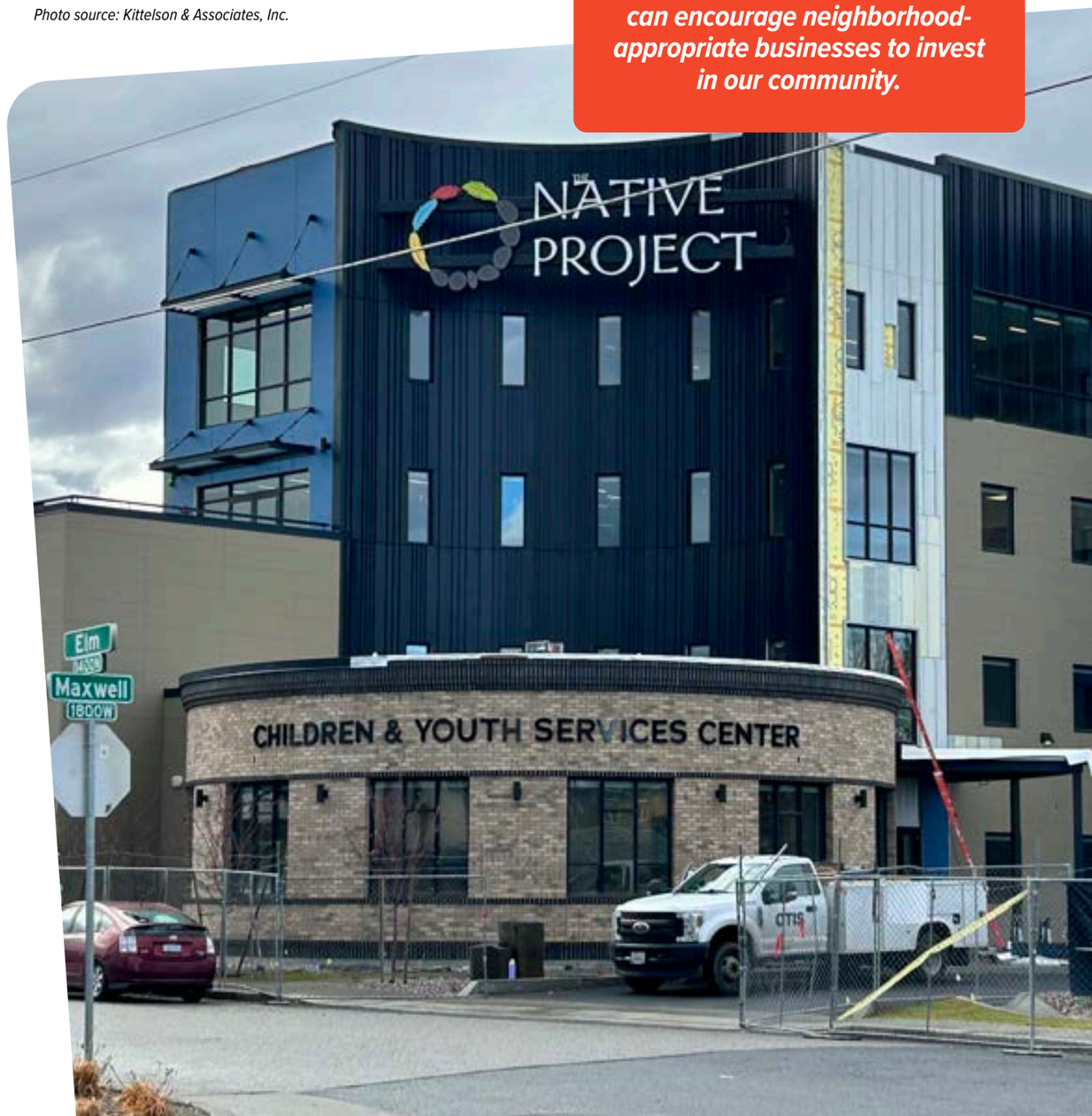
	PRODUCE	PRESERVE
RESIDENTIAL	*Produce more housing at a range of price points to lower housing costs.*	*Preserve existing affordable housing stock and protect against displacement of vulnerable residents.*
COMMERCIAL	*Encourage the creation of small businesses and create broadly affordable commercial space.*	*Support and retain existing small and home-based businesses.*

The new Native Project youth center on Maxwell Avenue is part of a larger integrated care campus serving the Spokane community. TIF funding helped fund public infrastructure including sidewalks and streetscape.

Photo source: Kittelson & Associates, Inc.

WEST CENTRAL'S PROBLEMS CAN'T BE FIXED OVERNIGHT.

But with public investment, we can encourage neighborhood-appropriate businesses to invest in our community.



Community members and the project team used sidewalk chalk to envision potential infrastructure improvements. (above)

Photo source: Kittelson & Associates, Inc.

More than 75 community members shared their traffic safety concerns with the project team at Clean Up Day. (left)

Photo source: Kittelson & Associates, Inc.

04 Design by Community

Neighborhood Engagement

A good neighborhood plan comes from the neighborhood. To really understand what West Central and its residents need and to share information about this project, we attended community events like Clean Up Day and Porchfest, we hosted meetings with the West Central Neighborhood Council and the Neighborhood Advisory Council, and we met with local journalists.

We also conducted multiple public surveys to understand what projects and project types were most important.

Public Survey Highlights

119 RESPONSES

80% OF RESPONDENTS LIVE IN WEST CENTRAL

WEST CENTRAL'S TOP 5 PROJECTS

1. Boone Avenue traffic calming
2. Nettleton traffic calming
3. Dean traffic calming and Broadway Avenue bike lanes
4. Chestnut greenway
5. Sidewalk infill and repair

COMMUNITY PROJECT TYPES

- Sidewalk infill and repair
- ADA curb ramps
- Enhanced crossings at parks, schools, and key destinations
- Bicycle greenways
- New bike lanes
- Focused traffic calming

Photo source: Kittelson & Associates, Inc.

05 Project Selection

We identified a range of street treatments to promote safer crossings, safer speeds, and safer streets for all users. Some treatments—like retrofits, pavement markings, and signage—can be quickly and inexpensively implemented. Other treatments require further study, coordination, and funding.

When deployed across a network, improvements that complete gaps, provide alternative routes, or establish new multimodal facilities can shift users to nonmotorized travel over time and help prevent roadway safety conflicts. For a list of potential treatments, see Appendix C.

Community support—Does the neighborhood support the project? Does it believe the project will address a need?

Safety—Can this project reduce vehicle speeding? Can it reduce crashes? Are there pedestrian crossings or bike facilities involved?

Connectivity and access—Will this project help link people to transit and other vital community assets? Can parking be maintained?

Constructability and maintenance—Can this project be constructed in the public right-of-way? Are there minimal impacts to utilities? Are large trees impacted? Who will be responsible for landscape maintenance?

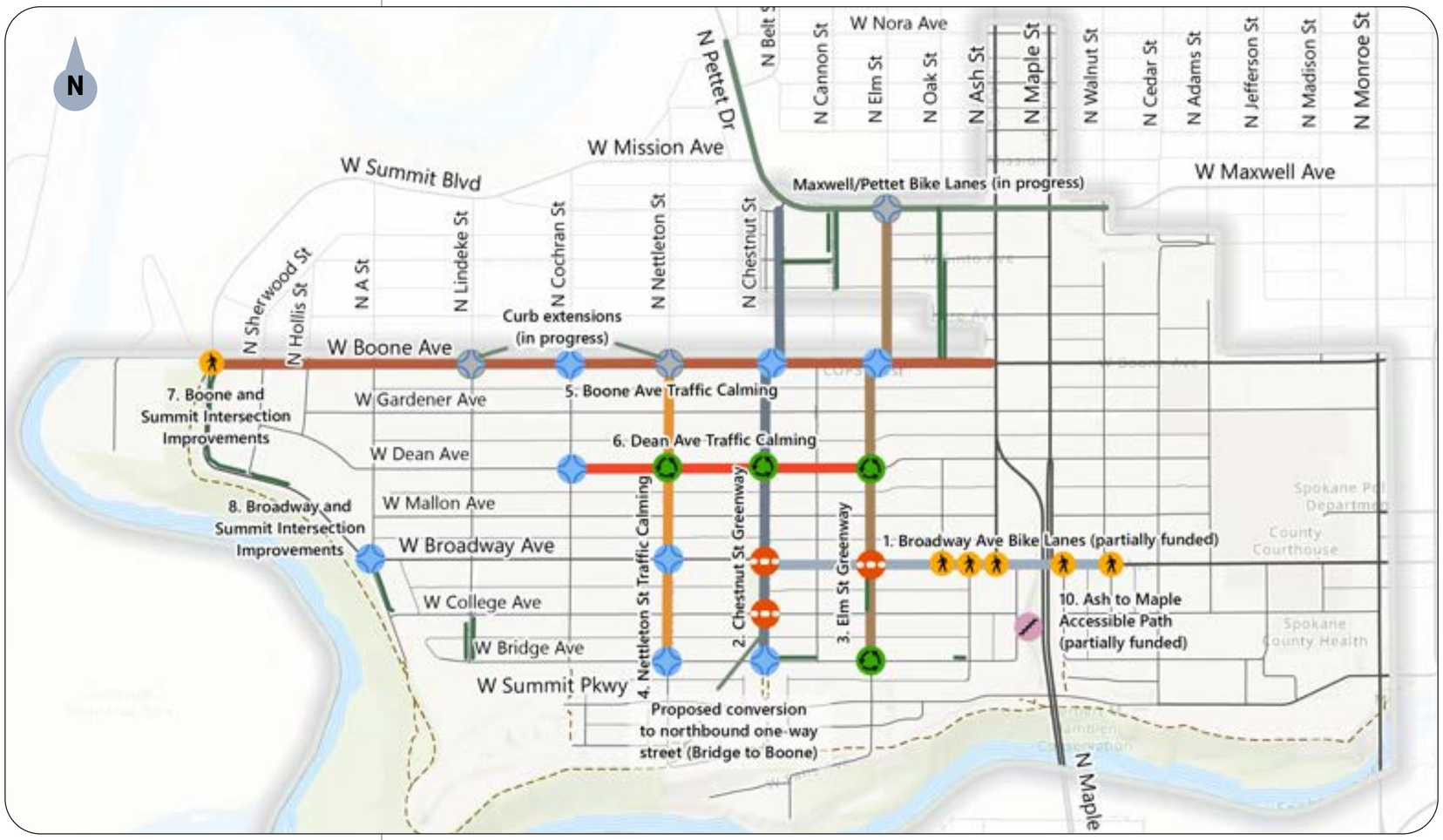
Maximizing community investment—What is the anticipated return on investment? Are there opportunities for funding collaboration?

Figure 4 and Table 1 present the projects selected by West Central residents and our West Central project team. While they have been ranked in order of importance, new funding and other information may change priorities.

Table 1. West Central Priority Project List

PROJECT	DESCRIPTION	FUNDING PRIORITY
Broadway Avenue Bike Lanes	Parking-protected bike lanes from Chestnut to Walnut with floating bus islands and striped crossings	**1**
Boone Avenu Traffic Calming	Curb extensions at Cochran, Chestnut, and Elm; intersection crossing improvements at Summit	**2**
Chestnut Street Greenway	Conversion to a northbound one-way street from Bridge to Boone that allows two-way bicycle traffic; curb extensions at Boone and Bridge; intersection traffic diverters at College and Broadway; traffic circle at Dean	**3**
Sidewalk Infill and Repair	Install sidewalks where missing; repair sidewalk segments with highest need and importance	**4**
Nettleton Street Traffic Calming	Curb extensions at Broadway and Bridge; traffic circle at Dean	**5 (tie)**
Boone Avenue & Summit Boulevard Intersection	Intersection crossing improvements	**5 (tie)**
Elm Street Greenway	Traffic circles at Bridge and Dean; intersection traffic diverter at Broadway; curb extensions at Boone	**7 (tie)**
Broadway Avenue and Summit Boulevard Intersection	Curb extensions and intersection crossing improvements	**7 (tie)**
Ash Street to Maple Street Accessible Pathway	Replace existing stairwell with accessible pathway	**9**
Dean Avenue Traffic Calming	Traffic circles at Nettleton, Chestnut, and Elm; curb extensions at Dean	**10**

Figure 4. West Cental Priority Project Map



DETERMINING ECONOMIC IMPACT

To understand how a particular project might impact local economic activity, we asked a series of key questions.

For more on how we evaluated economic impact, see Appendix B.

- Does current research tell us that this project type could attract private investment?
- Does this project support existing businesses in West Central? What about small or large commercial areas?
- Is the project close to sites larger than one acre? What about empty land?
- Does the site have reusable buildings?
- Does current zoning allow mixed use?

Projects with many YES answers have greater potential to benefit West Central's economy.

- 1. Broadway Ave. Bike Lanes
- 2. Chestnut St. Greenway
- 3. Elm St. Greenway
- 4. Nettleton St. Traffic Calming
- 5. Boone Ave. Traffic Calming
- 6. Dean Ave. Traffic Calming
- 9. Sidewalk Infill & Repair
- Maxwell/Pettet Bike Lanes (in-progress)

- Traffic Circle
- Curb Extensions
- Diverter
- Accessible Pathway
- Crossing Improvements
- Curb Extensions (in-progress)

Photo source: Kittelson & Associates, Inc.

06 Concept Designs

We developed eight concept designs for the priority projects to facilitate future funding and construction.

Concepts were not developed for two projects:

- **The sidewalk infill and repair project**, which prioritizes sidewalk segments for new sidewalks or repair. Because the City uses standard details for sidewalks, concept drawings are not necessary at this phase.
- **The Ash to Maple accessible pathway project**, which was designed as part of the 2023 Safe Streets for Spokane grant application package. The concept developed from this grant application can already be carried forward to future design phases. These future phases may require topographic survey and geotechnical evaluation ahead of design refinements.

For more information on these design concepts, see Appendix E.

West Central Neighborhood Infrastructure Project

APPENDIX A.

Public Engagement Summary

Project Management Team

MEMBERS

- Kimberly Lawrence
- Morgan Thomas
- Elizabeth Marlin
- West Central Neighborhood Council Chair (Emily Gwinn and Kelly Cruz)

MEETINGS

- January 16, 2024 (Project Kick-off)
- February 20, 2024
- April 2, 2024
- May 21, 2024
- August 20, 2024
- October 24, 2024
- December 17, 2024

Technical Advisory Committee

MEMBERS

- Colin Quinn-Hurst, City of Spokane
- Annie Deasy, City of Spokane
- Amber Groe, City of Spokane
- Abigail Martin, City of Spokane
- Inga Note, City of Spokane
- Gerald Okihara, City of Spokane
- Kevin Picanco, City of Spokane
- Daniel Wells, City of Spokane
- Lukas Yanni, City of Spokane
- Clint Harris, City of Spokane
- Mike Ulrich, SRTC
- Drew Redman, STA

MEETINGS

- March 28, 2024
- June 18, 2024
- November 19, 2024

Public Advisory Committee

MEMBERS

- Larry Swartz, Neighborhood Resident
- Jessie Norris, Reach West Central
- Jim Frank, Greenstone
- Kitty Klitzke, Spokane City Council

MEETING

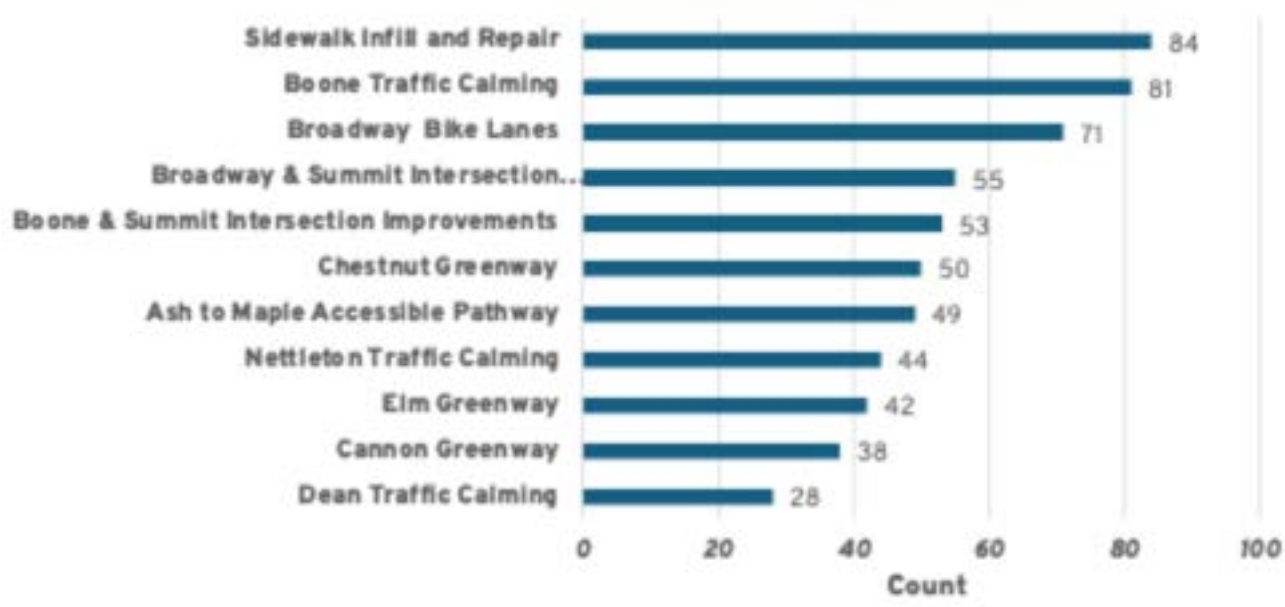
- June 25, 2024

Survey Results Summary

CHOOSE YOUR TOP 5 PROJECTS FROM THE LIST OF INITIAL OPTIONS

(119 out of 119 responses)

The chart below shows the top choices for priority projects based on 119 responses. Participants were asked to choose their top 5 projects from an initial list, and the results highlight which projects received the most support.



Here's a breakdown of the results:

1. **Sidewalk Infill and Repair** was the most popular choice, selected by 84 respondents.
2. **Boone Traffic Calming** closely follows, with 81 votes.
3. **Broadway Bike Lanes** ranks third, chosen by 71 participants.
4. **Broadway & Summit Intersection Improvements** and **Boone & Summit Intersection Improvements** received 55 and 53 votes, respectively, indicating significant interest in intersection-related enhancements.
5. **Chestnut Greenway** was selected by 50 respondents, showing interest in greenway development.
6. **Ash to Maple Accessible Pathway** also garnered attention, with 49 votes.
7. Projects like **Nettleton Traffic Calming** (44 votes) and **Elm Greenway** (42 votes) demonstrate moderate support.
8. **Cannon Greenway** received 38 votes, while **Dean Traffic Calming** was the least chosen among the options, with 28 votes.

The data suggests a strong preference for projects related to pedestrian safety and traffic calming, with an emphasis on sidewalk repair, bike lanes, and intersection improvements. The greenway projects also received considerable attention, though they were less prioritized than traffic and intersection projects.

DO YOU HAVE ADDITIONAL IDEAS OR COMMENTS ON THE INITIAL PROJECT LIST? PLEASE DESCRIBE, INCLUDING THE LOCATION.

(77 out of 119 responses)

Traffic calming and safety for cyclists and pedestrians were top of mind for respondents. The following table breaks down feedback by the most common streets mentioned by name.

Nettleton	• **Four-way Stop Needed**: Many residents mention that they would like four-way stops at various intersections along Nettleton including: W Summit, Maxwell, Sinto, and Sharpe. • **Traffic Calming**: Speed bumps, lowered speed limits, and other calming strategies like enforcement are suggested to control speeding in this area.
Broadway Ave	• **Bike Lanes**: Residents suggest extending bike lanes along Broadway to Summit, to connect with the Centennial Trail and Elm Greenway, making it safer and more accessible for cyclists. • **Repaving**: There were many comments from people who want Broadway repaved. • **Pedestrian and Cyclist Safety**: Calls for more traffic calming measures to protect non-drivers, including better crosswalks.
Pettet Drive	• **Traffic Calming**: Suggestions to reduce speed limits, clearer traffic signage, and speed bumps to prevent dangerous driving behavior and make it safer for pedestrians and cyclists.
Maple Street Bridge	• **Public safety**: Residents want to clean up the neighborhood to reduce hazard and take other measures to monitor and improve safety. • **Visibility:** suggestions to improve lighting and implement other strategies to increase sightlines. • **Pedestrian and Cyclist Safety**: A call for dedicated bike lanes or better protection for cyclists crossing the bridge, as it currently feels unsafe.
Summit Parkway	• **Crosswalks and Safety**: Requests for additional crosswalks and improved lighting. • **Traffic Calming**: Suggestions for speed bumps or additional stop signs to slow down traffic along the parkway.
Cannon Park	• **Safety:** people are concerned about safety and experience at Cannon park. • **Cleanliness:** a few people commented that they wanted Cannon park and the surrounding area to be cleaned.

Additional General Feedback

- **Trees and Green Spaces**: Throughout the neighborhood, residents support planting more trees and establishing green spaces. Suggestions include using native plants that are easy to maintain.
- **Opposition to Certain Traffic Calming Measures**: Some residents voice opposition to traffic circles and speed bumps, stating they are impractical in snow and inconvenient for drivers who already obey speed limits.

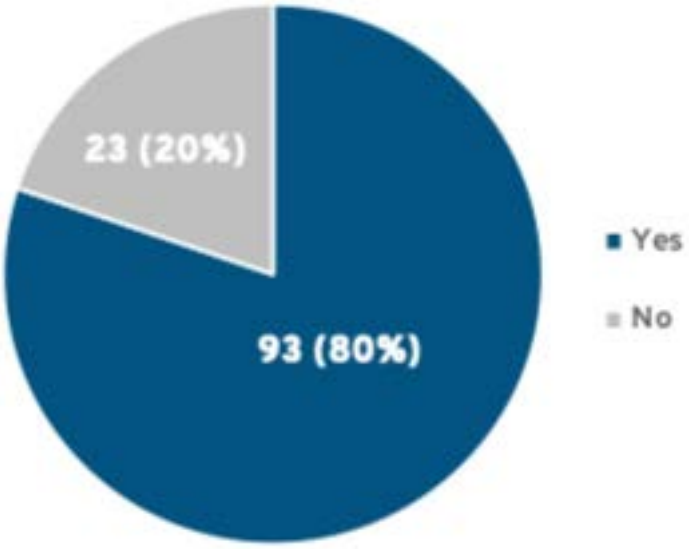
DEMOGRAPHICS OF SURVEY RESPONSES

Most survey participants primarily reside in the West Central Neighborhood, with 80% confirming residency. The age distribution spans all age groups, with a notable concentration in the 25-54 range. The racial and ethnic identity of respondents is predominantly White or European American. In terms of housing, 83% are homeowners, 13% are renters, and a small percentage live with others without paying

rent. Annual household incomes vary, with a significant portion earning between $50,000 and $150,000. Some respondents identify as having or living with a disability.

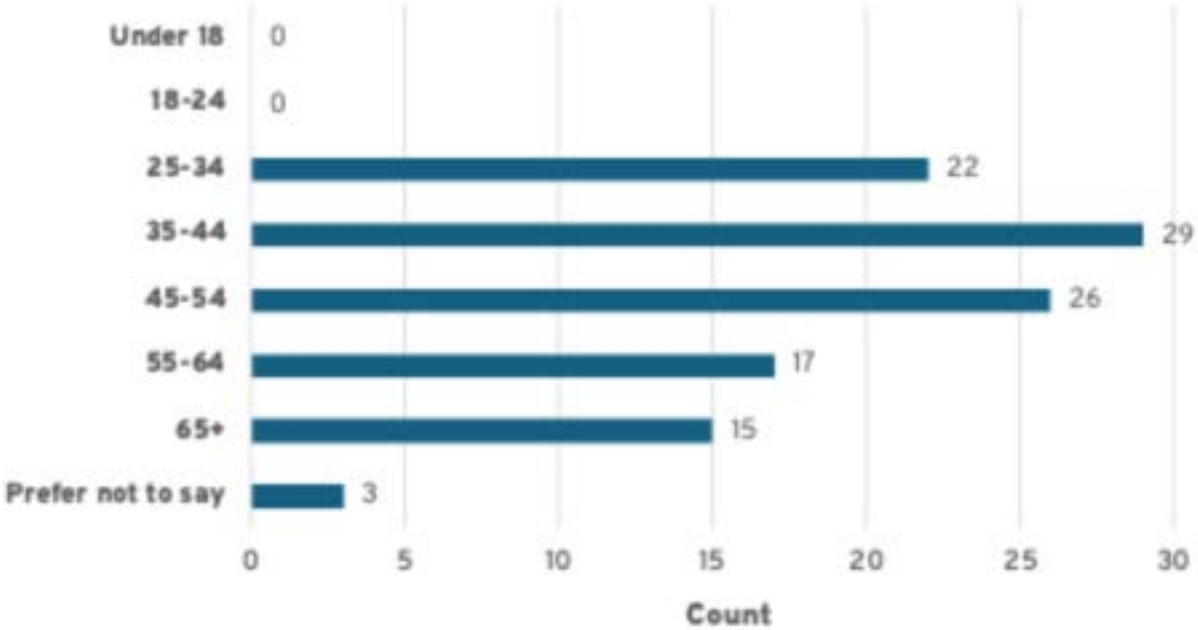
DO YOU LIVE IN THE WEST CENTRAL NEIGHBORHOOD?

(116 out of 119 responses)



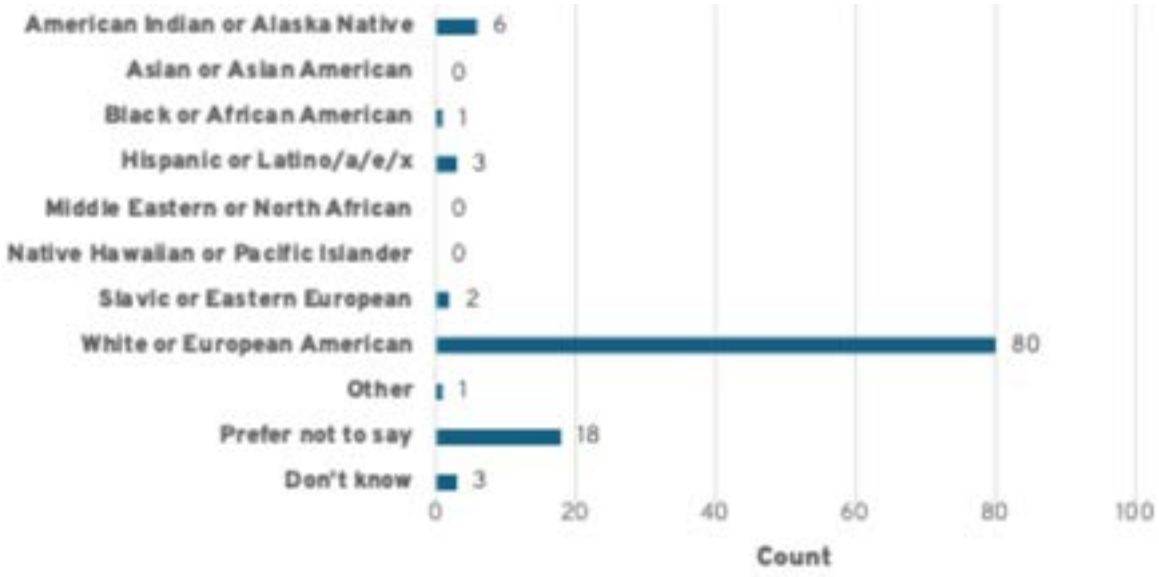
WHAT IS YOUR AGE?

(112 out of 119 responses)



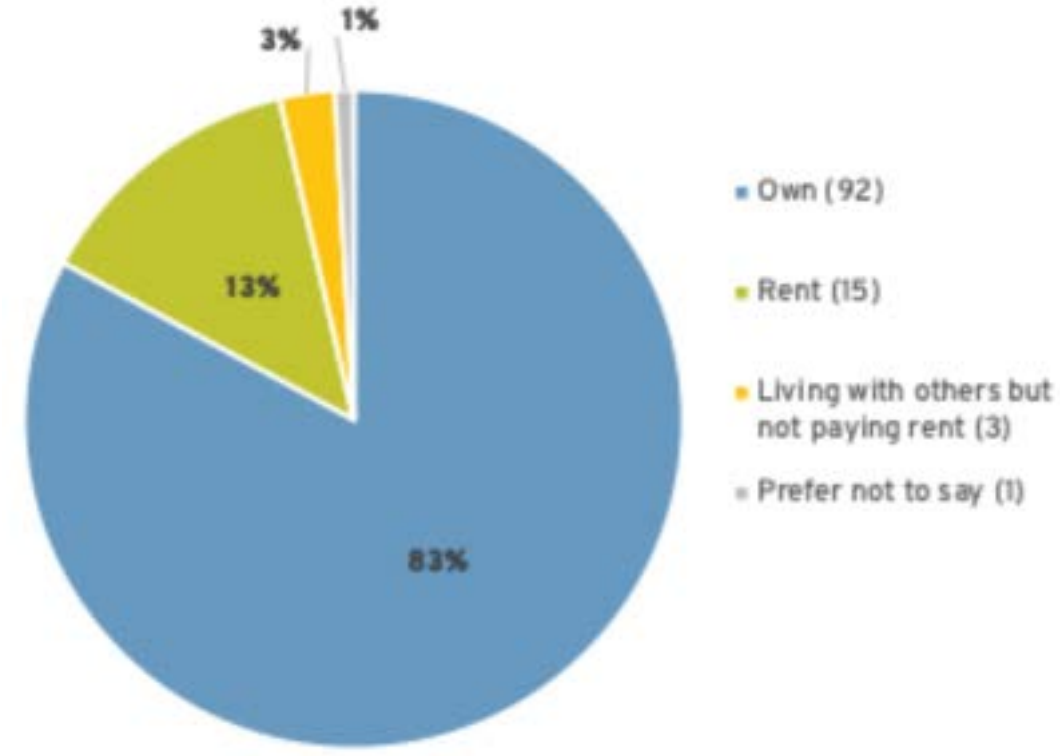
WHICH OF THE FOLLOWING DESCRIBES YOUR RACIAL OR ETHNIC IDENTITY? (SELECT ALL THAT APPLY.)

(114 out of 119 responses)



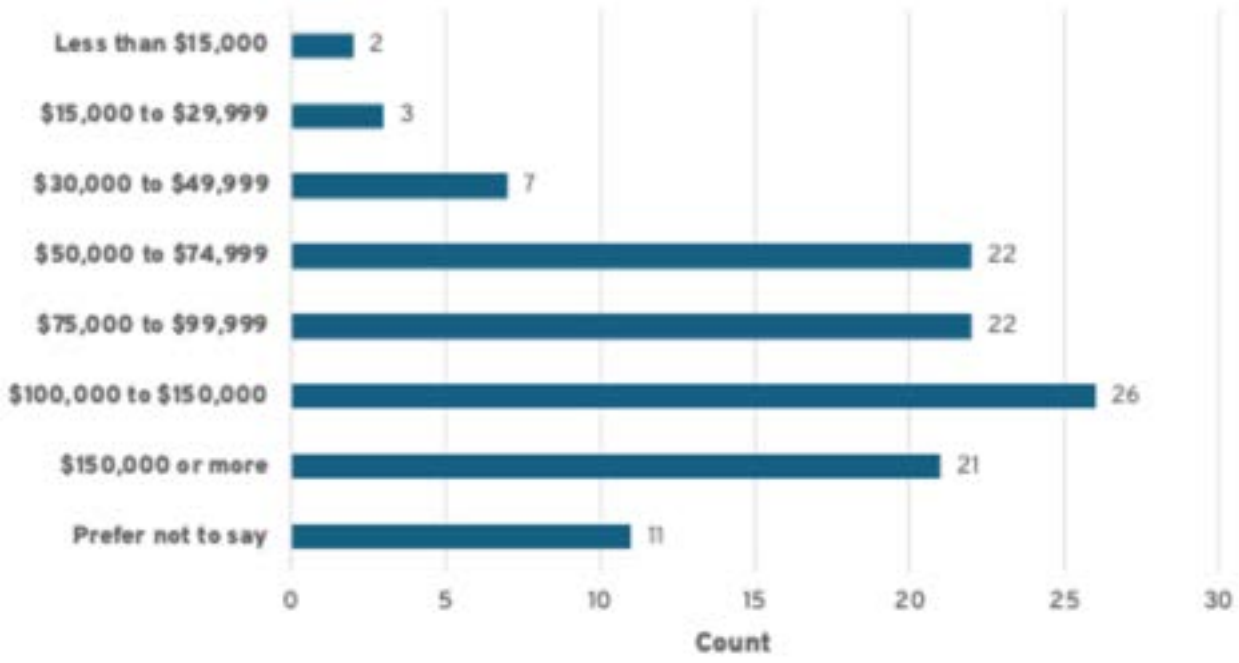
WHICH OF THE FOLLOWING OPTIONS BEST DESCRIBES YOUR CURRENT HOUSING SITUATION?

(111 out of 119 responses)



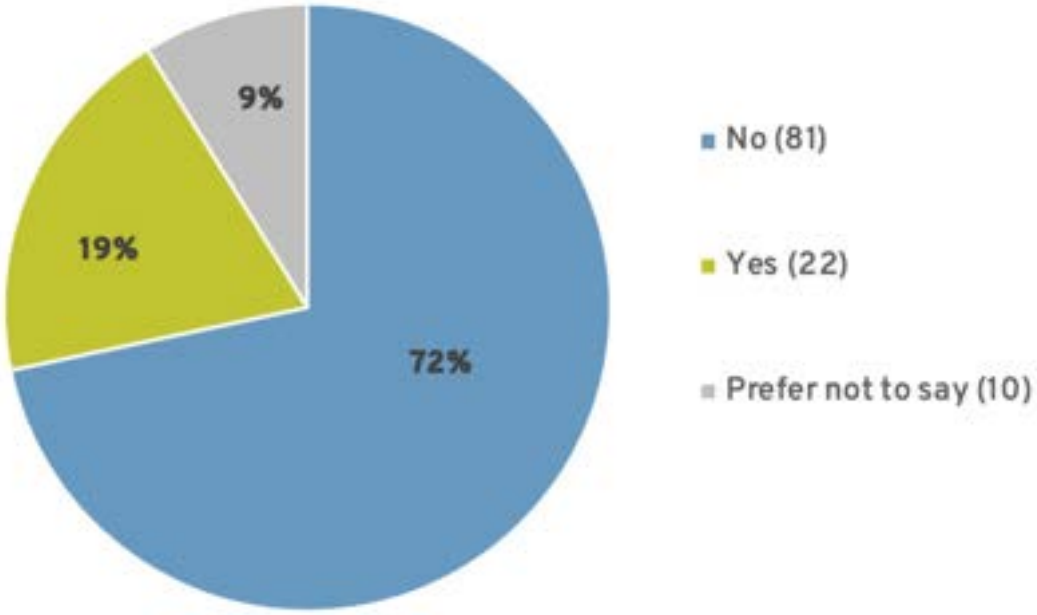
WHAT WAS YOUR TOTAL ANNUAL HOUSEHOLD INCOME IN 2023? (HOUSEHOLD INCLUDES THOSE WHO SHARE A HOME AND MAKE UP A FAMILY.)

(111 out of 119 responses)



DO YOU IDENTIFY AS HAVING OR LIVING WITH A DISABILITY?

(113 out of 119 responses)



Neighborhood Outreach Events

NEIGHBORHOOD WALK – APRIL 26, 2024

Summary

- Explored needs and opportunities for bulbouts, crossings, traffic calming
- Discussed neighborhood history
- Observed use of infrastructure
- Noted potential engineering constraints

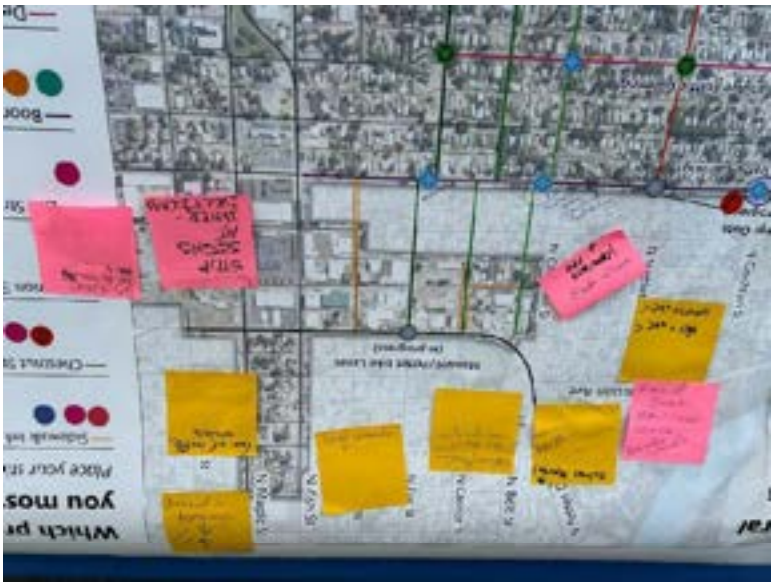
NEIGHBORHOOD CLEAN UP DAY AND EL MERCADITO – APRIL 27, 2024

Summary

- Talked to over 70 people
- Key needs identified:
    - Boone & Summit Intersection
    - Nettleton & Cochran Intersection
    - Slow traffic on Boone, Dean, and Nettleton
    - Crossing improvements, especially near:
        - Schools
        - Parks
        - Community Center
    - Sidewalk infill and repair

NEIGHBOR DAY – JUNE 7, 2024

PORCHFEST – SEPTEMBER 7, 2024



Summary

35+ participants (not everyone voted)

Attendees were invited to review the preliminary project list and indicate which ones they were most excited about

- Boone Avenue Traffic Calming – 7 votes
- Nettleton Street Traffic Calming – 6 votes
- Dean Avenue Traffic Calming – 5 votes
- Broadway Avenue Bike Lanes – 5 votes
- Chestnut Street Greenway – 4 votes
- Sidewalk Infill and Repair – 3 votes

WEST CENTRAL NEIGHBORHOOD COUNCIL

Meetings

- April 10
- July 10
- October 9

WEST CENTRAL ADVISORY COUNCIL

Meetings

- April 3
- August 7
- November 6

Appendix B.

Economic Impact Analysis

1. Project Background
2. Catalytic Project Impacts
3. Development Opportunity Analysis
4. Project Economic Scoring
5. Displacement Pressure / Anti-Displacement Strategies
6. Attachments

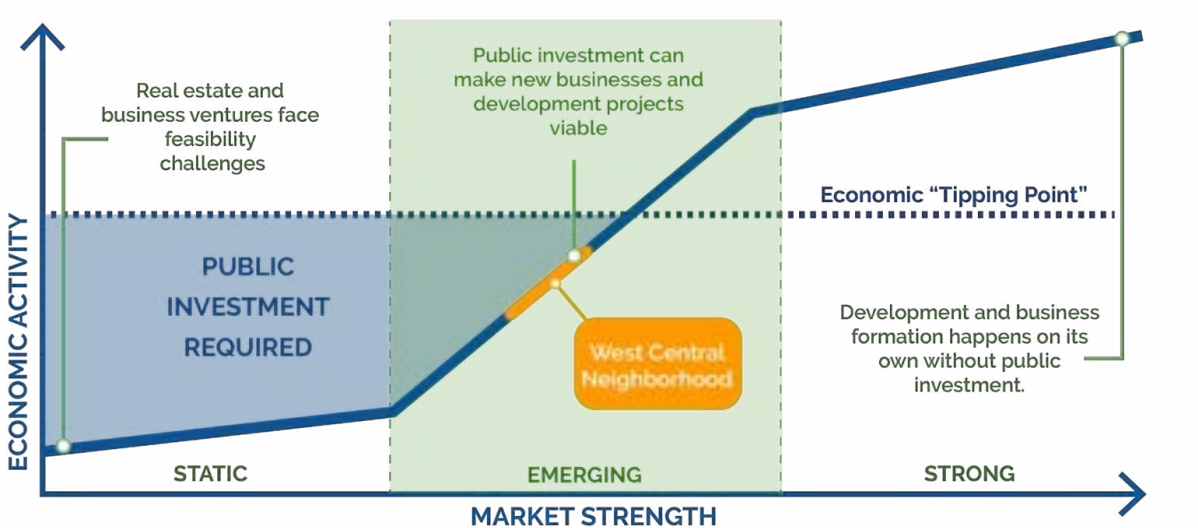
1. Project Background

SCOPE OF THE ECONOMIC IMPACT ANALYSIS

- Review what academic literature says about bicycle and pedestrian safety improvements and their impact on property values and businesses.
- Talk to developers and business owners about how they view these kinds of improvements and the value they add to their projects and business ventures.
- Evaluate the impact of each “priority project” on surrounding businesses, business districts, and opportunity sites.
- Develop a framework with associated anti-displacement strategies to make sure benefits stay local and displacement is minimized.

WEST CENTRAL MARKET POSITION

The West Central Neighborhood is an "emerging" market. This means that public investment of some kind is still needed to attract. private investment.



PASSING THE "TIPPING POINT"

TIF investments in infrastructure alone are not enough to overcome costs and risks for business owners and developers. If they can support small business development within the neighborhood, they can have a much larger impact.

Cost and risks of investment outweigh potential benefits.

Infrastructure investments alone are not enough to pass the "tipping point".

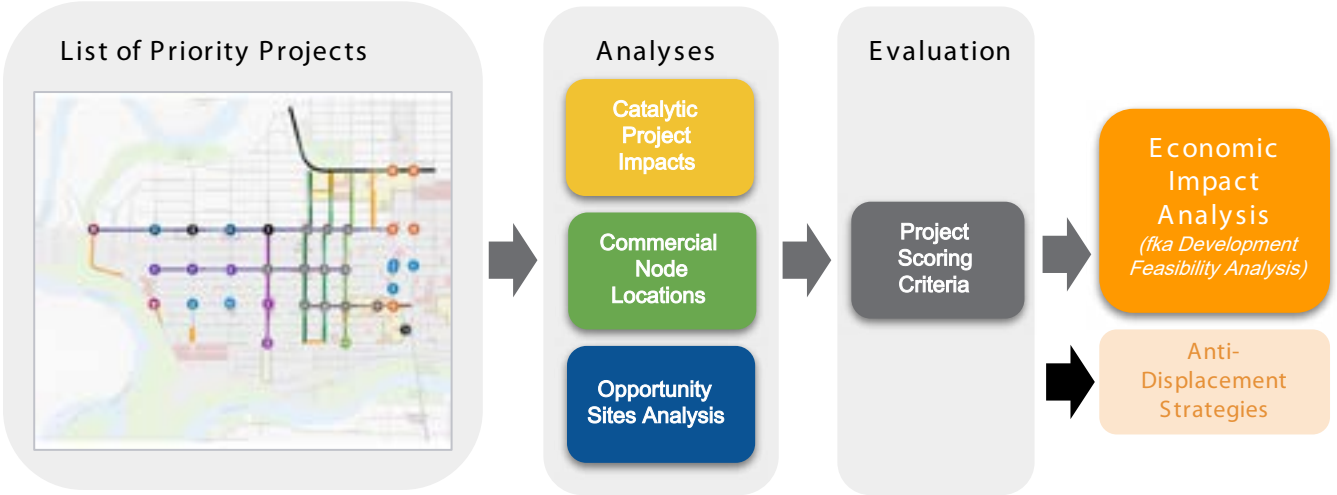
If infrastructure attracts destination businesses, benefits can outweigh risks.

SMALL BUSINESSES: THE KEY TO UNLOCKING THE BENEFITS OF INFRASTRUCTURE

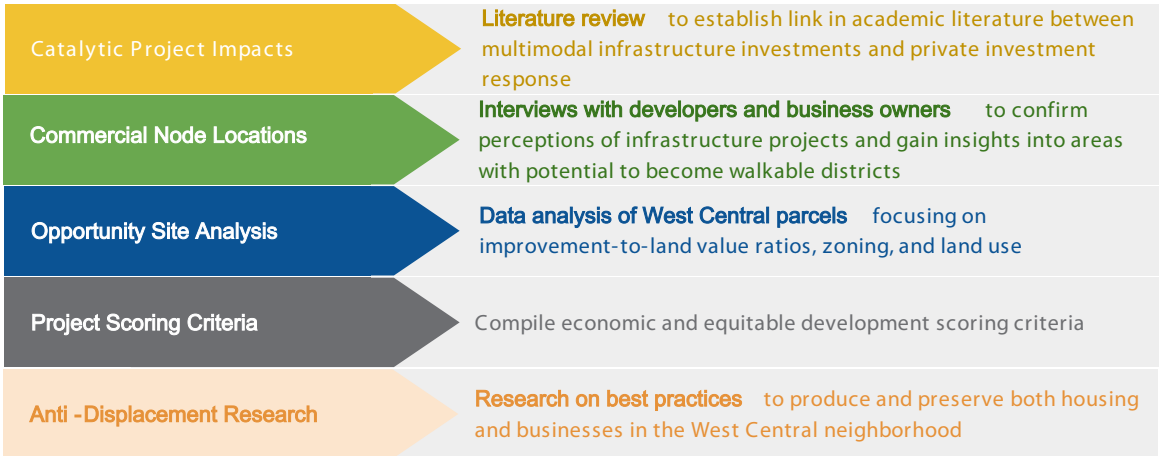
Public investments create a virtuous cycle. A new streetscape gives a small business the confidence to invest. The small business' success proves the market for a major development which creates revenue for more public investments.

Image Source: Millennium NW

OVERVIEW OF PROCESS



RESEARCH METHODOLOGY



2. Catalytic Project Impacts

ECONOMIC BENEFITS OF MULTIMODAL INFRASTRUCTURE

Implementation of a road diet alone does not have any measurable negative impact on sales tax revenue or property value.[1]

When combined with high quality transit, a 1% increase in bikeability (bike score), yields between a 0.4 - 1.2% increase in property values.[2]

Traffic calming measures (like bulb outs, enhanced crossings, and restriping) lead to increases in property values.[3]

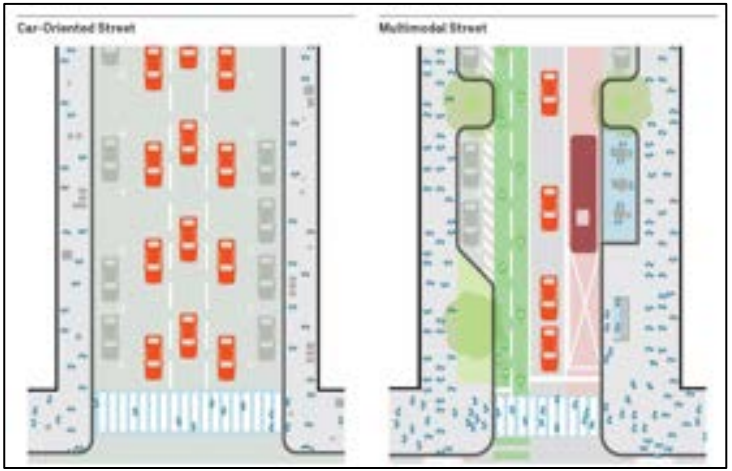
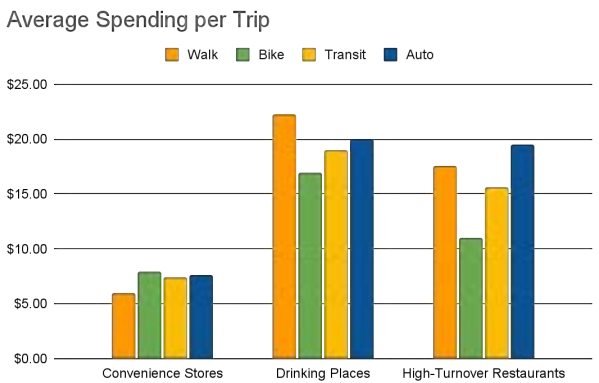


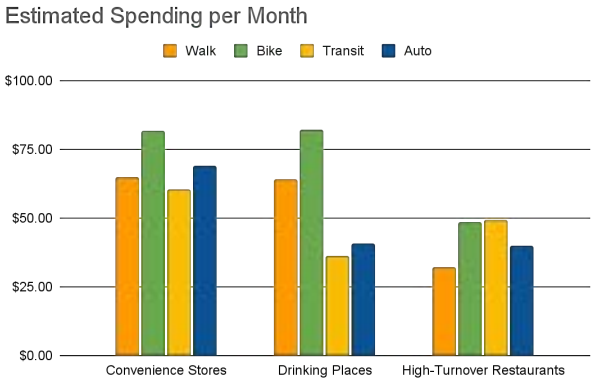
Image Source: York Blvd: The Economics of Road Diet (McCormick, 2013)

1. McCormick (2013)
2. Li and Joh (2017)
3, Polloni (2019)

THE BUSINESS CASE FOR MULTIMODAL INVESTMENTS

While automobile drivers spend more per trip, bicyclists, transit users and pedestrians spend more on average at restaurants, bars, and convenience stores per month than those who drive (Clifton, et al, 2011).





WALKABILITY: INFRASTRUCTURE + DESTINATIONS

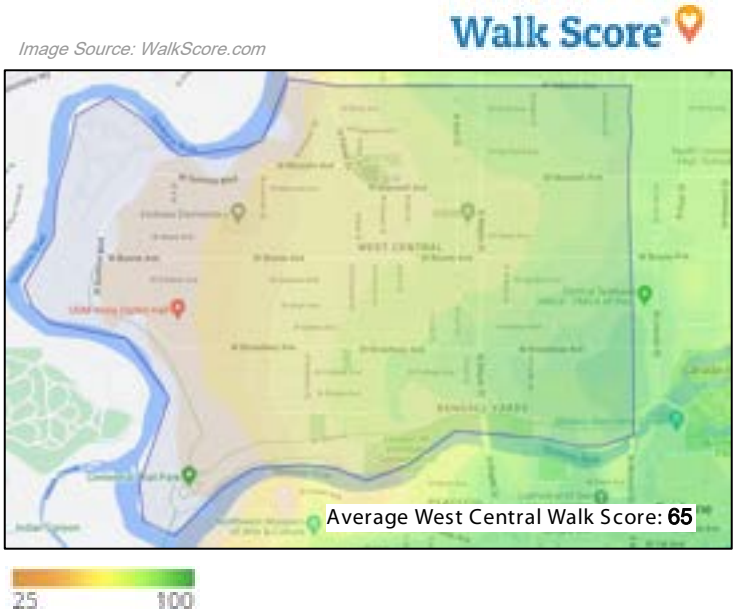
- The website WalkScore.com measures "walkability" based on the quality and connectivity of sidewalks AND the distance to amenities such as restaurants, grocery stores, and other daily destinations.

- **A 1-point increase in WalkScore** equates to a **.5% increase in property values** (Cortright, 2009).

- With a score of 65, **West Central has a lot of potential upside**.

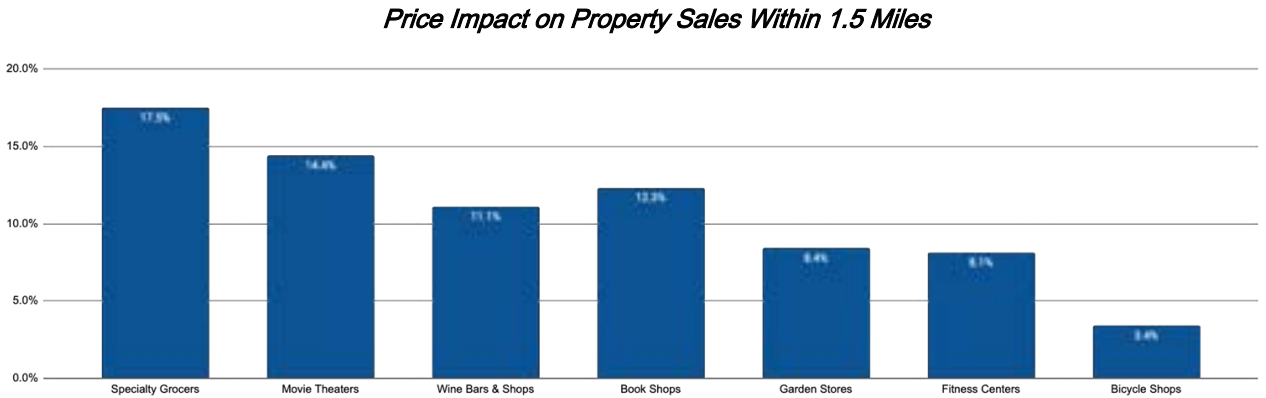
    - Most walkable Spokane neighborhood: *Riverside* (Walk Score: 91)

Image Source: WalkScore.com



IMPACT OF URBAN AMENITIES

Many types of urban amenities have positive price impacts on real estate. Researchers call these amenities "urban living infrastructure". (Johnson-Gardner, 2007)



3. Development Opportunity Analysis

WHAT WE LEARNED

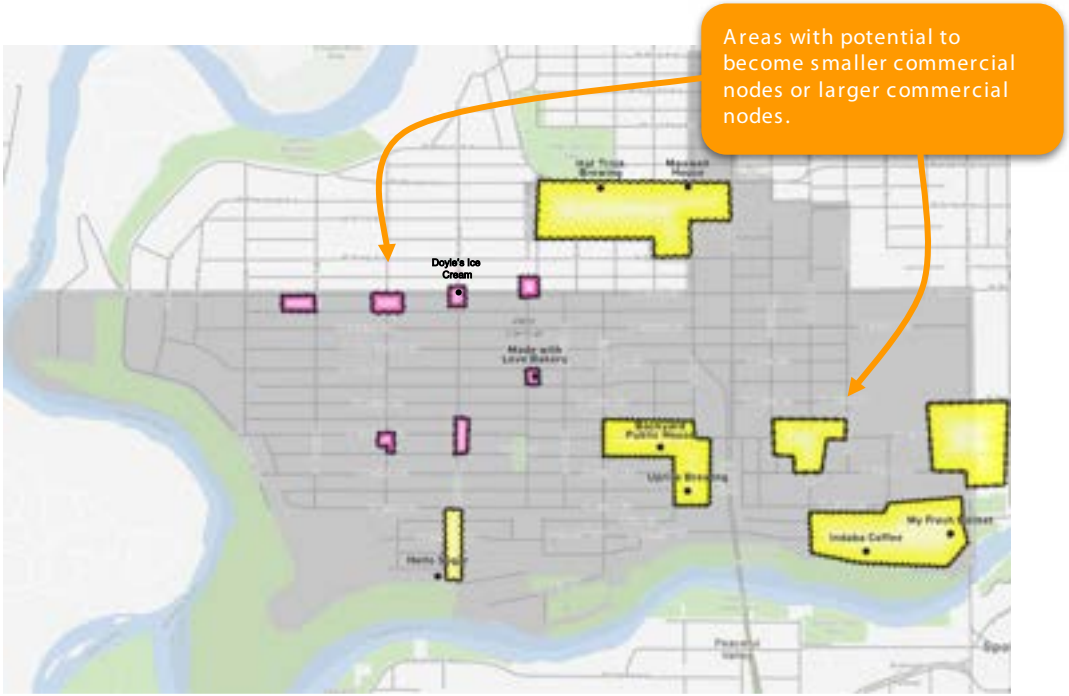
Developer/Business Owner Interviews:

- **Jim Frank,** Greenstone Homes
- **Antony Chiang,** Millennium NW
- **Chauncey Jones,** A Better Way JJJ
- **Nick Czapla,** LB Stone Properties
- **Bobby Enslow,** Indaba Coffee

- Multimodal infrastructure alone will not incentivize big private sector investment.
- High costs (construction and lending) and relatively low rents mean a lot of developers are waiting to see if things change.
- Multimodal infrastructure can signal to existing property owners and would-be commercial tenants that the City is prioritizing the area and it may be worth investing in.
- Less visible, but equally important, are improvements to sewer, water, and stormwater infrastructure.
- West Central has several under-developed “walking districts”.
- The neighborhood could become an eclectic retail district, but needs relatively low-cost commercial space to attract upstart businesses.
- Kendall Yards has provided a proof of concept that has helped other areas of West Central attract investment.
- Residential and commercial displacement is already occurring.

COMMERCIAL NODES

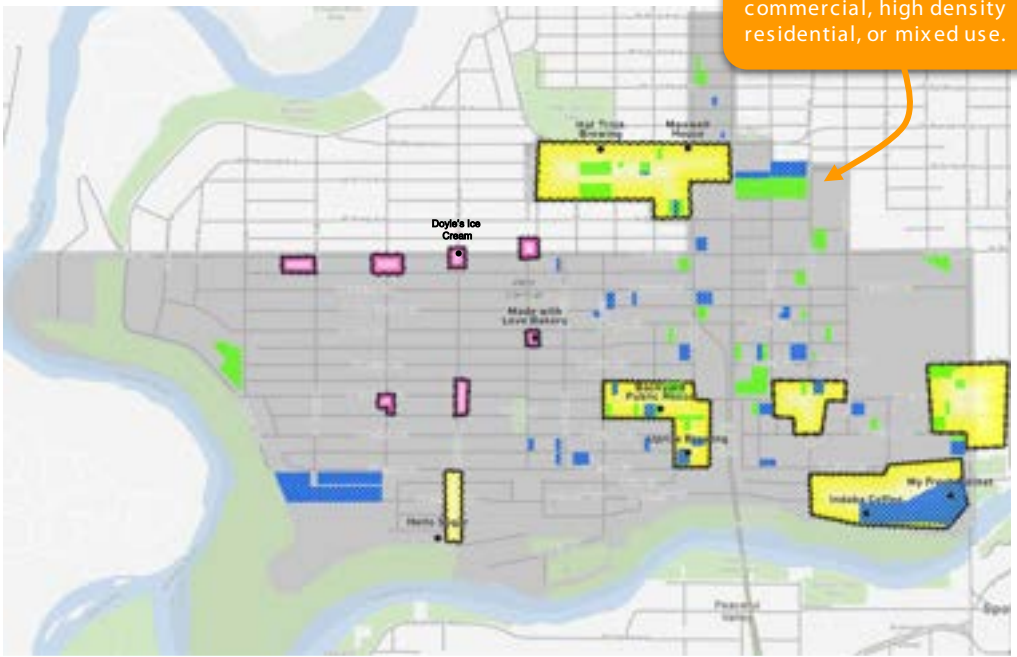
- Existing Businesses
- Major Commercial Nodes
- Minor Commercial Nodes
- West Central Boundary



OPPORTUNITY SITES

- Existing Businesses
- Vacant Parcels
- Underutilized Parcels
- Major Commercial Nodes
- Minor Commercial Nodes
- West Central Boundary

**Underutilized properties are valued in the bottom 25th percentile of similarly zoned properties or have very small buildings compared to their property size.*



PROJECTS

Investments that support districts, nodes, and opportunity sites could help development pass the “tipping point.”

4. Project Economic Scoring

The Economic Scoring Matrix provided in Attachment D summarizes the economic impact scoring for each of the Priority Projects.

The Economic Impact Score for each project was arrived at based on three evaluation categories:

- Literature Review Catalytic Impact
- Walkable Commercial Districts Evaluation
- Opportunity Sites Analysis

A more detailed explanation of these evaluation categories is provided in Attachment C.

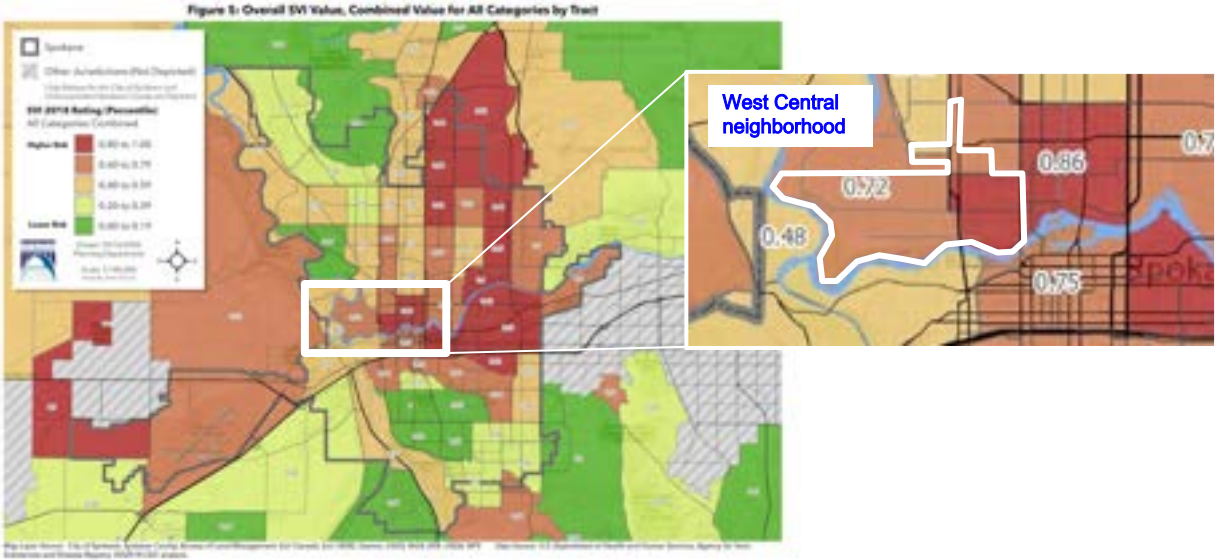
Example economic impact scoring for Broadway Avenue Bike Lanes

Example economic impact scoring for Dean Avenue Traffic Calming

5. Displacement Pressure / Anti-Displacement Strategies

DISPLACEMENT RISK

The City of Spokane's Housing Action Plan scored the West Central neighborhood as moderate-to-high risk for displacement.



DEMOGRAPHIC CHANGE INDICATORS

Median Household Income[1]

	West Central[2]	City of Spokane
2012	$36,626	**$53,885**
2022	**$96,007**	$63,316

In 2012, the median income in West Central was roughly 30% below the city average. A decade later, the median income is 50% above the city average. This indicates a shift in the socioeconomic makeup of the neighborhood.

Housing Tenure

	West Central		City of Spokane	
	Rent	*Own*	*Rent*	*Own*
2012	**48%**	52%	43%	57%
2022	35%	65%	**43%**	57%

While the share of renters and owners in the city has remained steady, the share of owners in West Central has increased by 13 percentage points since 2012.

Source: ACS 5Year Estimates Detailed Tables, Table B25140, DP04, S1903
1. Adjusted for inflation, 2022 dollars
2. Spokane County Census Tract 23

ANTI-DISPLACEMENT FRAMEWORK

	PRODUCE	PRESERVE
RESIDENTIAL	 Produce more housing at a range of price points to lower housing costs.	 Preserve existing affordable housing stock and protect against displacement of vulnerable residents
COMMERCIAL	 Encourage the creation of small businesses / create broadly affordable commercial space	 Support and retain existing small and home-based businesses

EXAMPLE RESIDENTIAL PRODUCTION ANTI-DISPLACEMENT STRATEGIES

AFFORDABLE HOUSING DENSITY BONUS

In Spokane, projects with 25% or more units designated as "affordable" are granted expanded ground floors (building coverage) and additional floor area. Affordable housing bonuses can expand beyond these provisions to include bonus height, density, and waivers to typical costs such as off-site infrastructure impact fees.

PUBLIC INVESTMENTS IN INFRASTRUCTURE TO SUPPORT DEVELOPMENT

Building housing along older commercial corridors can involve hidden risks and challenges. Chief among those risks is uncertainty and cost associated with older infrastructure like sewer, water, and electricity. Cities, regional governments, and states can play a role in accelerating housing production by making investments in aging sewer, water, and electric infrastructure at a neighborhood-wide scale to reduce financial barriers to housing development.

ZONING AND BUILDING CODE REFORM

Allowing more units to be built on a site or rezoning sites to allow for higher intensity development is one way to reduce barriers to housing production. Spokane has already taken major steps in this direction through the "Building Opportunity and Choices for All" (BOCA) initiative that allowed many forms of multi-unit housing to be built citywide. In addition, reforming local and state building codes to reduce costly construction requirements can reduce the cost of housing and/or make housing cheaper to build.

EXAMPLE RESIDENTIAL PRESERVATION ANTI-DISPLACEMENT STRATEGIES

RIGHT-TO-PURCHASE PROGRAMS	Provides tenants and cities with the right to purchase government-assisted multifamily rental properties and mobile home parks when the owner decides to sell a property or exit an affordable housing program. This right is typically provided to qualified nonprofit organizations with the intent to keep current tenants housed and to prevent disruption of residence.
LOW-COST RENTAL HOUSING PRESERVATION	Preventing displacement and preserving "naturally occurring" affordable housing through acquisition, low-interest loans/revolving loan fund for preservation, and/or code enforcement. Example: The Oregon Legislature committed $15 million in lottery bonds to Oregon Housing and Community Services (OHCS) in 2019 to create a naturally occurring affordable housing loan fund modeled after the Greater Minnesota Housing Fund.
COMMUNITY LAND TRUSTS	Land acquired by public agencies, nonprofits, or community-based organizations that maintain permanent ownership of land. Prospective homeowners are able to enter long-term (i.e., 99-year), renewable leases at an affordable rate. Upon selling, homeowners only earn a portion of the increased property value, while the trust keeps the remainder, thereby preserving affordability for future low- to moderate-income families

EXAMPLE COMMERCIAL PRODUCTION ANTI-DISPLACEMENT STRATEGIES

AFFORDABLE COMMERCIAL TENANTING

Provides public subsidy of commercial rents for qualified tenants in new construction. In Portland, OR, the City's Affordable Commercial Tenanting Program addresses the displacement of small businesses from Portland's urban neighborhoods. The program provides incentives to property owners in exchange for below-market rents for commercial tenants. Tenants must satisfy certain conditions including revenue thresholds, cultural contributions to the neighborhood.

SMALL DEVELOPER TECHNICAL ASSISTANCE

Small loans ($20,000-$50,000) coupled with technical assistance to help local land owners and entrepreneurs build new development or renovate existing structures. Program features low-barrier underwriting, and very low or no interest.

EXAMPLE COMMERCIAL PRESERVATION ANTI-DISPLACEMENT STRATEGIES

STOREFRONT IMPROVEMENT PROGRAM

Grants (typically <$50,000) for small-scale revitalization projects such as rehabilitation of street-facing building facades including storefronts, cornices, gutters and downspouts, signs and graphics, exterior lighting, canopies and awnings, painting and masonry cleaning, and limited security and accessibility improvements.

SMALL BUSINESS ALLIANCE

Develop a business association focused on small or home-based businesses. Ensure this group is narrowly focused on issues impacting the neighborhood. Should be facilitated by City staff who can also provide technical assistance.

LOCAL VENDOR COLLECTIVE

Resources to support home-based and other businesses without brick-and-mortar space. In Vancouver, BC, the vendor's collective offers vending opportunities to low-income artists, craftspeople, and entrepreneurs with experience in the informal economy. Resources could include booths and/or table space, publicity and event organization, dedicated space for vending activities.

6. Attachments

Attachment A: Developer and Business Owner Interviews Notes
Attachment B: Methodology for Opportunity Sites Selection
Attachment C: Economic Scoring Methodology
Attachment D: Project Evaluation Matrix
Attachment E: Literature Review Summary

Attachment A: Developer and Business Owner Interviews Notes

WEST CENTRAL TIF: BUSINESS OWNER / DEVELOPER INTERVIEWS

Interviewee: Antony Chiang, Millennium Northwest LLC

Interview date: 7/08/2024

Background Information

- Millennium mostly focuses in Spokane, but manage a portfolio in SF bay
- 27-unit class A building in West Central (Millennium by kendall yards)
    - Another office building across the street - waiting for conversion to mixed use or multi-family housing
- 2 phase 89 unit apartment building, (1st phase done Dec. 2023), 1 mile north of West Central
- Another 60 units being finished in Garland district
- Various affordable workforce housing, most about 50 units, ½ market rate ½ affordable (80-115% AMI)
    - One project may have (60% AMI), not targeting low/very low income
        - Strategic tactic to address missing middle
    - Long term collaboration with Non-profits, who had land, and Millennium developing it
        - LIHTC is only awarded about 1-2 times per year in E. Washington, funding pool is very limited
        - Non-profits millennium collaborates with: Library and Thrive International, faith based orgs in the future
- ½ portfolio is Class A, ½ affordable units
    - Want their projects to kickstart neighborhoods who haven't had investments in the last 30-50 years, make them walkable again
- What are signs for a good place to invest?
    - Pre-automobile area with good connectivity with a lack of new investment
    - Areas that have some aspects of a walkable district, but not all "legs of the stool" are present
- What are processes for development?
    - Speak with city staff, check area's code limitations,
    - Site location is the most important factor

Market Information

- Beyond stick built development heights (4-5 stories), not feasible in the area
    - About 4 floors is the max height
    - Podium construction not feasible at this time
- Top of the market is around $3psf
- Millennium properties have about a .7-.8 per unit parking
    - Including adjacent street parking 1:1
    - Access to transit routes is key to making lower parking ratios work
    - Lowest seen in the spokane market: .5:1
    - Unlikely we will see zero parking projects in west central even in 5-10 years since Spokane is fairly car dependent. Possible closer to downtown?

Gentrification

- Even without public investments, gentrification/displacement is and will occur in West Central
- Only real answer is to build more units, more infill
- New infrastructure investments should be done, even in low income areas, since all deserve a right to access beneficial infrastructure and the biz. investment that comes with that
- Homeowners would benefit greatly, renters will not and need additional protections

Location/Site Specific

- Small Commercial district that is blossoming on Broadway (on the Broadway bike lane project area) - in between Cedar & Ash
    - Organically grew due to proximity to Summit Pkwy and Kendall Yards areas alone (most vibrant/newest walking district in Spokane)
        - Restaurant (Vieux Carre Kitchen), a Gamescape Game shop in a building that was completely renovated, Dova coffee shop
        - Both sides of the street need beautification
- 2 white buildings (with greenspace in between) between N Walnut and N Maple are owned by the church and not in active use, White building has apartments on 2nd floor
    - Both buildings are owned by the church
    - Millennium has tried to make a deal with non-profits and the church to acquire two buildings, renovate them, and infill the grassy area with active 1st floor and more MFH
- Along Ash is a 'sleepy' walking district but Uprise brewing just came in with investment

W Gardener & N Lindeke St area is relatively low-income and older housing stock, not many commercial opportunities, would need a lot of investment to kickstart a walkable district. Would be a Long term play

Sidenote: outside of TIF: N Monroe is now a 2 lane vs 4 lane street, sidewalkers were widened Small biz. Owners were upset at 1st, but saw the benefits quickly after improvements were made

Interviewee: Bobby Enslow, Indaba Coffee

Interview date: August 7, 2024

Background information

- Went to North Central HS. Graduated WSU, from Spokane, got business degree
- Started coffee shop in 2009 on West Broadway
- Originally he wanted to invest in WC knowing that is a tough neighborhood. He wanted to do good in the neighborhood
- He started a coffee store, then a bookstore, then a sandwich shop
- They took over the entire space in 2011, 2014 started roasting
- Opened a second location in downtown Spokane (also a tough neighborhood) in 2015. Macy's went out of business that year, which cut down on traffic. That was rough
- 2018 - big growth - opened 3 locations, 2 in kendall yards, 1 flagship store in downtown
- 2019 - took a break from expanding
- 2020 - they sold downtown location and west kendall yards location - they moved the roaster out to the valley
- 2021 - opened locations in TriCities and Yakima. These two locations were sold - he wanted to focus more on Spokane, traveling was a lot
- Four locations currently: Broadway, kendall yards, downtown, Monroe with roaster and offices
- Broadway, kendall yards, and downtown are the precovid shops

How the business started

- Building was part of a project to prevent displacement. Spokane urban ministries purchased the lot, tore down sf homes, re-housed residents into apartments.
- The building was intended to be mixed use, so the coffee shop worked out well. They were sharing with the bookstore
- Was the rent cheap?
    - First 1-2 years it was basically free rent. Acted as an incubator. When bookstore left, they went market rate
    - Wouldn't have made it without the help. 2009 - 2012 tough times. After 2012, Kendall yards made the project work. Enough traffic
    - Spokane Teachers Credit Union did a great job promoting West Central back in 2014. TV ad campaigns helped a lot, sales increased - INDABA was featured. Act as tip of the spear to encourage others to invest.

West Central: neighborhood opportunities

- The block where the coffee shop is looks different from the rest of West Central. What makes the street active?
    - A lot of sacrifice. It took community investment. People wanted the neighborhood to be different

    - Broadway historically used to be a pretty active commercial district. Dive bar on the street, there are remnants from that time. It is a special location, it bridges the old neighborhood with Kendall yards. It's a good spot with good parking
- Success - did the work that Spokane Urban Ministries non profit contribute to the success of this area?
    - He was in a unique position to invest and take risks
    - The spot went to 1-star dive bar to a 5-star spot
    - People started to buy after kendall yards broke ground
- How much do you know about TIF?
        - He's heard enough to support that

Potential for commercial nodes/districts

- Having destinations is important. There are small businesses that are unique
- He wanted to bring disposable income to the neighborhood. They replicated some of the stuff they saw in portland
- Challenge: the burden of preparing the soil for these things falls on small businesses. How could that be flipped?
- West central is tough in the way it's organized, most of the commercial activity now is at Kendall yards
- Jim subsidized restaurants and retail in Kendall Yards, he contributed to create a popular area
- Bobby is in a weird location on Broadway, still doesn't understand why/how people go there. It'd be great to have bike paths on broadway, some people miss his business. Back in the day there was a plan to turn Chesnut into a pedestrian only road, it's a narrow road - midway point
- Do you think things that TIF can't fund would encourage more INDABAS?
    - Yes, small businesses grants or support to property owners
    - Nodes - west central is challenging for its geography
- There was a streetcar line on broadway and another one on boone
- Automobile damaged the neighborhood, specially mom&pop businesses
- Made with Love Bakery - she sells to a lot surrounding businesses, she's in the middle of nowhere
- Are there other buildings like Made with Love (bakery)?
    - On broadway, old service station - it's attached to a house
    - Across the street from them there's another little business
    - Broadway was old houses turned into storefronts, it ends by Chesnut
    - Texaco on Ash/Maple - owner purchased some properties
        - Took some time to find something on Nettleton
- Are people doing home-based businesses in West Central?
    - His neighbor was doing nails in his garage, painting company, tech computer support, stuff like that
    - Broadway - acupuncturist, barber shop, non-profit construction company, little scrappy things like that
    - Opposite to what Jim was saying
- What's the staying power in the neighborhood?
    - Many of this businesses own the property

- In downtown, building owners sell properties to lessees
- Things are going to shift from kendall yards, people looking for opportunities to redevelop

HOUSING DEVELOPER INTERVIEW QUESTIONS: INFRASTRUCTURE INVESTMENTS

Interviewee: Jim Frank

Interview date: 8/07/2024

Background, Development Philosophy, and Projects (including Kendall Yards)

- Jim Frank grew up near West Central.
- His company Green Stone Homes has 25 years of experience in Spokane, focusing on creating walkable, suburban town centers integrating a variety of housing types (townhouses, cottage houses, multifamily) and neighborhood-based retail. This approach contrasts with traditional suburban developments.
- Where people want to live is changing - there was a time in which people wanted to live downtown, their experience is that it's not the case anymore. People are working from home, so the social fabric created by working places is being replaced by neighborhoods. People still want to live in walkable areas, but in more suburban areas
- Projects include Liberty Lake, Coeur d'Alene, and Post Falls in Idaho, integrating multifamily and retail at a neighborhood scale.
- Jim purchased 70 acres of land in 2007 to create Kendall Yards
- Kendall yards was conceived as a way to benefit West Central
- Kendall Yards features mixed-use developments with high walkability but differs from downtown; higher rents are achieved in areas like Liberty Lake.
- No single developer so no clear investment vision in Kendall Yards
- Density in Kendall Yards: 18 du/acre - Liberty Lake: 8-10 du/acre
- Back when he purchased this land, he wanted waivers from dimensional standards, building heights, commercial properties in residential zones. They got changes, but then staff amended and made it less useful. Does not allow variable heights limits. Until 5 years ago in a high density residential zone height max was 35ft and min lot size was 4k. Hard to build townhouses. This is starting to change

TIF District in West Central

- Infrastructure needs led to the creation of a TIF (Tax Increment Financing) district.
- The TIF is debt-free and extended from 2032 to 2047, applying only to West Central, aiming to support infrastructure and economic development.
- West central will get approx 20 million. There's no developer making decisions for infrastructure.
- What kind of economy do the City want? What kind of infrastructure will support that?

Zoning and Regulatory Challenges in West Central

- In the 1970s or 80s City zoned half of Kendall Yards for high density residential and commercial uses nonconforming. Highest value of land was rental of sf; it created a slumlord environment that destroyed the neighborhood. 30 year cycle of disinvestment. Recently the City created

centers: Broadway and employment center on Maxwells. It made it hard to invest in commercial properties. He wanted Kendall Yards to benefit West Central, but this is hard given regulatory environment

- Recent changes aim to support mixed-use development, but challenges remain in aligning city policies with development needs.
- City needs to get rid of center and corridor zoning. Current zoning changes are needed to allow mixed-use development and unlock potential in the neighborhood
- Specific issues include outdated infrastructure (sewer, water, roads) needing significant upgrades.

Potential Community and Economic Impact

- Investments are focused on creating a sense of community, supporting small businesses, and integrating affordable housing.
- There's little undeveloped land - the kind of future economic development is limited
    - One economic possibility is to become a location where creative individuals/industries can be formed.
- Anti-displacement strategies include mentoring small developers and applying for grants to support lower-income households
    - The company has received grants to support these initiatives. He is helping a small developer in west central who is renovating rentals. However, bureaucratic challenges exist in grant applications and implementation
- Other Anti-displacement tools:
    - 50 percent of TIF can be used for affordable housing 2032-2047. Jim estimates this can support roughly 200 units.
    - MUPTE - waiver of 12-15 years of property tax

Infrastructure and Investment Vision

- West central developed between 1890 and 1920 - sewer, water, roads, all from that era. Clay sewer lines, unpaved alleys.
- Important infrastructure projects include sewer and water extensions and upgrades, utility relocations, traffic signals, and streetscape improvements.
- Infrastructure capacity and condition assessments are necessary, with costs ideally covered by city funds rather than TIF. Recommendations include leveraging TIF funds effectively, increasing fees for upgrades, and ensuring citywide support for necessary infrastructure.
- High visibility projects and infrastructure improvements are seen as essential for stimulating private investment.
- Development vision includes creating nodes of commercial activity within West Central to foster community and economic growth.
- Potential nodes:
    - Cedar and Broadway
    - Ash and Broadway
    - Nettleton and Broadway
    - Area surrounding County House

    - Nettleton and Booner
    - Summit and College
    - Maxwell employment opportunity area
- Another investment that could help is the redevelopment of Lincoln street up to Broadway. It could've been narrowed down and have a beautiful pedestrian corridor. That's the kind of investment that will help people to invest on vacant land

Interviewee: Nick Czapla - LB Stone Properties

Interview Date: August 13, 2024

Company Overview and Project Shifts

- LB Stone Property Group, originally focused on industrial properties, has transitioned into other sectors, including residential and retail.
- Recent projects include a 13-story high-end condo tower by the river, with plans for office and retail development. The company also owns several properties in downtown Spokane.
- The shift from industrial to residential/retail was partly driven by the company owner's desire to live downtown and the rising rents in Spokane.
- Their new developments are not in direct competition with other local projects like Kendall Yards but are complementary

Infrastructure Challenges

- Infrastructure challenges include dealing with Avista, the utility company, which has made development costly due to expensive relocations of power lines (e.g., $500K for Lincoln site, $250K for Monroe and Gardner site).
- Sidewalks and curbs in the area are in poor condition, requiring substantial investment (e.g., $200K for sidewalk and landscaping improvements, $450K for total adaptive reuse construction costs).
- Additional costs, such as $1.5 million to remove sewer from a site, have doubled the construction costs

Housing Policy and Market Dynamics

- The company is navigating Washington state's housing policies, which have made condo construction slightly easier due to improved defect laws, but margins remain tight.
- LB Stone is motivated to bring more people downtown and sees potential in developing both luxury condos and retail infrastructure.
- There is a focus on high-end housing, with concerns that the local area's Average Median Income (AMI) is too low to support luxury developments without additional tax benefits or incentives.

Interviewee: Chauncey Jones

Interview date: 8/15/2024

Infrastructure and Investment Attraction

- The interview focused on how infrastructure improvements in the neighborhood can attract investment.
- Chauncey indicated that infrastructure projects alone do not solely drive investment decisions. However, they can attract smaller-scale investments and help attract tenants, which in turn can make the neighborhood more appealing for further development.

Gentrification and Displacement

- The development of areas like Kendall Yards has led to increased property prices and displacement of residents in West Central, a trend that predates recent inflation and interest rate increases
- The challenge is to foster economic development without displacing existing residents, particularly those who are vulnerable. This requires intentional planning and creative strategies, including subsidies and partnerships to maintain affordability.

Affordable Housing Strategies

- The interview discussed efforts to promote homeownership and affordable rentals through renovation and resale to organizations like Habitat for Humanity, as well as the use of TIF funding for subsidies.
- There is a focus on housing preservation strategies, such as maintenance assistance, to help current homeowners remain in their homes despite rising costs.

Community Collaboration

- Partnerships: Successful projects often involve collaboration with local organizations, like schools and nonprofits, to support underserved communities and ensure that development benefits a broad range of income levels.
- Community Input: Efforts are made to engage the community in decision-making, particularly regarding what types of businesses and amenities they want to see in their neighborhood.

Commercial Development and Affordable Retail Space

- The discussion highlighted the importance of maintaining affordable commercial spaces to prevent the displacement of existing businesses. Subsidies and creative partnerships are critical to making this feasible.
- The potential for West Central to serve as an incubator for small businesses was also noted, with examples of successful partnerships that have helped businesses expand.

Current Stage of Gentrification

- West Central is past the early stages of gentrification, as indicated by rising home prices that are not matched by wage increases. However, the area still has the potential to maintain affordability with the right mix of subsidies and public-private collaboration.

Attachment B: Methodology for Opportunity Sites Selection

The Methodology outlined below provides the step by step process of identifying potential opportunity sites from all Spokane County parcels in ArcGIS, and a summary of how opportunity sites were selected for the West Central Infrastructure Project "Priority Projects".

GIS METHODOLOGY

1. Join Spokane Parcels to the Zoning layer (have center within).
2. **ZONING**: Add a crosswalk column and assign values:

    1 = Potentially Re-developable

    - Light Industrial
    - Center and Corridor Type 1
    - Center and Corridor Type 2
    - Community Business
    - Downtown General
    - General Commercial
    - Light Industrial
    - Mixed Use Transition
    - Neighborhood Retail
    - Office
    - Residential High Density
    - Residential Multifamily

    0 = Not Re-developable

    - Residential Single-Family

3. **PROPERTY DESCRIPTIONS:** Add crosswalk column and assign values

    1 = Potentially Re-developable

    - Retail - General Mrchds
    - Retail - Other
    - Service - Construction
    - Service - Education
    - Service - Finance
    - Service - Governmental
    - Service - Professional
    - Service - Repair
    - Trans - Parking
    - Vacant Land

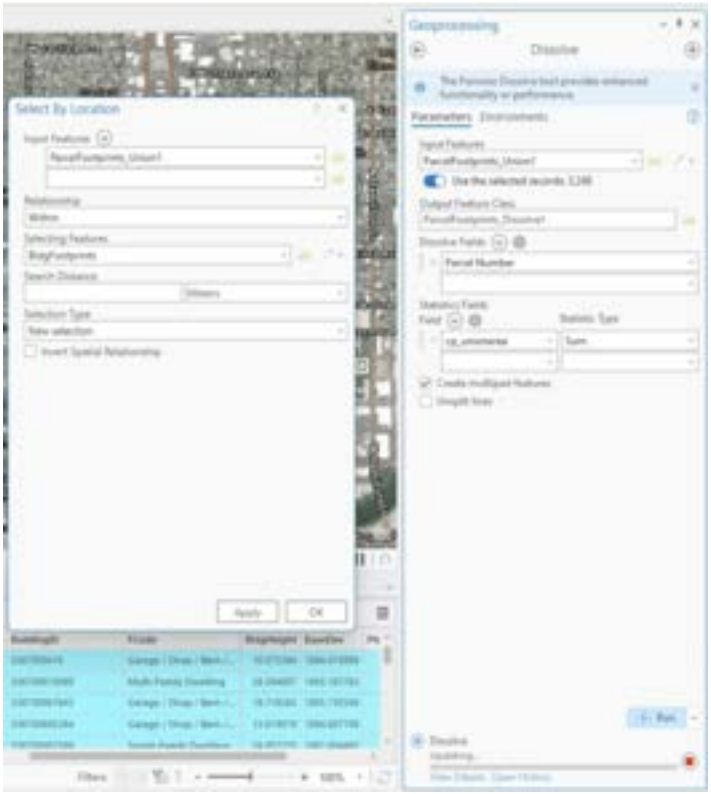
        - Wholesale

    0 = Not Re-developable

        - Single unit
        - Trans - other
        - Two-to-Four Unit
        - Utilities

4. **ASSESSED VALUE:** Add a new column "valtoarea_ratio" to calculate **assessed value to area ratio (in square feet).** You may need to add a column calculate geometry to get square footage.
    - Export table to Excel
    - Use pivot table to calculate the 25% quartile threshold for each zoning type (except single-family residential) using the **=QUARTILE** function.
    - Create a new crosswalk column in Arc and use SQL to assign values for each zoning category:
        - 1 = Potentially Re-developable
            - Equal or less than than 25% quartile threshold
        - 0 = Not Re-developable
            - Greater than 25% quartile threshold

5. **BUILDING COVERAGE RATIO:** Calculate using the parcel layer, and the building footprints layer.
    - Add a column to get square footage using calculate geometry, if it doesn't already exist.
    - Perform a union with the parcels and building layer.
    - Create a new column and calculate geometry for those overlapping with buildings.
    - Select all features in the union layer that intersect with building footprints.
    - Dissolve and calculate the sum of the area to get total building sq ft per parcel



- Join dissolve table to the original parcel layer
- Add a column and calculate field = total building footprint per parcel/parcel size.

6. Select opportunity sites using these criteria in SQL and **export as a csv for ground truthing.**
    - [Spokane_Parcels.ZoneQuartile1_crosswalk IS 1 or Spokane_Parcels.FAR <=.1) And Spokane_Parcels.Zone_crosswalk = 1 And Spokane_Parcels.Propdescr_crosswalk = 1 And Spokane_Parcels..assessed_amt > 1000]

Note: Assessed amount > 1000 rules out small parcels that are not developable but included in the layer like small pieces of the ROW observed in the data.

"GROUND TRUTHING" AND OPPORTUNITY SITE EVALUATION

Using a CSV table of 170 parcels that were potentially re-developable according to the GIS analysis, a ground truthing analysis was performed using Google Maps and Google Earth to manually classify "opportunity parcels". The result was 112 parcels that were re-uploaded into ArcPro.

"Opportunity Sites" were chosen if they were:

A. Large or Contiguous Sites
B. Adaptive Re-Use Sites
C. Vacant Sites
D. Sites Zoned for Mixed Use

Large or Contiguous Sites: Sites larger than 1 acre or instances where multiple sites that are contiguous (i.e. adjacent to one another) are, in total, larger than 1 acre in size. Each project was evaluated based on the number of such sites or clusters of properties that were immediately adjacent.

Adaptive Re-Use Sites: those with existing buildings that could be renovated into a productive commercial use. Numerous examples of this kind of building stock exist within the study area, some examples of which are shown below. Ech project was evaluated based on the number of such sites that were immediately adjacent.

Vacant Sites: Those with low value or now improvements

Sites Zoned for Mixed Use: Sites zoned CC1, CC2, CC4, or DTG

Attachment C: Economic Scoring Approach

The Economic Scoring Matrix shown below (see *Appendix D: Project Evaluation Matrix*), provides a summary of the economic impact scoring that was conducted for the West Central Infrastructure Project "Priority Projects." This appendix includes an overview of the methodology used to create the three evaluation subcategories and the overall economic impact score.

The evaluation subcategories are:

- Literature Review Catalytic Impact
- Walkable Commercial Districts Evaluation
- Opportunity Sites Analysis

Above: Economic Impact Evaluation Matrix (see Appendix D)

LITERATURE REVIEW CATALYTIC IMPACT

Cascadia Partners reviewed 15 academic studies relating to the economic impact of traffic calming, bikeways, bike lanes, sidewalk improvements, and enhanced crossings. These studies are summarized in *Appendix E: Literature Review Summary.* The findings from the literature review were used to establish whether a project has the potential to be catalytic - i.e. the potential to attract even modest levels of private investment. In the evaluation matrix this is represented as a binary yes (Y) or no (N) determination. Sources from the literature review that support the Y/N determination are listed in the adjacent column.

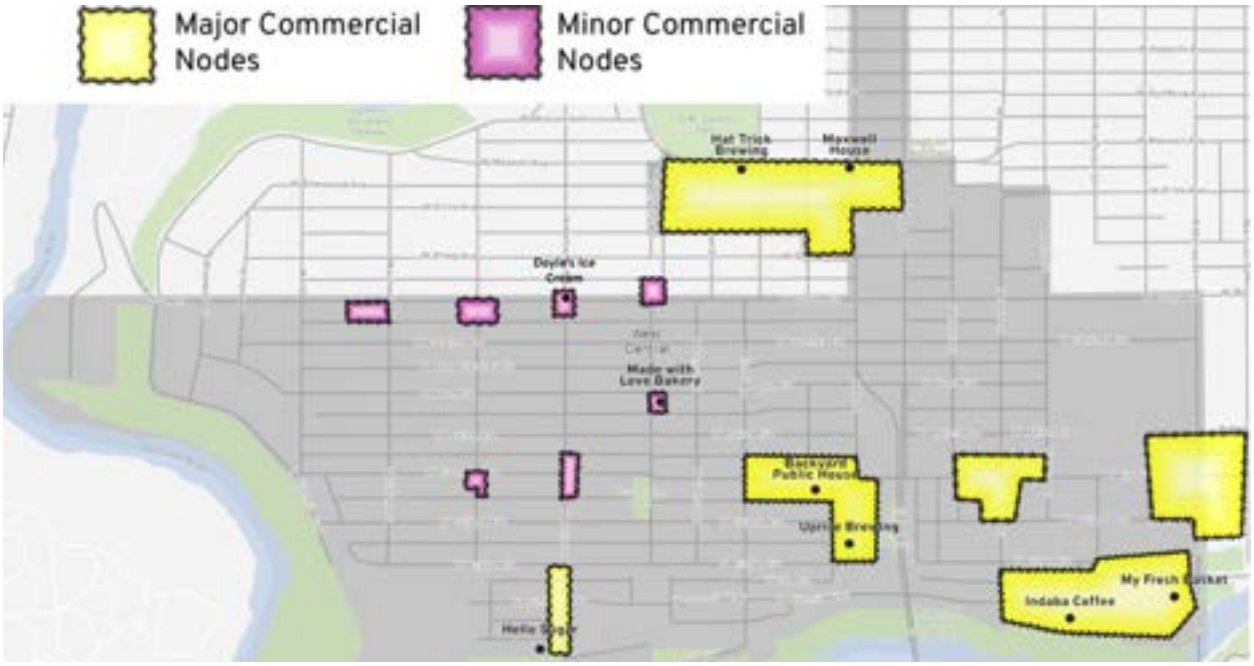
WALKABLE COMMERCIAL DISTRICTS EVALUATION

The Walkable Commercial Districts Evaluation includes three separate metrics:

- Support for Existing Businesses
- Minor Commercial Node Activation
- Major Commercial Node Activation

Support for existing businesses is an evaluation of a project's proximity to operating businesses within the West Central Neighborhood. Google Maps Point of Interest (POI) data was used to perform this evaluation. If a project's location was within 1 block of 2 or more retail or service businesses, they were deemed to support existing businesses, which is indicated by a "Y".

Minor and major commercial node activation is an evaluation of a project's proximity to the commercial node boundaries that were created through several rounds of developer and business owner feedback. Some commercial nodes may already contain several existing businesses, while others may only have the building stock or zoning available to support future commercial development. These are shown in the map below.



Above: Map of Major and Minor Commercial Nodes

Opportunity Site Evaluation

The opportunity site evaluation involves four separate metrics:

- Large or Contiguous Sites
- Adaptive Re-Use Sites

- Vacant Sites
- Sites Zoned for Mixed Use

Large or contiguous sites are those larger than 1 acre or instances where multiple sites that are contiguous (i.e. adjacent to one another) are, in total, larger than 1 acre in size. Each project was evaluated based on the number of such sites or clusters of properties that were immediately adjacent.

Adaptive re-use sites are those with existing buildings that could be renovated into a productive commercial use. Numerous examples of this kind of building stock exist within the study area, some examples of which are shown below. Each project was evaluated based on the number of such sites that were immediately adjacent.

Above: Examples of buildings that could be adaptively re-used

Vacant sites are those without a usable structure or with no improvements. Each project was evaluated based on the number of such sites that were immediately adjacent.

Sites zoned for mixed use include those zoned CC1, CC2, CC4, and DTG. These zones allow greater flexibility and could support more dense, mixed use development if supported by the market and surrounding infrastructure. Each project was evaluated based on the number of such sites that were immediately adjacent.

OVERALL ECONOMIC IMPACT SCORE

The overall economic impact score is a qualitative assessment of all the subcategories and metrics described above. In general, a project was deemed to have a high, medium, or low economic impact based on the criteria described below:

- **High Impact** - Is catalytic, supports some existing businesses, is adjacent to at least 1 major commercial node, and is adjacent to at least 5 opportunity sites.
- **Medium Impact** - Is catalytic, is adjacent to at least 1 major or minor node, or is adjacent to at least 2 opportunity sites

- **Low Impact** - Is not catalytic, or is catalytic but does not support existing businesses, is not adjacent to any nodes, or is not adjacent to any opportunity sites.

Attachment D - Project Evaluation Matrix

Project ID	Project Name	Project Description	Lit Review		Walkable Commercial Districts			Opportunity Sites				Economic Impact (L/M/H)
			Catalytic (Y/N)	Source	Supports Existing Businesses (L/M/H)	Minor Commercial Nodes Activated	Major Commercial Nodes Activated	Large / Contiguous Sites (>1ac)	Adaptive Re-Use SIte	Vacant Sites	Sites Zoned for Mixed Use	
1	**Broadway Avenue Bike Lanes**	Parking-protected bike lanes from Chestnut to Walnut with floating bus islands and striped crossings	Y	*(Liu and Shi)*	H	0	1	2	2	4	5	High
2	**Chestnut Street Greenway**	Conversion to a northbound one-way street from Bridge to Boone, allowing two-way bicycle traffic; curb extensions at Boone and Bridge; intersection traffic diverters at College and Broadway; traffic circle at Dean	Y	*(Liu and Shi)*, *(Crompton and Nicholls)*, *(Lindsey, Man, Payton, and Dickson)*	M	2	1	0	0	1	0	Medium
3	**Elm Street Greenway**	Traffic circles at Bridge and Dean, intersection traffic diverter at Broadway, curb extensions at Boone	Y	*(Liu and Shi)*, *(Crompton and Nicholls)*, *(Lindsey, Man, Payton, and Dickson)*	L	0	2	2	1	4	2	Medium
4	**Nettleton Street Traffic Calming**	Curb extensions at Broadway and Bridge; traffic circle at Dean	Y	*(McCormick)*, *(Polloni)*	M	1	1	0	0	2	0	Medium
5	**Boone Avenue Traffic Calming**	Curb extensions at Cochran, Chestnut, and Elm.; intersection crossing improvements at Summit	Y	*(McCormick)*, *(Polloni)*	L	3	0	0	0	1	0	Medium
6	**Dean Avenue Traffic Calming**	Traffic circles at Nettleton, Chestnut, and Elm; curb extensions at Dean	Y	*(McCormick)*, *(Polloni)*	L	1	0	0	0	0	0	Low
7	**Boone Avenue & Summit Boulevard Intersection**	Striping improvements, crosswalk relocation	Y	*(Developer Interviews)*	L	0	0	1	1	0	0	Low
8	**Broadway Avenue & Summit Boulevard Intersection**	Curb extensions, crosswalk improvements	Y	-	L	0	0	1	1	0	0	Low
9	**Sidewalk Infill and Repair**	Infill and repair sidewalk to ADA accessibility standards where obstructed, missing, or heavily damaged.	Y	*(Shoup)*	M	1	2	2	0	5	0	High
10	**Ash Street to Maple Street Accessible Pathway**	Replacing non-accessible stairwell down a steep grade with an accessible pathway	N	-	L	0	1	0	0	1	1	Low

Project # 8 was added to the project list after the initial economic impact analysis was complete. The scoring has been updated to reflect Project #7 which is a similar project.

Attachment E: Literature Review Summary

Project categories	Short Description	Notes
Category 1: Traffic calming, greenways, and biking lanes		
Transforming Abandoned Rail Corridors into Multi-purposeTrails	Study of impact of trail access on property values. Trail is a scenic trail.	This is much more intensive infrastructure than what is proposed in west central so any impacts will be on the extreme upper end of what might be seen in our project area
Exploring the synergistic economic benefit of enhancing neighbourhood bikeability and public transit accessibility based on real estate sale transactions	Study of the impact of joint bike & public transportation accessibility on home values and residents' willingness to pay (WIP). Data from Austin, TX 2010-2012	More intensive infrastructure was assessed in the study (increasing biking/transit accessibility overall and through bike-share programs). High-quality bike improvements have the highest potential to increase property value in both condo & single-family markets in areas with a good transit score (50+). For areas with a high bike score (90+), transit improvements increased property values significantly more than low bike score areas (50-).
The Impact of Greenways and Trails on Proximate Property Values	Study indicates that single-family housing near an urban trail is 3-5% higher in value than other nearby homes.	The most widespread outcome for single-family homes located proximate to a trail was a small positive premium of 3% to 5%..important for developers to account and prevent for loss of privacy (could affect SFH values). However, 'mega trails' (more infastructure than West Central) provided significanlty more increases in value. It is important to access changes in value on a localized level rather than across a larger geographical area.
Impact of Bike Facilities on Residential Property Prices	Proximity to advanced bike facilities (measured by distance) significantly and positively affected all property values, highlighting household preferences for high-quality bike infrastructure. The extensiveness of the bike network (density) was a main contributor to this. Citywide study in Portland,OR	Proximity to advanced bike facilities had significant and positive effects on SFH and MFH property values, and the extensiveness of the bike network was a positive and statistically significant contributor to property prices. An increase in the density of advanced bike facilities by a 1⁄4 mi within a 1⁄2-mi radius of a property translated to approximately $4,039 and $4,712 in value for SFHs and MFHs
Property Values, Recreation Values, and Urban Greenways	Study showing show that some but not all greenways have a positive, significant effect on property values and that the recreation benefits of a trail exceed costs. Indianapolis, IN	"sales prices in lower income neighborhoods, neighborhoods with higher proportions of African Americans, and neighborhoods with higher vacancy rates generally are lower. Although it is not clear that development of recreational greenways would improve property values in these neighborhoods, the results indicate that they would not harm them."
The Effects of a Recreational Bike Path on Housing Values in Muskego, Wisconsin	This study examines the impact of this trail (6.7mi) and other amenities on local home values for an exurban community (in Wisconsin). Positive effects were found across homes in the entire city.	Wealthy, White, and small community. The bike path had a statistically significant and positive impact, increasing values by 8.6% for homes located directly adjacent to the path. Prior to bike path installation, home values increased the farther away from the rail corridor they were located, averaging $0.75 per foot away from the path.

The Impact of Greenways on Property Values: Evidence from Austin, Texas	Study showing the impact of proximity and physical accessibility to greenbelts and its effect on home value	
Traffic calming and neighborhood livability: Evidence from housing prices in Portland	The impact of traffic calming on the livability of urban residential streets and the mixed effects on housing prices despite expensive resident buy in. Common devices consist primarily of speed bumps, but also include traffic circles, diverters, median islands, and curb extensions.	"exploit sharp traffic drops generated by the opening of an underground bypass; they find that halving traffic volumes leads to a 1.4% increase in home prices." (Ossokina and Verweij (2015)) This study focused on speed bumps and increases that were similar to Ossaokina study; however, community perceptions/value of traffic calming techniques are not consensus but need to be considered.
Examining Consumer Behavior and Travel Choices	Study of consumer spending and travel choices. Suggest some key spending and frequency differences by mode of travel.	provision of bike parking and bike corrals are significant predictors of bike mode share at the establishment level. When trip frequency is accounted for, the average monthly expenditures by customer modes of travel reveal that bicyclists, transit users and pedestrians are competitive consumers and, for all businesses except supermarkets, spend more on average than those who drive. The built environment matters: residential and employment density, the proximity to rail transit, and the amount of automobile and bicycle parking are all important in explaining the use of non-automobile modes.
Examining Property Value Increment along Greenways: A Hedonic Pricing Analysis in Chengdu, China	Study of high-end greenway affects in the Chinese context. Results show proximity to greenway has varying effects and home value increases were less than expected compared to policy	Studied a mega-greenway. Greenways usually fall into one of three major categories: ecologically significant corridors, recreational greenways, and greenways with historical heritage and cultural value. There is more pronounced economic impact between 500-1000m distance from the greenbelt than within 500m...nonlinear relationship with proximity
York Blvd: THE ECONOMICS OF A ROAD DIET	Study of road diet effects on business/residential revenue in a similar demographical area.	Road diets have little effect on the surrounding businesses, property values, and customer shopping patterns. Road diets are unlikely to affect consumer shopping habits. On-street parking is clearly an important asset to both local merchants and customers. Business owners do not accurately guess their consumer's transportation methods (many more consumers walk/bike/transit vs drive)
Category 2: Intersection improvements, crosswalks		
Analyzing the effects of walkable environments on nearby commercial property values based on deep learning approaches	Study on the meso and micro-scale effects of walkability on commercial property values.	creative use of the first floors of buildings can create "third places" for increasing the volume of pedestrian footfall (restaurants & cafes)..soft edges could promote commercial value. also, by expanding street greenery, with a sense of safety by paving sidewalks, and increased street enclosure
THE REAL ESTATE ECONOMICS OF WALKABILITY COMPONENTS: THE INFLUENCE OF BUILT ENVIRONMENT ON HOUSING VALUE IN LINCOLN, NEBRASKA	Study suggesting walkability does not have a strong influence on housing values - only street intersection connectivity and retail floor-to-area ratio were statistically significant attributes of walkability identified.	High public transit accessibility level in these areas suggests a positive relationship between walkability and public transit services exists.

Category 3: Sidewalks		
Putting Cities Back on Their Feet	Study analyzing the sale data if LA had adopted a POS system for the requirement of sidewalk repairs post sale of property.	"In short, combining a point-of-sale program with these four other programs—1 citing owners for broken sidewalks and deferring the payments for repairs until sale; 2 requiring repairs when building permits are issued; 3 using parking meter revenue to pay for sidewalk repairs; and 4 citing drivers who park on sidewalks—can make all the sidewalks accessible."
THE IMPACT OF COMMERCIAL SIDEWALK USE ON REAL ESTATE PRICES IN MEXICO CITY	Study of the increase in potential rent value from placing furniture on sidewalks (commercialization of sidewalks). Explores policy recommendations for cities to tax buisinesses for semi-commercialization of sidewalks. Mexico City, Mexico	housing and commercial rent prices can increase by up to around 3% when furniture can be placed on the sidewalk on or near a parcel. A business tax for the commercialization of sidewalks could be done with non-linear pricing schemes or by differentiating which shop owners would be willing to pay a higher tax depending on the neighborhood where they are located or other characteristics.
Utilitarian and hedonic walking: examining the impact of the built environment on walking behavior	Study on the differences between walking as a useful means of transportation (utilitarian) vs recreationally (hedonic). Analyzes the effects of the built environment on how/why people walk.	There is only one manifestation of utilitarian walking or non-utilitarian walking. to increase walking frequency, it is imperative to change both built environment characteristics and attitudinal factors. Perception of facility accessibility and walking infrastructure are related to utilitarian walking. Safety is related to hedonic walking. Attractiveness applies to both.
Walking The Walk: How walkability raises home values in US cities	paper explores the connection between home values andwalkability, as measured by the Walk Score algorithm.	An additional 1 point increase in Walk Score was associated with between a $500 and $3,000 increase in home values. Houses with the above average levels of walkability command a premium of about $4,000 to $34,000 over houses with just average levels of walkability in the typical metropolitan areas studied.

APPENDIX C.

West Central Neighborhood Design Toolbox

CONTENTS

Introduction

The following toolbox identifies a range of treatments for streets in the West Central Neighborhood to promote safer crossings, safer speeds, and safer streets for all users. Some treatments are inexpensive retrofits, pavement markings, and signage that can be quickly and cheaply implemented. Others require greater study, coordination, and funding. When deployed tactically, network improvements to complete gaps, provide alternative routes, or establish new multi-modal facilities can shift users to non-motorized travel over time and proactively mitigate roadway safety risks. Once the projects have been selected, project partners should identify toolbox treatments that can be evaluated for application at specific locations.

This toolbox is broken into multiple kinds of treatments to address a wide variety of safety issues at the intersection and corridor level. These treatments are organized into three categories:

- Bicycle Treatments
- Pedestrian Treatments
- Roadway Treatments

Each of the treatments are discussed in more detail below, including general benefits, constraints, typical applications, and design considerations. They are each graded out of three on their overall cost and impact on cyclist and pedestrian safety, relative to one another.

When evaluating design options, there are a few constraints specific to West Central to keep in mind:

- Treatments must occur within the right-of-way
- City code dictates a minimum planting bed width of 5 feet (many existing beds are 3-4 feet)
- Landscaping and sidewalks in the right-of-way are maintained by the adjacent property owner, per City code
    - There is a potential loss of mature trees with some of the treatments

Relevant Design Guidance

The following documents and resources were reviewed for examples of design elements, considerations, and cost estimates. Many should be further referenced as

- Spokane Traffic Calming Toolbox (2019)
    - Presents guidance on the use of approved streetscape elements, many of which are shown here.
- Spokane Design Standards (2020)
    - Presents guidance on the use of approved streetscape elements, many of which are shown here.
- Spokane Municipal Code Section 17H.010.210: Crosswalks (2020)
    - Provides guidance on crosswalk and pedestrian refuge island provision and design
    - Requires ADA ramps at newly marked crossings
    - Allows raised crosswalks
- Spokane Asphalt Art program webpage (2024)

- WSDOT Active Transportation Plan, 2020 and Beyond (2021)
    - Provides a framework for selecting, prioritizing, and estimating costs for improvements.
- WSDOT Safe Transportation for Every Pedestrian (STEP) Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations (2018)
- FHWA Proven Safety Countermeasures Booklet (2021)
- NACTO Urban Street Design Guide (2013)
- NACTO Urban Bikeway Design Guide (2011/23)
- NACTO Transit Street Design Guide (2015)
- Portland, OR Traffic Design Manual (2022)
    - Provides guidance for centerline removal
- Corvallis, OR Active Transportation Toolkit (2018)
- Boston, MA Street Safety Toolkit (2021)

Treatment Ratings

The treatments proposed in this toolbox are rated based on the type of street they would be best used on and their expected cost and impacts to safety, comfort, and accessibility for people walking and biking. These ratings are only estimates; actual costs and impacts will vary widely based on project specifics and network conditions.

STREET TYPOLOGIES

There are multiple types of streets in the West Central neighborhood, and the same design tools are not applicable to each of them equally. For the sake of this document, treatments are considered against three types of streets: residential, collector, and arterial.

Local

These streets form the basis of a neighborhood's local streets network. They are low speed and low volume and provide access to adjacent land uses. Ideally, people of all ages and abilities can safely and comfortably share the street space with vehicle traffic.

Typical Speed	25mph or less
Typical Traffic Volume	Less than 2,000 vehicles per day
Typical Cross-Section	No centerline
Examples in West Central	West Dean Ave. North Chestnut St. North A St.

N. Lindeke Street, West Central Neighborhood

Collector

These streets provide a neighborhood-level throughfare, helping channel traffic out of a neighborhood. They balance the needs of throughput and access to adjacent land uses. Collectors usually have higher speeds and traffic volumes than local streets and require more consideration to provide adequate facilities for people walking and biking.

Typical Speed	30mph
Typical Traffic Volume	2,000-5,000 vehicles per day
Typical Cross-Section	Two lanes with centerline
Examples in West Central	West Boone Ave. (west of Ash) West Broadway Ave.

Broadway Avenue, West Central Neighborhood

Arterial

These streets are major local and regional thoroughfares, moving high volumes of vehicles at high speeds. They often support access to downtowns, high-traffic businesses, and higher-density residential developments. Thoughtful consideration must be given to providing adequate facilities for people walking and biking; usually, physical separation from vehicle traffic is needed.

Typical Speed	30-45mph
Typical Traffic Volume	5,000-25,000 vehicles per day
Typical Cross-Section	More than two lanes
Examples in West Central	North Ash St. North Maple St. West Boone Ave. (east of Ash)

COST

Toolbox treatments are rated 1-3 on their estimated cost based on the use of the treatment for one block or one intersection.

Minimal	Low materials cost – staff time only
$	Less than $10,000
$ $	$10,000-$100,000
$ $ $	More than $100,000

IMPACT

Treatments are also rated 1-3 on their likely impact on safety, comfort, and accessibility for people walking and biking.

✓	Unlikely to have significant impact in isolation, best used in conjunction with other treatments
✓✓	Likely to have a noticeable impact for many people
✓✓✓	Highly likely to have a positive impact for people of all ages and abilities

Summary of Treatments

The following tables provide a summary of all the treatments shown in this toolbox. More details about each are provided in the next section.

In the table, recommended street types for the treatments are indicated as follows:

- L = Local
- C = Collector
- A = Arterial
- Any = Any of the above
- L/C, C/A = Local or Collector, Collector or Arterial

BICYCLE TREATMENTS

Treatment	Description	Street Type	Cost	Impact
Neighborhood greenway	A neighborhood street with bicycle-friendly features like traffic calming and wayfinding	L	$ $	✓✓
Raised bike lane	A bike lane at sidewalk level	A	$ $ $	✓✓ ✓
One-way separated bike lane	A bike lane separated from traffic by parked cars, curbs, or other vertical elements	C/A	$ $	✓✓
Buffered bike lane	A bike lane with a painted buffer	C	$	✓✓
Standard bike lane	A bike lane shown with one painted line	C	$	✓
Pavement markings through intersections	Green paint indicating “conflict zones” between people biking and people driving	C/A	$	✓
Bike box	Green paint dedicating space for cyclists at intersections	A	$	✓

PEDESTRIAN TREATMENTS

Treatment	Description	Street Type	Cost	Impact
Sidewalk	A walkway along the street	Any	$ $	✓✓✓
Curb ramp	A smooth transition from the sidewalk to the street	Any	$ $	✓✓✓
Crosswalk lighting	Increased illumination of critical areas	C/A	$ $	✓✓✓
High-visibility crosswalk	Multiple changes to make crosswalks more obvious	C/A	$	✓✓
Curb extension	A bulb extending out of the sidewalk into the street at a crossing	C/A	$ $ $	✓✓
Raised crosswalk or intersection	Combination of a speed hump and a pedestrian crossing	C	$ $ $	✓✓✓
Median island for pedestrian crossing	A safe space for pedestrians to rest halfway across the street	C/A	$ $	✓✓✓
Leading pedestrian interval (LPI)	A few-second head-start for pedestrians crossing at a signalized intersection	A	Minimal	✓✓
Pedestrian hybrid beacon (PHB)	A type of pedestrian-activated overhead signal at a crossing	C/A	$ $ $	✓✓✓
Rapid rectangular flashing beacon (RRFB)	A pedestrian crossing sign enhanced by button-activated flashing lights	C/A	$ $	✓✓✓
Transit stop shelter	A space for transit riders to rest and shelter from the elements	Any	$ $	✓✓

ROADWAY TREATMENTS

Treatment	Description	Street Type	Cost	Impact
Physical traffic calming	Vertical and horizontal elements to slow drivers	L/C	$ $	✓✓✓
Intersection and crosswalk painting	An opportunity for community expression and development of special places	Any	$	✓
Neighborhood traffic circle	A mini roundabout to slow traffic on local streets	L/C	$ $	✓✓
Stop signs	Intersection control that adds crossing opportunities	Any	$	✓✓✓
No right turn on red	Traffic restriction to protect from common bicycle and pedestrian crash types	A	$ $	✓✓
Speed limit reduction	Lower statutory vehicle speeds	Any	$	✓
Speed feedback sign	Radar-based feedback for driving speed	C/A	$ $	✓✓

LANDSCAPE TREATMENTS

Treatment	Description	Street Type	Cost	Impact
Storm gardens in curb extensions	Curb extensions paired with stormwater collection space	Any	$ $	✓✓
Landscaping in curb extensions	Curb extensions and crossings that have space for landscaping and street trees	Any	$ $	✓✓
Parking strip landscape treatments	Integration of various plant and surface types into the space behind the curb	Any	$	✓
Street tree program	Trees in the area behind the curb	Any	$ $	✓✓✓
Planter boxes	Raised boxes with seasonal landscaping	Any	$	✓✓
Neighborhood entry and wayfinding signage	Monument signs at major entries and wayfinding throughout the neighborhood	Any	$ $ $	✓✓✓
Pavement treatments	Stamped concrete or paver patterns to create an interesting pedestrian environment and stormwater integration	Any	$ $	✓✓

Bicycle Treatments

NEIGHBORHOOD GREENWAY

Source: BikePortland

Street type:	Local
Cost:	$ $
Impact:	✓✓

A Neighborhood Greenway, also known as a Bicycle Boulevard, is a bike route on a low speed, low volume neighborhood street. It enhances the ease of travel by cyclists of all ages and abilities, while adding traffic calming elements to discourage continuous travel by motorists.

Benefits

- Establishes safe and comfortable bikeways without major infrastructure investment
- Additional benefits to the neighborhood from traffic calming

Constraints

- "Invisible" bicycle routes are less intuitive to new to cycling in the area
- When not executed carefully, can create compelling cut-through routes for drivers

Typical Applications

- Bicycle corridors through neighborhoods, often forming the bulk of a low stress cycling network

Design Considerations

- May include sharrows and advisory bike lanes throughout, and bike boxes and lanes at difficult links and intersections
- Typically includes cycling-specific wayfinding elements
- Traffic calming should include physical elements such as speed humps, chicanes, and diverters

RAISED BIKE LANE

Raised Cycle Tracks, NACTO

Street type:	Arterial
Cost:	$ $ $
Impact:	✓ ✓ ✓

A raised bike lane, also known as a raised cycle track, is a bicycle facility located at sidewalk level instead of within the roadway.

Benefits	Constraints
▸ Separates bikes from vehicle traffic, which is safer for bicyclists ▸ Better for winter maintenance and plowing	▸ Existing right-of-way width ▸ Additional construction may be required to move curbs

Typical Applications

- Links with adequate right-of-way and/or where curb reconstruction is being done
- Critical bike network segments where additional protection is warranted

Design Considerations

- Intersections should be designed for visibility of bicyclists and may warrant separate signal phasing.
- Buffer type varies depending on application, presence of parking, and available right-of-way
- When two protected bikeways converge at an intersection, a protected intersection may be implemented.

ONE-WAY SEPARATED BIKE LANE

Riverside Avenue, Spokane

Street type:	Collector or Arterial
Cost:	$
Impact:	✓✓

A one-way separated bike lane, also known as a one-way protected cycle track, is a bicycle facility within the street right-of-way separated from vehicle traffic by a physical barrier such as planters, flexible posts, parked cars, or curb.

Benefits	Constraints
▸ Separates bikes from vehicle traffic ▸ Less chance of "dooring" – opening a door into a bicyclist, when parked cars are present	▸ Challenging winter maintenance and plowing ▸ Existing roadway width

Typical Applications

- Links with adequate right-of-way or where a road diet can be implemented
- Critical bike network segments where additional protection is warranted

Design Considerations

- Intersections should be designed for visibility of bicyclists and may warrant separate signal phasing depending on context.
- Buffer type varies depending on application, presence of parking, and available right-of-way
- Must be sufficiently wide at all points to allow the City's mini sweeper to pass (approx. 5')

BUFFERED BIKE LANE

Source: NACTO, Buffered Bike Lanes

Street type:	Collector
Cost:	$
Impact:	✓✓

Buffered bike lanes are on-street lanes that include an additional striped buffer of, typically, 2-3 feet.

Benefits	Constraints
▸ Less chance of "dooring," opening a door into a bicyclist, when parked cars are present ▸ Added separation from vehicles	▸ Does not provide physical protection ▸ Vehicles may use additional buffer width as parking or standing zone

Typical Applications

- Links with moderate vehicle speeds or volumes
- Streets with adequate right-of-way to provide a buffer
- Important links within and between communities

Design Considerations

- Buffer may consist of diagonal striping or rumble strips to deter vehicles from using the buffer space
- The City typically designs of a buffer of 3 feet or less

STANDARD BIKE LANE

Sharpe Avenue, Spokane

Street type:	Collector
Cost:	$
Impact:	✓

A standard bike lane is an on-street facility that provides space reserved for bicyclists, delineated with pavement markings.

Benefits	Constraints
▸ Provides a designated space for people biking ▸ Increases visibility for people biking ▸ Inexpensive treatment when width is available	▸ Greater chance of "dooring," opening a door into a bicyclist ▸ Does not provide physical protection ▸ Vehicles may use additional buffer width as parking or standing zone ▸ Not suitable for all ages and abilities

Typical Applications
- Streets without sufficient right-of-way or pavement width to provide buffered or separated bike lanes

Design Considerations
- Should only be used when other forms of bike lanes are infeasible
- Minimum bike lane width is typically 6 feet measured from the edge of the gutter but can be reduced to 4 feet in constrained locations where parking is not present.
- Striping can add visibility and awareness at intersections

PAVEMENT MARKINGS THROUGH INTERSECTIONS

Source: NACTO, Intersection Crossing Markings

Street type:	Collector or Arterial
Cost:	$
Impact:	✓

Pavement markings through intersections are green paint that can be used in "conflict zones" where vehicles and bicycles may cross. This is an additional treatment for any type of bike lane.

Benefits	Constraints
▸ Increases driver awareness of people biking ▸ Aids bicyclists in knowing where to cross	▸ May require additional maintenance due to vehicles crossing pavement markings more frequently

Typical Applications
- Intersections and conflict zones

Design Considerations
- White dashed lines should be used at a minimum to extend a bike lane through an intersection or across a conflict zone
- Dashed green pavement can enhance driver awareness and bicyclist visibility

BIKE BOX

Riverside Avenue, Spokane

Street type:	Arterial signals
Cost:	$
Impact:	✓

Bike boxes use paint to create a dedicated space for people on bikes in front of traffic at an intersection.

Benefits	Constraints
▸ Increases driver awareness of people biking ▸ Reduces delay and complexity for cyclists at difficult intersections ▸ Reduces vehicle encroachment on crosswalk	▸ Requires no-turn-on-red restriction ▸ Potential reduction in vehicle throughput when there is a high volume of right turns

Typical Applications

- Signalized intersections with high volumes of bicycles and vehicles, especially those with left turning bicyclists and/or right turning motorist

Design Considerations

- Should be paired with signage to maintain effectiveness in snowy conditions
- White dashed lines should be used at a minimum to extend a bike lane through an intersection or across a conflict zone
- Dashed green pavement can enhance driver awareness and bicyclist visibility
- Bike boxes may also be installed in the intersection to facilitate two-stage left turns for cyclists

Pedestrian Treatments

SIDEWALK

Boone Avenue, Spokane

Street type:	Any
Cost:	$ $
Impact:	✓✓✓

A sidewalk is a dedicated pedestrian facility adjacent to the roadway and separated from traffic by a curb. Sidewalks may also have an additional buffer zone between the roadway and the walking area.

Benefits	Constraints
▸ Provides separation from vehicle traffic ▸ Provides means of mobility for people using wheelchairs, strollers, or others who may not be able to travel on an unpaved surface	▸ Retrofitting sidewalks onto facilities that do not currently have them may require additional right-of-way

Typical Applications
- Most streets, except for limited access freeways
- Typically added to areas as redevelopment occurs

Design Considerations
- Widths may vary from, with a minimum of 5-7 feet required depending on zoning
- Landscaped buffer or wider sidewalks may be desirable depending on surrounding land use context; however, maintenance of the buffer zone is the responsibility of the adjacent landowner

CURB RAMP

Mallon Avenue, Spokane

Street type:	Any
Cost:	$ $
Impact:	✓✓✓

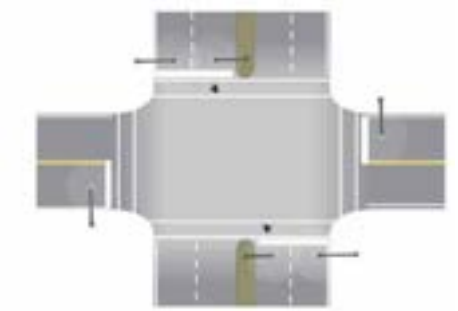
A curb ramp provides a smooth, accessible transition between the sidewalk and the street for people crossing. Many intersections in the study area do not currently have them.

Benefits	Constraints
▸ Provides accessible crossings for people with low vision and people using wheelchairs, strollers, and other mobility devices ▸ Required to comply with the ADA	▸ Can be expensive to retrofit

Typical Applications
- Any intersection of a street with a sidewalk or multi-use path
- Typically added to areas as redevelopment occurs

Design Considerations
- The City prefers dual ramps, each pointing in the direction of the respective crossing

CROSSWALK LIGHTING



Source: FHWA Informational Report on Lighting Design for Midblock Crosswalks

Street type:	Collector or Arterial
Cost:	$ $
Impact:	✓ ✓ ✓

Crosswalk lighting is additional illumination provided to make drivers more aware of people in crosswalks.

Benefits	Constraints
▸ Improves the visibility of people walking and biking in crosswalks ▸ Enhances drivers' sight distance ▸ Encourages foot traffic and can make local establishments inviting	▸ Requires space in potentially busy areas, such as sidewalks or intersections

Typical Applications

- Areas of high traffic for people biking and walking, such as bus stations, shopping centers, schools, and shared use paths
- Corridors with commercial activity

Design Considerations

- Lighting should not be placed to block entrances or inhibit pedestrian flow
- Size and type of light fixture may vary depending on the surrounding context and available space

HIGH-VISIBILITY CROSSWALK

Cochran Street, Spokane

Street type:	Collector or Arterial
Cost:	$
Impact:	✓✓

High visibility crosswalks are reflective roadway markings that may be accompanied by signage at intersections and priority pedestrian crossing locations.

<u>Benefits</u>

- Provides awareness to drivers that people may be crossing
- Requires motorists to stop for people walking in crosswalk
- Relatively low cost

<u>Constraints</u>

- Compliance not as high at uncontrolled locations compared to other treatments
- Most effective with other types of traffic control

<u>Typical Applications</u>

- Intersections of vehicle facilities with moderate to high vehicle volumes and speeds
- Mid-block locations, particularly when implemented with other treatments

<u>Design Considerations</u>

- Minimum width is 6 feet, but wider crossings may be preferred in areas with a high number of people walking
- High-visibility crosswalk striping may be paired with other visibility enhancements, such as pedestrian warning signs, in-street signage, advance stop bars, and/or parking restrictions near intersections (daylighting).

CURB EXTENSION

Sharpe Avenue, Spokane

Street type:	Collector or Arterial
Cost:	$ $
Impact:	✓ ✓

A curb extension, also known as a bulb-out, is an extension of the sidewalk into the street at a crossing. It narrows the vehicle traveled way and the crossing distance for people walking.

Benefits	Constraints
▸ Shortens crossing distances ▸ Reduces vehicular turning speeds ▸ Increases visibility between people driving and walking	▸ Can only be used on streets with on-street parking ▸ Greater cost to install than standard crosswalks ▸ May conflict with bike or transit lanes

Typical Applications

- Mid-block or intersection pedestrian crossings or transit stops
- Streets with on-street parking

Design Considerations

- Design vehicle for the street will determine the curb radius
- Provide accessible curb ramps and detectable warnings
- Impacts to adjacent landscaping should be considered
- Can also be applied mid-block and/or combined with raised crossings

RAISED CROSSWALK OR INTERSECTION

Source: NACTO, Neighborhood Street

Street type:	Collector
Cost:	$ $ $
Impact:	✓ ✓ ✓

Crosswalks may be raised to the elevation of the sidewalk, effectively creating a speed hump as well as a crosswalk and enhancing driver awareness of the crossing.

Benefits	Constraints
▸ Adds further conspicuity to crosswalks ▸ Encourages slow vehicle speeds at pedestrian crossings ▸ More accessible to a wider range of pedestrians	▸ More expensive than other crosswalk treatments ▸ Substantial impacts to drainage

Typical Applications

- Low-speed facilities with a high volume of crossing pedestrians
- Locations where pedestrians with mobility needs are present, such as older adults, people in strollers, and people in mobility devices

Design Considerations

- Replaces the need for curb ramps when a retrofit to install them is warranted
- Entire intersections may be raised as well
- Tactile surfaces should be placed at the entrance to the crosswalk to alert pedestrians with low vision
- Bollards are often installed to prevent vehicles entering the sidewalk
- Lower-angle approaches required to address bottom-out concerns for buses and damage from snowplows

MEDIAN ISLAND FOR PEDESTRIAN CROSSING

Spokane Falls Boulevard, Spokane

Street type:	Collector or Arterial
Cost:	$ $
Impact:	✓✓✓

A median island is a protected area in a middle of a crosswalk for people to stop while crossing the street.

<u>Benefits</u>
- Reduces exposure of people walking
- Requires shorter gaps in traffic to cross street
- Allows people to cross in two stages

<u>Constraints</u>
- Available right-of-way or existing pavement width may not provide adequate space to add a median island
- If included, landscaping requires an agreement on maintenance responsibility

<u>Typical Applications</u>
- Mid-block for areas with large distances between crossings
- Intersections with high traffic volumes or with a notable crash history
- Intersections with medians or unused center turn lanes

<u>Design Considerations</u>
- Must have 6 feet of clear width to accommodate people in wheelchairs
- Can be applied with other treatments

LEADING PEDESTRIAN INTERVAL

Source: FHWA Safety Evaluation of Leading Pedestrian Intervals on Pedestrian Safety

Street type:	Arterial
Cost:	Minimal
Impact:	✓✓

A leading pedestrian interval is a signal modification that allows pedestrians a head start to begin crossing before concurrent green phases with same-direction traffic. It is intended to reduce potential conflicts between vehicles and pedestrians at the start of the signal cycle.

<u>Benefits</u>
- Reduces pedestrian crossing time
- Increases pedestrian visibility
- Reduces pedestrian-vehicle conflicts

<u>Constraints</u>
- Only implemented at signals with concurrent phasing
- Reduces green time for vehicles
- May add to delays for intersections at capacity

<u>Typical Applications</u>
- Intersections where right-turning vehicles do not yield to pedestrians
- Intersections with a history of vehicle-pedestrian crashes

<u>Design Considerations</u>
- Pedestrian signal faces must be provided
- Interval should be 3-7 seconds

PEDESTRIAN HYBRID BEACON

South Grand Boulevard, Spokane

Street type:	Collector or Arterial
Cost:	$ $ $
Impact:	✓ ✓ ✓

A pedestrian hybrid beacon (also called a HAWK signal) is a pedestrian-activated signal. It begins with a yellow light alerting drivers to slow, then displays a solid red light to allow people walking to cross the street. Flashing red indications signal to drivers that they may proceed with caution after people have finished crossing.

Benefits	Constraints
▸ High rate of driver yielding behavior ▸ Improves safety for people walking and reduces pedestrian crashes	▸ Must be activated by people walking ▸ Can be more costly than other crossing treatments

Typical Applications
- Mid-block crossings with high pedestrian or bicycle demand and high traffic volumes or speeds
- Shared use path crossings of larger roadways

Design Considerations
- Push button placement should be easily accessible to people walking, in wheelchairs, and bicycling

RAPID RECTANGULAR FLASHING BEACON (RRFB)

Source: MassDOT Municipal Resources Guide for Walkability

Street type:	Collector or Arterial
Cost:	$ $
Impact:	✓ ✓ ✓

A Rapid Rectangular Flashing Beacon (RRFB) includes signs that have a pedestrian-activated flashing light to attract driver attention and provide awareness of people walking or biking crossing the roadway.

Benefits	Constraints
▸ Provides a visible warning to drivers at eye level ▸ Increases driver yielding behavior at crossings ▸ Allows drivers to proceed after yielding	▸ Must be activated by people walking ▸ Driver compliance may be lower than when compared with a traffic signal or HAWK signal

Typical Applications
- Mid-block crossings with high pedestrian or bicycle demand and high traffic volumes
- Crossing treatment for shared use paths

Design Considerations
- Push button placement should be easily accessible to people walking, in wheelchairs, and bicycling
- Can be added in median island for multi-lane crossings

TRANSIT STOP SHELTER

Source: City of Spokane, Browne's Addition

Street type:	Any
Cost:	$ $
Impact:	✓✓

A transit stop shelter protects waiting bus passengers from the elements. The increased comfort of shelters also can make transit a more attractive option for potential riders

<u>Benefits</u>

- Provides protection from elements and gives people a place to sit while waiting
- Serves as a visual cue to where a transit stop is located

<u>Constraints</u>

- More costly than a standard bus stop
- Requires additional sidewalk space beyond standard 6 feet

<u>Typical Applications</u>

- Stops with higher levels of activity or nearby land uses like senior communities, schools, or major trip generators
- May be paired with other amenities, like benches and trash cans

<u>Design Considerations</u>

- Shelters should be cleaned and maintained regularly
- Opportunity to collaborate with STA on existing plans for added stop shelters

Roadway Treatments

PHYSICAL TRAFFIC CALMING

Source: City of Seattle Design Standards

Street type:	Local or Collector
Cost:	$ $
Impact:	✓ ✓ ✓

Physical elements like speed humps, chicanes, hardened centerlines, and slow-turn wedges can be added to the street to make it less comfortable for drivers to travel at high speeds and encourage higher levels of awareness.

Benefits	Constraints
▸ Reduces driver speeds ▸ Increases attentiveness in critical areas ▸ Low-cost and simple implementation	▸ Possible effects to drainage

Typical Applications

- Any low-speed neighborhood street where vehicle speed reductions are desired

Design Considerations

- Speed humps are raised sections of pavement places across a street. They may include cutouts for people on bicycles to roll through.
- Chicanes and pinch points are curb extensions, planters, or other installation intended to narrow or shift the roadway; these counteract the fact that wide, open, and straight roadways encourage high driver speeds.
- Hardened centerlines and slow-turn wedges encourage smaller turning radii and lower speeds at intersections by placing small curbs or bollards on the inside of the corner and should be used in conjunction with other high-visibility treatments at crosswalks.

INTERSECTION AND CROSSWALK PAINTING

Source: Spokane Arts

Street type:	Any
Cost:	$
Impact:	✓

Painting intersections and crosswalks creates an attention-grabbing splash of color and allows a community to express itself.

Benefits	Constraints
▸ Reduces driver speeds ▸ Increases attentiveness in critical areas ▸ Allows community to express identity	▸ Short service life (1-3 years) ▸ Requires maintenance to keep up vibrance and extend service life ▸ Not effective in the dark

Typical Applications

- Key intersections and crossings with high pedestrian volumes
- Meaningful locations enhanced by artwork

Design Considerations

- Existing City Asphalt Art program – funding may be available outside of TIF

NEIGHBORHOOD TRAFFIC CIRCLE

Source: City of Spokane Traffic Calming Toolbox

Street type:	Local or Collector
Cost:	$ $
Impact:	✓ ✓

A traffic circle is a mini roundabout in the middle of an intersection which encourages drivers to slow their speeds and proceed with caution. They can easily be installed on a temporary or permanent basis.

Benefits	Constraints
▸ Slower traffic speeds ▸ Opportunity for community expression in artwork	▸ May interfere with plowing operations ▸ May be confusing for drivers ▸ If planted, requires upkeep

Typical Applications

- Low-speed, low-volume residential intersections, with or without existing stop control

Design Considerations

- Can be used as a gateway to the neighborhood
- Must include signage indicating the correct direction for traffic
- Must include a vertical element; drivers often ignore painted traffic circles

STOP SIGNS

Lindeke Street, Spokane

Street type:	Any
Cost:	$
Impact:	✓✓✓

Intersection stop control can be implemented for intersections that are signalized or have no existing control. This type of conversion can be effective for slowing traffic and creating frequent crossing opportunities for people walking and rolling.

Benefits	Constraints
▸ More frequent pedestrian crossings ▸ Slower driver speeds	▸ Can require evaluating signal warrants to determine if signals should be removed ▸ Compliance can be low as driver comfort increases. May require enforcement to maintain efficacy over time

Typical Applications
- Signalized intersections where traffic volumes have decreased notably
- Unsignalized intersections where there are conflicts that can be mitigated with stop signs

Design Considerations
- Crash history, pedestrian volumes, and vehicular volumes should be evaluated to determine if all-way stop control is warranted

NO RIGHT TURN ON RED

Source: Manual on Uniform Traffic Control Devices (MUTCD)

Street type:	Arterial intersections
Cost:	$ $
Impact:	✓✓

No right turn on red is signage placed at a signalized intersection to restrict drivers from turning right during a red light.

Benefits	Constraints
▸ Reduces conflicts between drivers and pedestrians	▸ Can reduce capacity at intersections with high right-turn volumes ▸ Rates of compliance may vary and require enforcement

Typical Applications
- Signalized intersections with people walking
- Signalized intersections near pedestrian or bike-trip generating land uses

Design Considerations
- Location of signage should be placed so it is easily visible to drivers
- Should be applied in combination with other treatments

SPEED LIMIT REDUCTION

Street type:	Any
Cost:	$
Impact:	✓

Simply lowering the posted speed may have a positive impact on calming traffic speeds through a corridor.

Benefits	Constraints
▸ Low cost for planning, design, and implementation	▸ Potential for minimal impact without other traffic calming and/or enforcement

Typical Applications
- Any street on which vehicle speed reductions are desired

Design Considerations
- Speed limit reductions alone are unlikely to result in meaningful changes in driver behavior. Rather, speed limit reductions allow for the use of other traffic calming tools.
- Other engineering treatments should be provisioned at the same time to calm traffic.

SPEED FEEDBACK SIGN

South Grand Boulevard, Spokane

Street type:	Collector or Arterial
Cost:	$ $
Impact:	✓✓

A speed feedback sign is designed to provide a message to drivers exceeding a certain speed limit. Other names for this treatment include dynamic warning sign, radar speed/message sign, and dynamic speed display sign.

Benefits	Constraints
▸ Makes drivers aware of their traveling speed versus the posted speed limit	▸ This treatment is not self-enforcing ▸ This treatment may not be effective for longer stretches of roadway

Typical Applications
- High speed zones
- Areas with high pedestrian-related crash history

Design Considerations
- Generally considered when the 85th percentile speeds exceed the posted speed limit by 5 mph or more
- A speed study should first be conducted to determine if a change in speed limit is appropriate
- City has had mixed experience with longevity and maintenance
- Would require an agreement with the neighborhood on maintenance, power, and replacement responsibility

Landscape Treatments

STORM GARDENS IN CURB EXTENSIONS

Source: SPVV Landscape Architects

Street type:	Any
Cost:	$ $
Impact:	✓ ✓

Providing bump-outs at key crossings that incorporate stormwater treatment facilities helps protect pedestrians, break up large expanses of pavement, and provide integrated stormwater solutions for aquifer protection.

Benefits	Constraints
▸ Reduces driver speeds ▸ Provides space for landscape-based aquifer treatment ▸ Shortens pedestrian crossings	▸ Will require supplemental irrigation and regular maintenance ▸ Ten- to fifteen-year service life before renovation

Typical Applications

- Intersections with stormwater collection already present

Design Considerations

- Must consider existing pavement slopes and drainage patterns
- Requires maintenance agreement for landscaping elements

LANDSCAPING IN CURB EXTENSIONS

Source: SPVV Landscape Architects

Street type:	Any
Cost:	$ $
Impact:	✓ ✓

Bump-outs provide a pause in the long rows of street parking, naturally causing drivers to move through these spaces at slower speeds. Non-pedestrian spaces on the bump-outs can host landscaping elements like street trees

Benefits	Constraints
▸ Slows traffic through pavement reduction ▸ Provides smaller-scale parking areas	▸ Appropriate for wider streets only due to snow issues ▸ Small reductions in parking capacity are likely

Typical Applications

- Wider streets with on-street parking and space for larger street trees in islands.

Design Considerations

- Must consider existing stormwater flow patterns
- Must consider underground utilities
- Requires maintenance agreement for landscaping elements

PARKING STRIP LANDSCAPE TREATMENTS

Source: SPVV Landscape Architects

Street type:	Any
Cost:	$
Impact:	✓

West Central's typical landscape parking strip is too narrow for street trees, but other landscape treatments are possible that will enhance pedestrian safety and neighborhood aesthetics. Options include ornamental grasses and small shrubs, groundcovers, and rock cobble where limiting pedestrian access is desirable.

Benefits	Constraints
▸ Help control pedestrian flow ▸ Improved neighborhood aesthetics	▸ May require supplemental irrigation ▸ Must be coordinated with exit locations from parked vehicles ▸ If planted, requires upkeep

Typical Applications

- Portions of landscape strips between curb and sidewalk, where not in conflict with exiting parked vehicles.

Design Considerations

- Can be used as a visual unifier for the neighborhood
- May require supplemental irrigation
- Locations must be identified on a case-by-case basis

STREET TREE PROGRAM

Source: SPVV Landscape Architects

Street type:	Any
Cost:	$ $
Impact:	✓✓✓

Street tree canopies provide natural enclosures for streets, creating a traffic-calming effect, shading paved areas, and improving air quality. Street tree plantings can be introduced in many areas behind the existing sidewalks.

Benefits	Constraints
▸ Improved air quality, shade, and slower traffic.	▸ Requires coordination with sidewalks, driveways, utilities ▸ Trees will require supplemental irrigation.

Typical Applications
- Streets with larger rights-of-way

Design Considerations
- Coordination with COS Urban Forestry requirements, and property owners.

PLANTER BOXES

Street type:	Any
Cost:	$
Impact:	✓✓

Planter boxes provide space for seasonal landscaping, and year-round protection for vulnerable road users when placed strategically.

Benefits	Constraints
▸ Physical separation between road users ▸ Additional landscaping space ▸ Opportunity for neighborhood expression	▸ Requires frequent maintenance to landscaping ▸ Requires a maintenance agreement

Typical Applications
- Pedestrian refuge islands
- Separated bikeway protection
- Bikeway diversion

Design Considerations
- Selection of plants to minimize maintenance concerns
- Crash-worthiness

NEIGHBORHOOD ENTRY AND WAYFINDING SIGNAGE

Source: SPVV Landscape Architects

Street type:	Any
Cost:	$ $
Impact:	✓✓✓

Neighborhood entry signage helps establish the sense of arrival and sense of place for a community, assisting in community building, identity, and a sense of welcome.

Benefits	Constraints
▸ Defined sense of place, brand, and identity.	▸ Requires coordination with sidewalks, driveways, utilities ▸ Requires occasional maintenance

Typical Applications

- Major neighborhood entries
- Along walking and biking routes, primarily at intersections

Design Considerations

- Coordination with sight distance triangles
- Durability, longevity, and timelessness
- Anti-vandalism coatings or designs are mandatory
- Will require a maintenance agreement with the neighborhood

PAVEMENT TREATMENTS

Source: SPVV Landscape Architects

Source: SPVV Landscape Architects

Source: SPVV Landscape Architects

Pedestrian-oriented pavement treatments, including stamped concrete, unit-pavers and stained concrete provide walking surfaces that are more human-scaled and suitable for neighborhood cross walks, bump outs and mid-block crossings.

Benefits	Constraints
▸ Helps create a stronger pedestrian sense of place and human scale ▸ Can be a permeable paver product resulting in improved stormwater infiltration ▸ Unit pavers are more flexible than standard concrete	▸ Can be more costly than standard concrete ▸ May be more difficult to patch when infrastructure work is required below the paving surface ▸ Stained concrete susceptible to damage from ice-melters

Typical Applications

- Intersections, bump outs and street crossings
- Pedestrian paths in high-volume areas

Design Considerations

- Use in key areas where there is a significant pedestrian presence
- Coordination with adjacent structures, pavement types
- Coordination with utilities and penetrations through pavement surface

Street type:	Any
Cost:	$ $
Impact:	✓ ✓

APPENDIX D.

Design Memorandum

Introduction

Extensive community input has shaped the identification of 10 priority traffic calming projects in the West Central neighborhood of Spokane. Concept designs have been developed for these priority projects based on design guidance from the City. This technical memorandum provides the relevant background information used to prioritize the projects for funding and summarizes the design criteria used to develop the concepts.

The memorandum also includes the outcomes from other planning efforts—including the City of Spokane's Traffic Calming Report—and describes existing projects in the study area that have received full or partial funding. These provide further support to the community-identified projects and highlight opportunities for bundled funding and mutual traffic calming benefit.

The following topics are addressed within this memorandum:

- Key questions for City staff and the Transportation Advisory Committee (TAC) related to design-considerations that need to be resolved prior to further funding and implementation steps
- Overview of the 10 projects identified for implementation
- Prioritization of the projects using defined Evaluation Criteria
- Relevant Traffic Calming Design Criteria for people driving, riding bikes, walking and taking transit
- Utility Considerations
- Special Event Considerations
- Overview of other relevant planning efforts and funded projects within the study area
- Next steps

Supporting figures are attached, including:

- Project locations and treatments;
- Land use zoning;
- Roadway functional classification;
- Posted speed limits;
- Traffic counts (where available); and,
- Crash history for pedestrians, cyclists, and autos.

Combined, these materials describe the community-identified projects for the West Central Traffic Calming project and document the standards, plans, and procedures applicable to the development of concepts designs.

This document will be shared with the project's technical advisory committee (TAC) for review and comment. It will then be updated by the consultant team for inclusion in with the executive summary and concept designs, together constituting the final deliverable for this planning and concept design phase of the West Central Traffic Calming project.

Key Questions for Consideration

There are a number of key questions which emerged during concept design which have not been answered in guidance review to-date. These should be resolved in order to effectively refine the concept designs in preparation for funding and implementation and will be addressed during the upcoming November 19 Technical Advisory Committee (TAC) meeting.

- Broadway Avenue Corridor
    - A recent streetscape project reconstructed frontages and installed storm gardens, driveways, and bike racks along Broadway Avenue from Elm Street to Ash Street. The project did not install marked crosswalks across Broadway Avenue at intersections, as required under City of Spokane Municipal Code Section 17H.010.210. What level of reconstruction to these recently-installed driveways and utilities is acceptable to install a crosswalk as part of the West Central Traffic Calming project?
    - WSDOT standards (which Spokane relies on) call for a 3-foot buffer between the bike lane and parking lane. Will we need to be granted a design exception to use a 1.5-foot buffer?
- Use of Traffic Diverters to help with the conversion of Chestnut Street to a one-way street
    - Does the City need the consultant team to complete traffic analysis for changes to turning movements, such as those introduced by the conversion of Chestnut Street to a one-way street between Bridge Avenue and Boone Avenue, and the proposed diverters at the following intersections?
    - Broadway Avenue and Chestnut Street
    - Broadway Avenue and Elm Street
    - College Avenue and Chestnut Street
- Design Vehicles
    - Are there plans to utilize 60-foot buses in West Central, or is designing stops and intersections to a 40-foot bus sufficient?
    - Does the Fire Department have criteria for design vehicles, clear widths, etc.?

Project Details

Ten projects were identified through community outreach and have been progressed to concept design.

1. Broadway Avenue Bike Lanes
2. Chestnut Street Greenway
3. Elm Street Greenway
4. Nettleton Street Traffic Calming
5. Boone Avenue Traffic Calming
6. Dean Avenue Traffic Calming
7. Boone Avenue & Summit Boulevard Intersection
8. Broadway Avenue & Summit Boulevard Intersection
9. Sidewalk Infill & Repair
10. Ash Street to Maple Street Accessible Pathway

Many of the project corridors overlap at intersections. As a result, many of the intersection concept designs overlap on multiple projects. Because of this, a given project's installation may contribute to the eventual realization of another project planned as part of this process. Information about the potential to optimize funding and construction is reflected in the *Funding collaboration* prioritization criteria used in the *Project Prioritization* process described in this memorandum.

Please note that no concepts were developed for the *Sidewalk Infill & Repair* and *Ash Street to Maple Street Accessible Pathway* projects.

- Sidewalk segments will be prioritized for infill and repair in collaboration with the community using a separate process and constructed to City standards. Missing sidewalk segments identified in the City of Spokane's survey files will be prioritized for infill, and damaged segments will be assessed and addressed in the design process for other high-priority projects. Discontinuous sidewalk at alley returns will also be assessed and prioritized for infill.
- A concept design was developed for the *Ash Street to Maple Street Accessible Pathway* as part of the City of Spokane's 2023 Safe Streets for All grant application. This concept was deemed to be sufficient for this phase of work. More detailed topographic survey will be required to further refine this design if it is advanced for construction.

Creating bike lanes on Maxwell Avenue and Pettet Drive and installing curb extensions on Boone Avenue at Lindeke Street and Nettleton Street were frequent requests heard from the community. Two ongoing City of Spokane projects will address these community requests; as a result, they were not carried forward into the project list under this planning effort.

A project to create a greenway on Cannon Street was presented to the public for consideration but was not progressed to concept design due to a lack of community support and redundancy with the Chestnut Street and Elm Street Greenway projects.

Table 1 provides details on each of the 10 defined projects.

Figure 1 shows the projects, intersection treatments and two in-progress City projects on a map of the West Central Neighborhood.

Table 1: Project Details

ID	Project	Proposed Treatment	Zoning[1]	Functional Classification[2]	Posted Speed (mph)[2]	Daily Traffic Volumes (count year, address)	Typical ROW Width, curb to curb (ft)	Crash History, 2018-2023 [4]	Additional Considerations	Reasoning for treatment selection
1	Broadway Bike Lanes	Parking-protected bike lanes from Chestnut to Walnut with floating bus islands and striped crossings	CC1, RHD, R1	Collector	30	1,118 (2022, 2200 W Broadway Ave)[2]	50	**Pedestrian**: one C crash at Maple **Vehicle-only:** two B, three C, and 11 O crashes	– Has received partial funding through a Safe Streets for All grant – STA Route 21 travels along Broadway, 96 inbound, 9 outbound boardings, 88 alightings weekly across three stop pairs – Identified bicycle-friendly route in 2017 City of Spokane Bicycle Master Plan – Median diverter at Chestnut in-process through City of Spokane Neighborhood Traffic Calming program	Reduce level of traffic stress for people biking; CC1 zoning east of Elm Street requires installation of crosswalks
2	Chestnut Greenway	Conversion to a northbound one-way street from Bridge to Boone, allowing two-way bicycle traffic; curb extensions at Boone and Bridge; intersection traffic diverters at College and Broadway; traffic circle at Dean	LI, NR, R1, RHD, RMF	Local (south of Boone), Collector (north of Boone)	25 (south of Boone), 30 (north of Boone)	415 (2021, b/n Boone and Broadway)[3]	19	**Vehicle-only**: one B, 11 C, and 25 O crashes	– Identified neighborhood greenway in 2017 City of Spokane Bicycle Master Plan, 2022 assessment and concept design – Median diverter at Broadway in-process through City of Spokane Neighborhood Traffic Calming program	Reduce through traffic volume, vehicle speeds, crash rate
3	Elm Greenway	Traffic circles at Bridge and Dean, intersection traffic diverter at Broadway, curb extensions at Boone	LI, CC1, RHD, RMF	Local	25	698 (2021, b/n Boone & Broadway); 400 (2021, b/n Maxwell & Boone)[3]	35	**Vehicle-only**: one B, four C, and 18 O crashes	– Identified neighborhood greenway in 2017 City of Spokane Bicycle Master Plan, 2022 assessment and concept design	Reduce vehicle speeds, crash rate
4	Nettleton Traffic Calming	Curb extensions at Broadway and Bridge; traffic circle at Dean	R1, NR, RMF	Local	25	*No count available*	40	**Vehicle-only**: two B, seven C, and 17 O crashes		Reduce vehicle speeds, crash rate
5	Boone Traffic Calming	Curb extensions at Cochran, Chestnut, and Elm.; intersection crossing improvements at Summit	CC1, CB, RHD, NR, R1	Collector	30	Boone – 3,468 (2017, 2500 W Boone Ave)[2]	40	**Cyclist**: one C crash at Ash **Pedestrian**: one A crash at Ash and one B crash at Lindeke **Vehicle-only**: one A crash at Lindeke, three B, 12 C, and 35 O crashes	– Design and installation of curb extensions at Lindeke and Cochran is in-process through City of Spokane Neighborhood Traffic Calming program	Reduce vehicle speeds, crash rate; enhance pedestrian crossing safety
6	Dean Avenue Traffic Calming	Traffic circles at Nettleton, Chestnut, and Elm; curb extensions at Dean	RHD, R1	Local	25	*No count available*	35	**Cyclist**: One C crash at Lindeke **Vehicle-only**: 10 C and 17 O crashes		Reduce vehicle speeds, crash rate
7	W Boone Ave & N Summit Blvd	Striping improvements, crosswalk relocation	R1	Collectors	30	511 (2022, 1300 N Summit Blvd)[2]	Boone – 40 Summit – 35	No crash history 2018-2023	– Complex grading, will require topographic survey to develop a feasible concept due to utility, bridge, and grading concerns	Enhance pedestrian crossing safety
8	W Broadway Ave & N Summit Blvd	Curb extensions, crosswalk improvements	R1, RHD	Collectors	30	286 (2022, 800 N Summit Blvd)[2]	Broadway – 35 Summit – 35 A – 30	**Vehicle-only**: two O crashes	– Existing intersection geometry limits traffic circle feasibility – STA route 21 turns between Broadway and A and has stops at the intersection in both directions, limiting available ROW for curb extensions; average 12 inbound, 2 outbound boardings, and 11 alightings weekly	Enhance pedestrian crossing safety; reduce vehicle speeds
9	Sidewalk Infill and Repair	Infill and repair sidewalk to ADA accessibility standards where obstructed, missing, or heavily damaged.	LI, R1, RHD	Collector, Local	25, 30	Varies	5 (typical sidewalk)	Varies by segment	– Missing sidewalk segments have been identified in City survey – Extensive sidewalk damage and inaccessible curbs and alley crossings are prevalent throughout project area	Remove accessibility barrier
10	Ash to Maple Accessible Pathway	Replacing non-accessible stairwell down a steep grade with an accessible pathway	CC1	Ash – Local, Maple – Arterial	Ash – 25, Maple – 40	Maple – 43,614 (2022, Maple Bridge 600 N)[2]	84 (horizontal space, sidewalk to sidewalk)	N/A	– Project has received partial funding through a Safe Streets for All grant	Remove accessibility barrier on a critical pedestrian route

Table 1 Notes

[1] CC1 = Center and Corridor Core; LI = Light Industrial, NR = Neighborhood Retail; R1 = Residential 1; RHD = Residential High Density; RMF = Residential Multifamily
[2] Per Spokane Municipal Code Chapter 17A.020:
Collectors = Collector arterials (consisting of Major and Minor Collectors) collect and distribute traffic from local streets to principal and minor arterials. They serve both land access and traffic circulation.
Locals = Local Access Streets; A street that provides access from individual properties to collector and minor arterials.
[2] Via City of Spokane GIS database
[3] Via Chestnut Street and Elm. Street Neighborhood Greenway Assessment (2022)
[4] K = Fatal, A = Suspected serious injury, B = Suspected minor injury, C = possible injury, O = property damage only (PDO)
No fatal crashes were reported within ¼ mile of West Central, 2018-2023

Figure 1: Proposed Projects

Project Prioritization

To help the City establish a priority order for future investments, projects were scored across ten criteria. These scores were then weighted, and totals were calculated for each project. The scoring criteria and weights were developed by the consultant team and were approved by the Project Management Team community group. The summary of this prioritization process is shown in Table 2.

Table 2: Project Prioritization Matrix

Category	Evaluation Criteria	Metric	Criteria Weight	Broadway Bike Lanes	Chestnut Greenway	Elm Greenway	Nettleton Traffic Calming	Boone Traffic Calming	Dean Traffic Calming	Boone & Summit	Broadway & Summit	Sidewalk Infill & Repair	Ash to Maple Pathway	Scoring Criteria
				1	2	3	4	5	6	7	8	9	10	
Community support	Community feedback	Supported by current engagement/outreach	4	2	1	0	1	2	0	1	1	2	1	Votes at PorchFest outreach event and September 2024 online open house; 2=top three projects, 1 = middle tier, 0 = bottom three projects
		Supported by previous community plans and studies	2	2	1	1	1	2	0	2	2	2	1	2 = included in traffic calming plan, 1 = included in another plan, 0 = not included
Safety	Reduces speeding on higher volume roadway	Includes proven countermeasures to reduce speeds on a high-volume roadway	2	2	1	1	1	2	1	1	1	0	0	2 = traffic calming on high-volume facility (>1,000 ADT), 1 = traffic calming on lower volume facility (>1,000 ADT), 0 = no traffic calming component to project
	Vehicular crash history	Crash history within 100 feet of project, 2018-2023	2	1	2	1	1	2	2	0	0	1	0	Total estimated cost of crashes[1]; 2=top three projects, 1 = middle tier, 0 = bottom three projects
	Pedestrian crossings	Number of intersections included in project receiving enhanced crosswalks and/or curb extensions	1	2	2	1	1	2	0	0	0	0	0	2 = four or more, 1 = two or three, 0 = one or none
	Bike facilities	New or improved bike facilities	1	2	1	1	0	0	0	0	0	0	0	2 = project provides dedicated facilities, 1 = project provides shared facilities, 0 = project does not provide bicycle facilities
Connectivity & Access	Essential link to community assets	Completes a pedestrian or bicycle connection to a transit stop, school, park, or community service	1	2	2	2	2	2	0	2	2	1	1	2 = adjacent to a school, transit stop, or park, 1 = within ¼ mile, 0 = not near
Constructability & maintenance[2]	Landscape maintenance responsibility	Does not require a maintenance agreement with the neighborhood or other interested parties	1	2	0	0	0	1	0	2	1	1	0	2 = no or minor effect to landscaping or ROW behind the curb, 1 = includes installation of curbside landscaping, 0 = adds additional landscape elements
Maximizing community investment	Funding collaboration	Provides opportunities to leverage other funding sources or collaborate with simultaneous investments	2	2	1	1	1	1	1	1	0	0	2	2 = project already has matching funds available, 1 = project intersections overlap with other project(s), 0 = project doesn't overlap with other funding priorities
	Return on investment	Likely to result in accumulated value to community from investment in transportation infrastructure	1	2	1	1	1	1	0	0	0	2	0	Likely economic impact, from this project's Economic Impact Analysis; 2= High, 1 = Medium, 0 = Low
			SCORE	32	20	13	16	28	8	16	13	18	11	
			RANK	**1**	**3**	**7**	**5**	**2**	**10**	**5**	**7**	**4**	**9**	

[1] Estimates are the costs by severity of injuries, including economic losses such as wage and productivity losses, medical expenses, administrative expenses, motor-vehicle damage, and employers' uninsured costs, and comprehensive costs including a measure of the value of lost quality of life. Estimates were developed in 2022 by the National Safey Council.

[2] Impacts to utilities—including stormwater, drainage, and power—are expected to be comparable among the projects presented.

Design Criteria

This section presents relevant design guidance and City of Spokane Municipal Code requirements that can help further refine the development of the concept designs for the 10 identified projects. Design Standard Values are summarized from the City of Spokane Design Standards, and specific guidance from the Design Standards, Spokane Municipal Code (SMC), and Washington Department of Transportation (WSDOT) are summarized by design element.

Relevant projects are noted for each design element discussed. As documented above, the projects are numbered as follows:

1. Broadway Avenue Bike Lanes
2. Chestnut Street Greenway
3. Elm Street Greenway
4. Nettleton Street Traffic Calming
5. Boone Avenue Traffic Calming
6. Dean Avenue Traffic Calming
7. Boone Avenue & Summit Boulevard Intersection
8. Broadway Avenue & Summit Boulevard Intersection
9. Sidewalk Infill & Repair
10. Ash Street to Maple Street Accessible Pathway

DESIGN STANDARD VALUES

Table 3 outlines the general design standard values for various street design elements as outlined in the City of Spokane Design Standards, shown for the land use and functional classification typologies present at the identified projects. Notes below the table present further guidance from the Design Standards.

Table 3: Design Standard Values

Relevant Projects by Number	**1, 9**	**2, 4, 5, 9**	**1, 2, 3, 4, 5, 7, 8, 9**	**1, 2, 3, 4, 5, 6, 7, 9**
Land Use Zoning	Center and Corridor	Commercial	Residential	Residential
Functional Classification	Collector	Collector	Collector	Local
Design Criteria	***Design Standard Value***			
Design/Target/Posted Speed (mph) [1]	20-30	30	30	25
Sidewalk Zone (feet)	7	7	5	5
Sidewalk Buffer Zone (feet)	5	5	6	6
Curb Zone (feet)	0.5	0.5	0.5	0.5
On-Street Parking (feet) [2]	8	8	8	7
Bike Lane (feet)	6	6	6	6
Bike Buffer (feet)	1.5-6	1.5-6	1.5-6	N/A
Through Vehicular Lane (feet)	11	11	11	10
Left turn or two-way left turn lane (feet)	10	10	10	N/A
Design vehicle, control vehicle [3]	SU-30 & STA 40' bus, Ladder Truck	WB-40, WB-62	WB-40, WB-62	SU-30, WB-62
Curb extensions (feet) [4]	7	7	7	6

[1] Design speed, target speed, and posted speed should be the same in order to avoid "speed creep", which can occur when streets are built to operate at higher speeds than posted and the next design period resets with a speed study revealing the 85th percentile has increased. Per the 2018 Policy on Geometric Design of Highways and Streets from the American Association of State Highway and Transportation Officials (AASHTO), target speed is defined as "the highest speed at which vehicles should operate on a thoroughfare in a specific context, consistent with the level of multimodal activity generated by adjacent land uses, to provide for mobility for motor vehicles and a desirable environment for pedestrians, bicyclists and transit users." Providing both mobility and a "desirable environment" for all users is aligned with the goals of the City's investments in traffic calming through this project.

[2] See the *On-Street Parking* section of this memorandum for further discussion of on-street parking width.

[3] The design vehicle should be the largest vehicle that accounts for at least 10% of a street's average daily traffic and dictates the minimum turning radius for a design. The control vehicle is the largest vehicle expected to use the facility, and should be accommodated for infrequent use, making turns using the full street, if needed. Parking restrictions and recessed stop lines may be used to accommodate the control vehicle.

[4] The extension from the curbline should generally be 1 foot less than the parking lane width.

TRAFFIC CALMING TREATMENTS

All Projects

Traffic calming broadly refers to a set of design, education, and enforcement strategies used to reduce vehicle speeds and improve safety for people of all ages and abilities walking, biking, rolling, and taking transit. The concept designs developed utilize a variety of traffic calming strategies.

The Spokane Municipal Code Section 17H.010.160 provides the following guidance for the use of traffic calming design features:

- Allowable traffic calming features include traffic circles, chicanes, curb extensions, medians, entry-way treatments, landscaping, turn or access restrictions and other traffic calming features set forth in Chapter 3 of the Design Standards.
- The City's Neighborhood Traffic Calming program provides opportunities for installing traffic calming devices on existing streets.
- Installation of traffic calming features through development actions will be evaluated on a case by case basis and approved by the City Engineer.
- All proposed traffic calming features will be evaluated based on posted speed, traffic volumes, pedestrian generators within the project area, roadway geometry, residential density and collision history as applicable.
- Traffic calming features shall not create a street maintenance, safety or parking enforcement problem.

Of the various calming treatments available, Traffic Circles and Diverters were identified to be most effective for the concept designs considered.

Traffic Circles

PROJECTS 2, 3, 4, AND 6

A neighborhood traffic circle is a small circular intersection designed to calm traffic and improve safety at minor intersections. Unlike roundabouts, these circles are typically installed at unsignalized intersections of local streets and are often created using simple raised islands or temporary structures like planter boxes. The City of Spokane Design Standards states identifies traffic circles as a recognized Neighborhood Traffic Calming tool.

The City of Spokane provides a standard plan for a traffic circle, including dimensions based on the approach street width and corner curb return radii[3].

[3] *Traffic Island/Median Traffic Circle Layout on PDF page 15: City of Spokane Standard Plans - Section W 2024 (spokanecity.org)*

Diverters and Traffic Islands

PROJECTS 2, 3, AND 5

A traffic diverter is a physical barrier or design feature used to redirect or restrict vehicle movement at intersections or along streets. The primary purpose of traffic diverters is to reduce cut-through traffic on local streets. They are acceptable traffic reduction tools in the City of Spokane Design Standards, under Section 3.9 *Neighborhood Traffic Calming*.

A median island is a protected area in the middle of a crosswalk for people to stop while crossing the street. Standard details for traffic island cross-sections and nose dimensions in the City of Spokane Standard Plans, Section F. These standard details will be used in the development of traffic diverters recommended at the intersections of Broadway and Chestnut, Broadway and Elm, and College and Chestnut.

PEDESTRIAN TREATMENTS

There are a number of treatments that can be used to enhance the safety of people crossing at intersections as well as walking along corridors. Of these, the following pedestrian-focused traffic calming treatments have been incorporated into the concept designs.

High-Visibility Crosswalks

ALL PROJECTS

High visibility crosswalks are reflective roadway markings that may be accompanied by signage at intersections and priority pedestrian crossing locations.

The Spokane Municipal Code Section 17H.010.210 provides guidance for crosswalk provision and design:

- Generally, marked crosswalks are installed in centers and corridors (CC, DTC, DTG, DTS, DTU zones), adjacent to schools, parks, hospitals, churches, trail crossings and other significant pedestrian-generating facilities, at signalized intersections and at locations identified in the Pedestrian Master Plan.
- On arterial streets at locations identified defined above, marked crosswalks shall be installed at every intersection, on all legs accessible to pedestrians, when the street is reconstructed, resurfaced or when such crosswalks can be funded from grant or programmatic sources. Mid-block marked crosswalks may be installed on arterial streets where significant pedestrian traffic generators exist or where pedestrian conditions warrant. Exceptions to this section are allowed when engineering studies determine that a crosswalk proposed for marking does not meet nationally-recognized safety standards.
- Installation of marked crosswalks at locations other than those identified in the first bullet above requires an engineering study and the approval of the director of streets. Neighborhood councils shall be consulted and their input taken prior to installation or removal of a crosswalk.

- An advanced stop line shall be located in advance of each crosswalk at an arterial intersection and any mid-block crosswalk in locations defined in the first bullet above , per the Manual on Uniform Traffic Control Devices (MUTCD).
- Americans with Disabilities Act (ADA) compliant curb ramps shall be installed at all newly marked crosswalks. The preferred curb ramp design shall be directional (perpendicular or parallel), as defined by American Association of State Highway and Transportation Officials (AASHTO) guidelines, where right-of-way and topography allow. Guidance per Federal Highway Administration Best Practices Design Guide shall inform curb ramp design.
- In the event a bus stop is planned, relocated or modified as part of the establishment of a new crosswalk or improvement thereto, the new bus stop shall meet ADA accessibility standards adopted by reference in 49 CFR 37. Any new bus stop shall not straddle or compromise a crosswalk.
- In centers and corridors (CC, DTC, DTG, DTS, DTU zones) on new, resurfaced, rehabilitated or reconstructed arterial intersections with three or more lanes and no traffic signal, marked crosswalks with a mid-point pedestrian refuge shall be constructed, unless in conflict with an adopted sub-area or neighborhood plan or contrary to the findings of an engineering study. Travel lane widths may be narrowed and/or the number of travel lanes may be reduced and/or additional, existing right-of-way may be utilized to accommodate pedestrian refuges. Pedestrian refuges shall be vegetated or treed or otherwise contain elements to establish a sense of place. Landscaping shall be designed and maintained to provide appropriate visibility between pedestrians and approaching motorists from both directions.
- Raised crosswalks may be installed in lieu of pedestrian refuges. Detectable warnings shall be included at the curb line on all raised crosswalks.
- The design of marked crosswalks on arterial streets shall meet guidance in the Federal Highway Administration Best Practices Design Guide, NACTO or other nationally recognized guidelines.
- Crosswalk markings and signs shall be maintained.
- Marked crosswalks shall only be removed on the recommendation of the City Engineer, after consultation with the neighborhood council and with City Council approval, which shall be authorized by resolution.
- The City administration should adopt policies and guidelines to implement the provisions of this section. Such policies and guidelines shall not conflict with the provisions of this section.

City of Spokane Standard Plan G-51 provides standard dimensions for transverse and longitudinal crosswalk striping and advance stop lines.

For the intersection of Boone and Summit, where the Centennial Trail crossing the west leg of the intersection, Spokane Municipal Code - Section 17H.010.215: Regional Trail Crossings indicates that “traffic controls shall be installed to require street traffic to yield or stop at all on-grade regional trail crossings, per an engineering study.”

Curb Ramps

ALL PROJECTS

A curb ramp provides a smooth, accessible transition between the sidewalk and the street for people crossing. Many intersections in the study area do not currently have them. The City of Spokane Americans

with Disabilities Act (ADA) Draft Transition Plan outlines the City's approach to ensuring its existing transportation assets become ADA compliant but does not provide a prioritization process for infrastructure investments. Instead, City policies indicate that ADA transitions should be accomplished through other roadway and development work, leveraging a range of available funding sources to do so.

Spokane Municipal Code Section 17H.010.200 Curb Ramps provides the following direction:

- At all intersections where new curbs, sidewalks or both are to be constructed, curb ramps are to be placed and constructed as shown on the standard plans. Where a ramp is built on one corner of an intersection, a ramp shall also be provided at a corresponding location on the opposite corner of the intersection.
- Not less than two curb ramps per lineal block shall be constructed on or near the crosswalks at intersections or other convenient locations approved by the director of engineering services. Two curb ramps are required on each corner unless utilities, topography, right-of-way or other existing conditions make two ramps infeasible.
- Installation of curb ramps shall also be required on existing sidewalks whenever curbing is replaced.
- Proposed curb ramps at locations other than intersections must be approved by the director of streets prior to construction.

The City of Spokane Design Standards provides guidance on the design and location of curb ramps, including the following:

- Curb ramps should be located and designed in accordance with the recommendations of PROWAG, NACTO, the WSDOT Standard Specifications, and the City of Spokane Standard Plans and General Special Provisions, SMC 17H.010.200 SMC 17H.010.210E, and the ADA.
- In all new construction and reconstruction projects placement of two ADA compliant curb ramps per corner is required.
- Ramps should be aligned such that the running slope (and edge curb if used) is parallel to the crosswalk markings and direction of pedestrian travel.
- For retrofit or preservation work the priority is to use two curb ramps per corner.
- Curb ramps are generally built with flared sides, but at times will be built with pedestrian curbs flanking the ramp. Pedestrian curbs used in this manner should be parallel to the crosswalk.

Curb Extensions

PROJECTS 1, 2, 3, 4, 5, 6, AND 8

A curb extension, also known as a bump-out or bulb-out, is an extension of the sidewalk into the street at a crossing. It narrows the vehicle traveled way and the crossing distance for people walking.

The City of Spokane Design Standards provide the following guidance regarding curb extensions:

- Consider curb extensions at intersection corners whenever on-street parking is present along the block.
- The extension from the curbline should generally be 1 foot less than the parking lane width, but in some instances additional "shy distance" from the adjacent travel lane may be considered.

- Curb extensions design must consider whether a bike lane is planned in the future.
- Curb extensions may also be used midblock to provide traffic calming or to protect a midblock crosswalk.
- Curb extensions should generally be implemented as part of a series, as singular instances of curb extensions on a corridor could result in a hazard.
- Use appropriate design and accommodated vehicles and refer to effective turning radii when designing curb extensions.
- Curb extensions should be delineated with flexible candles on the curb line near the travel paths to aid in winter visibility for drivers and snow plowing.

Pedestrian-Activated Beacons

PROJECTS 1, 2, AND 5

Per City of Spokane Design Standards: Install pedestrian-activated tools such as Rectangular Rapid-Flash Pedestrian Beacons (RRFBs) and Pedestrian Hybrid Beacons in locations that serve pedestrian generators as ascribed by engineering analysis and approved by the City Engineer. The MUTCD and FHWA-SA-18-018 shall be used as a reference for determining the appropriate crosswalk treatment. The pedestrian crossing crash countermeasure selection table from FHWA-SA-18-018 is reproduced in Figure 2, with the applicable guidance for all facilities in the study area circled.

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	●1 2 4 5 6	●1 5 6 7 9	○1 5 6 ●7 ●9	●1 4 5 6	●1 5 6 7 9	○1 5 6 ●7 ●9	●1 4 5 6 7 9	○1 5 6 7 9	○1 5 6 ●9
3 lanes with raised median (1 lane in each direction)	●1 2 3 4 5	●1 ●3 5 7 9	○1 ●3 5 ●7 ●9	○1 3 4 5	○1 ●3 5 ●7 ●9	○1 ●3 5 ●7 ●9	○1 ●3 4 5 7 9	○1 ●3 5 ●7 ●9	○1 ●3 5 ●9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	●1 2 3 4 5 6 7 9	●1 ●3 5 6 7 9	○1 ●3 5 6 ●9	○1 3 4 5 6 7 9	○1 ●3 5 6 ●7 ●9	○1 ●3 5 6 ●9	○1 ●3 4 5 6 7 9	○1 ●3 5 6 ●9	○1 ●3 5 6 ●9
4+ lanes with raised median (2 or more lanes in each direction)	●1 ●3 5 7 8 9	●1 ●3 5 7 8 9	○1 ●3 5 8 ●9	○1 ●3 5 7 8 9	○1 ●3 5 ●7 8 ●9	○1 ●3 5 8 ●9	○1 ●3 5 ●7 8 ●9	○1 ●3 5 8 ●9	○1 ●3 5 8 ●9
4+ lanes w/o raised median (2 or more lanes in each direction)	●1 ●3 5 6 7 8 9	○1 ●3 5 ●6 7 8 9	○1 ●3 5 ●6 8 ●9	○1 ●3 5 ●6 7 8 9	○1 ●3 5 ●6 ●7 8 ●9	○1 ●3 5 ●6 8 ●9	○1 ●3 5 ●6 ●7 8 ●9	○1 ●3 5 ●6 8 ●9	○1 ●3 5 ●6 8 ●9

Given the set of conditions in a cell,

\# Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.

○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.
**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

Figure 2: FHWA-SA-18-018: Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations (applicable recommendation for all project sites circled on table)

RRFBs have been newly added to the 11th Edition MUTCD (2023), which provides guidance on the application, design, and operation of the devices. It states that RRFBs are to be used to "provide supplemental emphasis to pedestrian, school, and trail warning signs at marked crosswalks across uncontrolled approaches" (Section 4L.01). The Manual does not include warrants for their installation. Instead, it indicates that they may be used to enhance conspicuity for standard signs (Section 2A.11), as an alternative to converting to a more restrictive form of right-of-way control at an unsignalized intersection (Section 2B.08), or as an alternative to installing a traffic control signal (Section 4B.03).

While RRFBs are not recommended for use in on any facilities in project area by FHWA-SA-18-018, they were included in three locations in the concept designs based on requests from the community and the engineering judgment of the consultant team.

- West leg of W. Boone Avenue & N. Cochran Street
    - This intersection is in the close vicinity of multiple community destinations frequently accessed by children and families: Holmes Elementary School, Jolly Mart, and West Boone Center Early Head Start. It is used as a school crossing—Holmes Elementary stations

crossing guards at the intersection at the beginning and end of school days. The addition of an RRFB at this crossing would add conspicuity to the standard signs at the crossing, as supported by the MUTCD.

- West leg of W. Broadway Avenue & N. Chestnut Street
    - This crossing is situated on a reverse curve of W. Broadway Street, creating sightline challenges for drivers and crossing pedestrians. An RRFB at this location would add conspicuity to the standard signs to be placed at the crossing, as supported by the MUTCD. The location of the crossing near Dutch Jake's Park results in the frequent use of the crosswalk by families and children.
- W. Boone Avenue between N. Chestnut Street and N. Chestnut Street
    - There is complex intersection geometry at this location due to the offset intersection of N. Chestnut Street and the access driveways for Bong's Grocery & Deli. A more restrictive form of right of way control—such as closing the southern access to Bong's—would alleviate some of the conflicts experienced by pedestrians crossing at this location. The installation of an RRFB is a way to avoid making these operational changes while still enhancing the safety of crossing pedestrians, as supported by the MUTCD.

BICYCLE FACILTIES

The City of Spokane Design Standards indicate that bicycle facilities shall be employed where designated in the City's Comprehensive Plan and in the Master Bicycle Plan and shall be designed in accordance with Spokane Municipal Code (SMC) 17H.010.260, which clarifies that all new bicycle facilities shall be designed in accordance with Chapters 1515 and 1520 of the WSDOT Design Manual and the City's design standards.

Separated Bikes Lanes

PROJECT 1

A separated bike lane, also known as protected cycle track, is a bicycle facility within the street right-of-way separated from vehicle traffic by a physical barrier such as planters, flexible posts, parked cars, or curb.

Section 1520 of the WSDOT Design Manual covers Roadway Bicycle Facilities. Section 1520.03(2)(c) of the Manual provides guidance for separated bike lanes, indicating that vehicle parking is an acceptable vertical feature. The Manual suggests minimum bike lane width of 5 feet for separated bike lanes, and minimum buffer width of 3 feet when adjacent to parked cars.

Green Paint

PROJECT 1

The City of Spokane Design Standards provides the following guidance for the use of green paint to delineate bicycle facilities:

- Green paint should be used only in high conflict areas. Examples of high conflict areas include marking a bike lane through an intersection where there are heavy conflicting right turn movements,

marking a contra-flow bike lane through an intersection, or marking the entrance to a right-turn only lane where vehicles must cross the bike lane.
- Green paint can also be used to connect corridors that are otherwise unclear, when introducing bicycle facilities newly to a corridor, to aid in wayfinding or in places where vehicles are found to encroach on the bicycle facility.

Neighborhood Greenways

PROJECTS 2 AND 3

A Neighborhood Greenway, also known as a Bicycle Boulevard, is a bike route on a low speed, low volume neighborhood street. It enhances the ease of travel for cyclists of all ages and abilities, while adding traffic calming elements to discourage continuous travel by motorists.

The City of Spokane Design Standards provide the following guidance on Neighborhood Greenways:

- Prioritizing pedestrian and bicycle traffic is achieved by providing appropriate facilities for these modes of travel and by calming or reducing vehicle traffic flows.
- Greenways are commonly attributed with slow speed, minimum stop signs, and protected crossings of arterial streets.
- Signage should be used to highlight the designated greenway and should also provide distance-based wayfinding to community destinations for bicycle and walking traffic.
- Intersections with arterial streets need to provide safe and functional crossing methods for bicycle and pedestrian traffic. Intersection treatments might also be used to dissuade vehicle traffic from the greenway. This can be done through limiting turn movements onto the corridor from more busy streets or even by diverting traffic off of the corridor at lower volume intersections.

BUS STOPS

PROJECTS 1, 8

Various Spokane Transit Authority (STA) bus routes travel through the project area. Route 21 intersects multiple concept designs along Broadway and A.

The City of Spokane Design Standards indicates that 90-foot no parking zones should be provided for far-side bus stops, and 100-foot no parking zones should be provided for near-side stops.

STA maintains a fleet using a variety of 35-foot, 40-foot, and articulated 60-foot bus models. Bus stops and intersections present on facilities impact by this project were designed to accommodate 40-foot buses; these concepts will be refined to accommodate a 60-foot articulated bus, if STA shares that there is potential for the future use of such buses on the relevant lines.

ON-STREET PARKING

PROJECT 1

The City of Spokane Design Standards indicate that "on-street parking lane widths shall be in accordance with SMC 17H.010.120, the City's Comprehensive Plan and/or as directed by the City Engineer. Requests for a reduced street cross-section will be evaluated on a case-by-case basis and a waiver of the on-street parking requirement granted at the discretion of the City Engineer."

Spokane Municipal Code (SMC) 17H.010.120 states that "Principal, minor and collector arterials outside of the central business district, centers and corridors will be reviewed on a case-by-case basis to determine on-street parking needs. On-street parking lanes should be eight feet wide. In low density residential areas meeting the criteria in SMC 17H.010.070[4], parking lanes may be narrowed to seven feet to allow for a narrower street section."

ALLEYS AND DRIVEWAYS

PROJECT 9

Mid-block alleyways are present throughout the project area, resulting in many alleyway sidewalk crossings. The majority of these alleys are unpaved, as are many of the crossings. This results in accessibility issues where sidewalks are discontinuous where they cross alley entrances. The Sidewalk Infill and Repair project (Project 9) will consider this issue when prioritizing sidewalk segments for improvements.

The City of Spokane Design Standards provides the following guidance on alley design:

- Alleys shall be constructed in accordance with SMC 17H.010.130[5] and the Standard Plans.
- All alleys shall have a minimum paved width of 12 feet with a 4-foot buffer strip on each side. The buffer strips may be paved, grassed, or graveled. The buffer strip may be used for utilities but must be kept free of all vertical obstructions. Fences may not be placed in the buffer strip.
- Preservation and reconstruction work will generally re-pave alley entrances to assure level matching of paving to the alley surfacing. When applicable, entrance design should coordinate with alley activation surfacing designs. Alley paving projects must comply with ADA standards where intersecting with sidewalks.

The City of Spokane Design Standards indicate that driveways should be designed in favor of pedestrians and bicyclists, and that alley development should be encouraged to reduce driveways on streets with higher

[4] SMC 17H.010.070 defines "low-density residential areas" as 4-10 units/acre

[5] *Relevant guidance from SMC 17H.010.130: Dead-end alleys shall be avoided wherever possible; new alleys shall have a paved width of at least twelve feet and a clear width of at least twenty feet. The twenty-foot width shall not be obstructed in any manner, including the parking of vehicles, fences or utility structures.*

bicycle and pedestrian activity[6]. Driveways should not be placed within 100 feet of major intersections and 50 feet of other junctions, including bus stops, crosswalks, and small intersections.

Standard details for alley curb returns—including specifications on the curb radius—are provided for adjacent and separated sidewalks in Section W of the City of Spokane Standard Plans.

Utility Considerations

ALL PROJECTS

The consultant team gathered relevant data and analyzed utilities and stormwater facilities to inform concept designs for the West Central Infrastructure project. Table 4 below summary describes utility and stormwater impacts for twelve intersections associated with the highest-priority projects.

The cost impacts for grading/associated stormwater are subject to change based on survey information. Preliminary estimates were based on Map Spokane GIS and Google Earth imagery. Additional catch basins with associated piping could be necessary, especially where proposed pedestrian ramps protrude into the roadways and along bus stops.

Table 4: Estimated Utility and Stormwater Impacts

Intersection	Project(s)	Anticipated Utility/ Stormwater Cost Impact	Comment
Broadway Avenue & Chestnut Street	1, 2	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.
Broadway Avenue & Cannon Street	1	Medium	Medium grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely medium.
Broadway Avenue & Oak Street	1	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.
Broadway Avenue & Ash Street	1	Low	Minor grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely low.
Bridge Avenue & Chestnut Street	2	Medium	A catch basin would be required to be installed outside of the proposed curb and sidewalk extension into the road on the northeast corner of the intersection. Associated pipe would be required to tie into the existing drywell. A low cost is associated with this catch basin installation. A minor adjustment to the existing storm drywell on the northeast corner of the intersection would be necessary, changing the elevation of the rim and replacing the grate with a solid lid. The associated cost is low. Medium grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely medium.
College Avenue & Chestnut Street	2	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.
Mallon Avenue & Chestnut Street	2	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.

[6] *"Higher" bicycle and pedestrian activity is not defined in this context in the Design Standards.*

Intersection	Project(s)	Anticipated Utility/ Stormwater Cost Impact	Comment
Dean Avenue and Chestnut Street	2, 6	Medium	The proposed pedestrian ramp on the northeast corner of intersection will interfere with the existing hydrant. This hydrant will need to be relocated a few feet to the east. Relocation will require trenching to the main and capping and plugging the existing hydrant line at the main. A medium cost is associated with this relocation. Minor grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely minimal.
Boone Avenue and Chestnut Street	2, 5	Medium	Medium to high grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely medium.
Boone Avenue and Cochran Street	5	Medium	The proposed pedestrian ramp on the northeast corner of intersection will interfere with the existing stormwater catch basin. This catch basin will need to be demolished and replaced with a new catch basin and associated piping. Relocation will not require road closure and will not significantly affect the existing drainage pattern. A low cost is associated with this relocation. The proposed pedestrian ramp on the southeast corner of the intersection will interfere with the existing power/light pole. If the location of pedestrian ramp remains at its existing location the cost impact would be high, however a slight shift of location would eliminate this impact. Medium to high grading adjustments would be required for the proposed corners of the intersection to maintain existing drainage pattern. The associated cost could vary but is likely medium to high. A minor adjustment to the existing storm manhole on the northeast corner of the intersection would be necessary, changing the elevation of the rim. The associated cost is low.
Broadway Avenue and Elm Street	5	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.
Boone Avenue and Summit Boulevard	7	Minimal	No utility, stormwater or grading adjustments are expected for this intersection.

Special Event Considerations

BLOOMSDAY RACE

PROJECTS 1, 2, 3, 4, AND 6

Nearly 30,000 people join the Bloomsday race each spring. The course finishes through the West Central neighborhood, following Mission, Summit, Lindeke, Broadway, and Monroe.

There are curb extensions being constructed by the City of Spokane at the intersection of Lindeke Street and Boone Avenue that will narrow the roadway slightly. A similar treatment is being proposed at the intersection of Nettleton Street and Broadway Avenue as part of Project 6. As part of Project 1, centerline diverters are being proposed at Chestnut Street and Elm Street on Broadway Avenue. The diverter at Chestnut Street is anticipated to narrow the right-of-way along Broadway Avenue by six feet. Both diverters will require

additional signage so as not to pose a tripping hazard to racers. None of these proposed treatments are expected to preclude the use of any of the facilities along the Bloomsday racecourse, as it is routed today.

Figure 3: Bloomsday Race 2024 Course Map

Plan Review

There are a number of ongoing and recently completed studies that have informed project selection and the further refinement of the concept designs. The majority of the needs identified through these planned processes were voiced again through community input in this project; the former plans add credence to these requests. The outcomes of these previous plans are described below.

CITY OF SPOKANE TRAFFIC CALMING REPORT (2024)

The City of Spokane held *Issues Workshops* with neighborhood residents in 2022 to identify priorities for traffic calming treatments. Concept analyses, cost estimates, and traffic analyses were developed to address the top five concerns in each neighborhood. The following concerns were identified in West Central, shown in descending priority order:

1. Speeding on Summit Avenue, Broadway Ave, Boone Avenue, and Maxwell/Mission Avenue
2. Neighborhood-wide pedestrian connectivity and ADA
3. Neighborhood-wide speeding and right-of-way confusion
4. Bicyclist safety and pedestrian crossing safety at Maxwell Avenue & Belt Street, Maxwell Avenue & Elm Street, and Pettet Drive & Mission Avenue Intersections
5. Pedestrian crossing safety at Broadway Avenue Intersections at Chestnut Street, Elm Street, Nettleton Street, and Cannon Street
6. Pedestrian network connectivity and safe routes to school at Holmes Elementary
7. Pedestrian network enhancements on Broadway Avenue from Spokane County Courthouse to Maple Street
8. ADA accessibility on Broadway Avenue at Cedar Street and Maple Street
9. Pedestrian crossing safety on Boone Avenue at Nettleton Street, Chestnut St, Elm Street, and Cochran Street
10. Size of street on Chestnut Street
11. Pedestrian network connectivity at the Maple Street Bridge
12. Intersection confusion and pedestrian crossing safety at Maple Street /Ash Street and Dean Avenue

The top priority concepts selected by the community were, in descending priority order:

1. Curb extensions, bike lanes, and speed feedback signs on Summit Boulevard, Broadway Avenue, Boone Avenue, Maxwell/Mission Avenue
2. Curb extensions, marked crossings, and raised intersection at Broadway Avenue Intersections at Chestnut Street, Elm Street, Nettleton Street, and Cannon Street
3. Curb extensions on Broadway Avenue from Spokane County Courthouse to Maple Street
4. Marked crossings and ADA upgrades at Holmes Elementary

CITY OF SPOKANE BICYCLE MASTER PLAN (2017)

The City of Spokane Bicycle Master Plan was developed as part of the 2017 Comprehensive Plan Update. The Bicycle Master Plan provides a high-level overview of a proposed bicycle network to be constructed city-wide. As shown in Figure 4, the Plan includes the following facilities in the West Central Neighborhood:

- Neighborhood Greenways on Chestnut Street and Elm Street
- Bike Friendly Routes on Broadway Avenue and Nettleton Street
- Bike Lanes on Maxwell Avenue, Pettet Drive, and Ash Street

Neighborhood Greenways are defined in the Plan as low-volume and low-speed streets that have been optimized for bicycle and pedestrian travel and are designed to attract bicyclists of all ages and abilities, especially those in the *Interested but Concerned* category[7]. Wayfinding signs, pavement markings, traffic calming and intersection treatments are potential elements of these facilities.

Bike Friendly Routes are defined in the Plan as low-volume routes marked by bicycle signage and/or the use of shared lane markings, attractive to beginning and intermediate level riders. This treatment is to be used primarily on local streets with a few collector arterials, particularly on roads with no centerline stripes when outside of the Central Business District (CBD). The treatment is applicable when the posted speed is 30 mph and there is less than 1,000 volume (ADT) per lane, or when posted speed is 25 mph and there is less than 2,000 volume (ADT) per lane.

Figure 4: City of Spokane Bicycle Master Plan Map in West Central

CITY OF SPOKANE COMPREHENSIVE PLAN (2017)

In addition to the bicycle network shown in the City of Spokane Bicycle Master Plan, the Comprehensive plan shows much of the eastern portion of the neighborhood as a pedestrian priority zone. This designation identifies which areas with the greatest potential to support walking access to destinations and the greatest

[7] For more information on cyclist typologies, see: https://jenniferdill.net/types-of-cyclists/

deficiencies in existing infrastructure. The areas should receive investments in pedestrian infrastructure such as sidewalks, curb ramps, and pedestrian crossings.

WEST CENTRAL ACTION PLAN (2012)

The 2021 West Central Action Plan called out four primary transportation-related concerns voiced by a stakeholder team. All of these concerns are addressed by the proposed projects and/or projects already in progress.

- Additional opportunities for bike lanes and multi-modal transportation options in and connecting to the neighborhood to maximize West Central's proximity to downtown and provide low-income families with a greater ability to function without the cost of an automobile.
- Safety concerns and additional parking and traffic load accommodation along the Maple/Ash corridor and in the County Campus area.
- Repair and improvement to the streets, sidewalks, and streetscape amenities along arterials and important residential streets in the southern portion of the neighborhood.
- Pedestrian safety around A.M. Cannon Park.

Funded Projects

The following projects have received full or partial funding in the study area. Partially funded projects are eligible for West Central TIF funding.

- **Maxwell Avenue/Pettet Drive Bike Lanes (fully funded)**: Buffered bike lanes and enhanced pedestrian crossings are to be installed on Pettet Drive and Maxwell Avenue from Augusta Avenue to Walnut Street New curb ramps and pedestrian islands will be installed at Belt Street and Elm Street New bus loading islands will be constructed at Elm Street. The project is supported by WSDOT Pedestrian and Bicycle safety funding. Construction is anticipated in late 2024.
- **Boone Avenue Curb Extensions (fully funded)**: Curb extensions are to be constructed on Boone Avenue at Lindeke Street and Nettleton Street. Stop bars will be added on Nettleton Street. The project is included in the Cycle 12 Traffic Calming Resolution 2024-0028—which has been approved by City Council—and is to be constructed in 2025.
- **Broadway Avenue & Chestnut Street Temporary Traffic Diverter (fully funded)**: As part of the City of Spokane's Traffic Calming program, a north/south traffic diverter will be constructed on Broadway Avenue at Chestnut Street. The project will include channelization resulting in a shortened crossing distance and a smaller turning radius at the northwest and southeast corners of the intersection. The project will use quick-build materials, selected to minimize the cost, effort, and time required for installation. Project 1 proposes a permanent design for this configuration.
- **Ash Street to Maple Street Accessible Path (partially funded)**: As part of the City of Spokane's 2023 Safe Streets for All grant application, partial funding has been received to replace the stairwell between Ash Street and Maple Street near College Avenue.
- **Broadway Avenue Bike Lanes (partially funded)**: As part of the City of Spokane's 2023 Safe Streets for All grant application, partial funding has been received to install parking-protected bicycle lanes along Broadway Avenue from Chestnut Street to Lincoln Street. The project includes bus loading islands.

Next Steps

This document will be shared with the project's technical advisory committee (TAC) for review and comment. It will then be updated by the consultant team for inclusion in with the executive summary and concept designs, together constituting the final deliverable for this planning and concept design phase of the West Central Traffic Calming project.

Project Area Maps

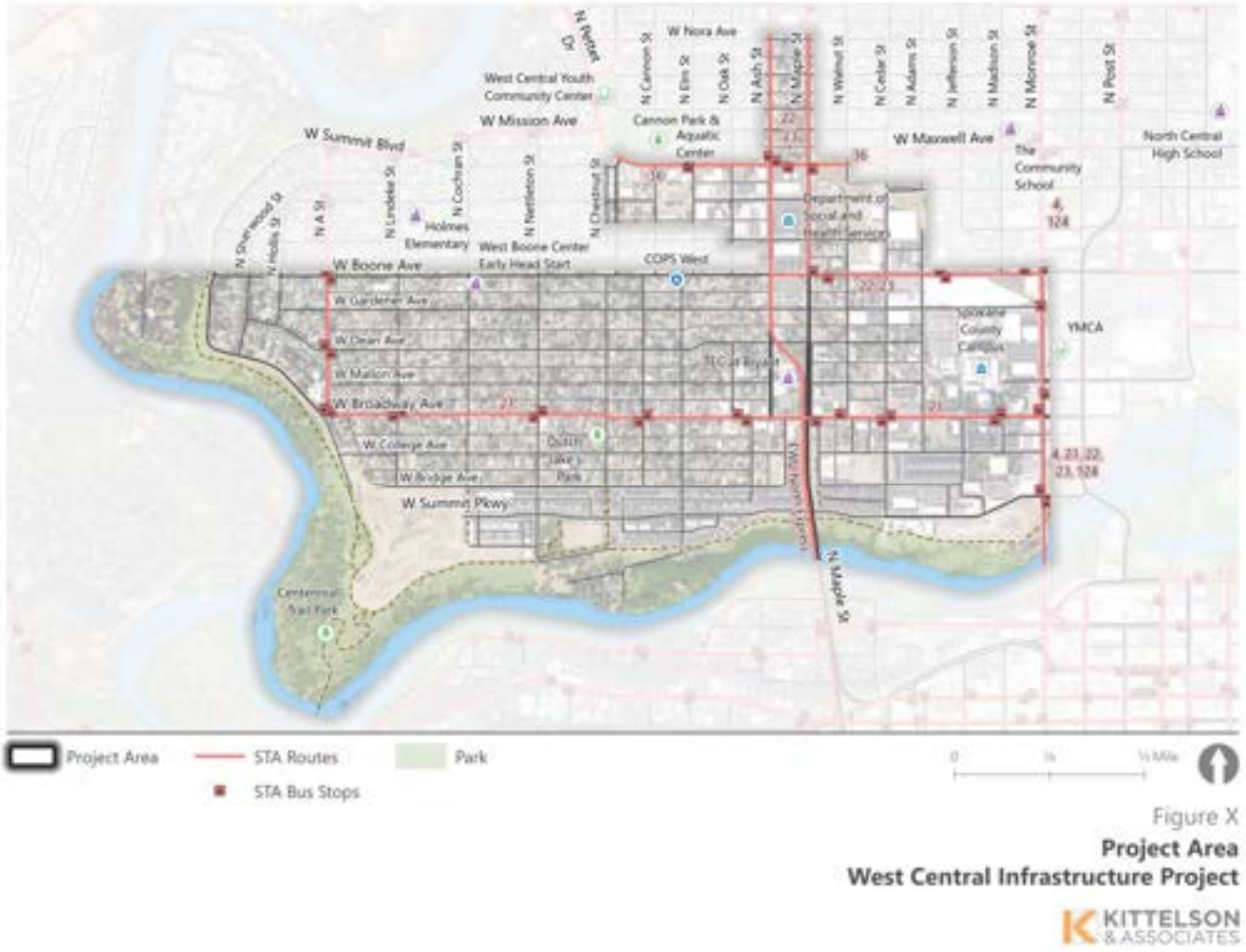


Figure X
Project Area
West Central Infrastructure Project

KITTELSON & ASSOCIATES

Figure 5: Project Area

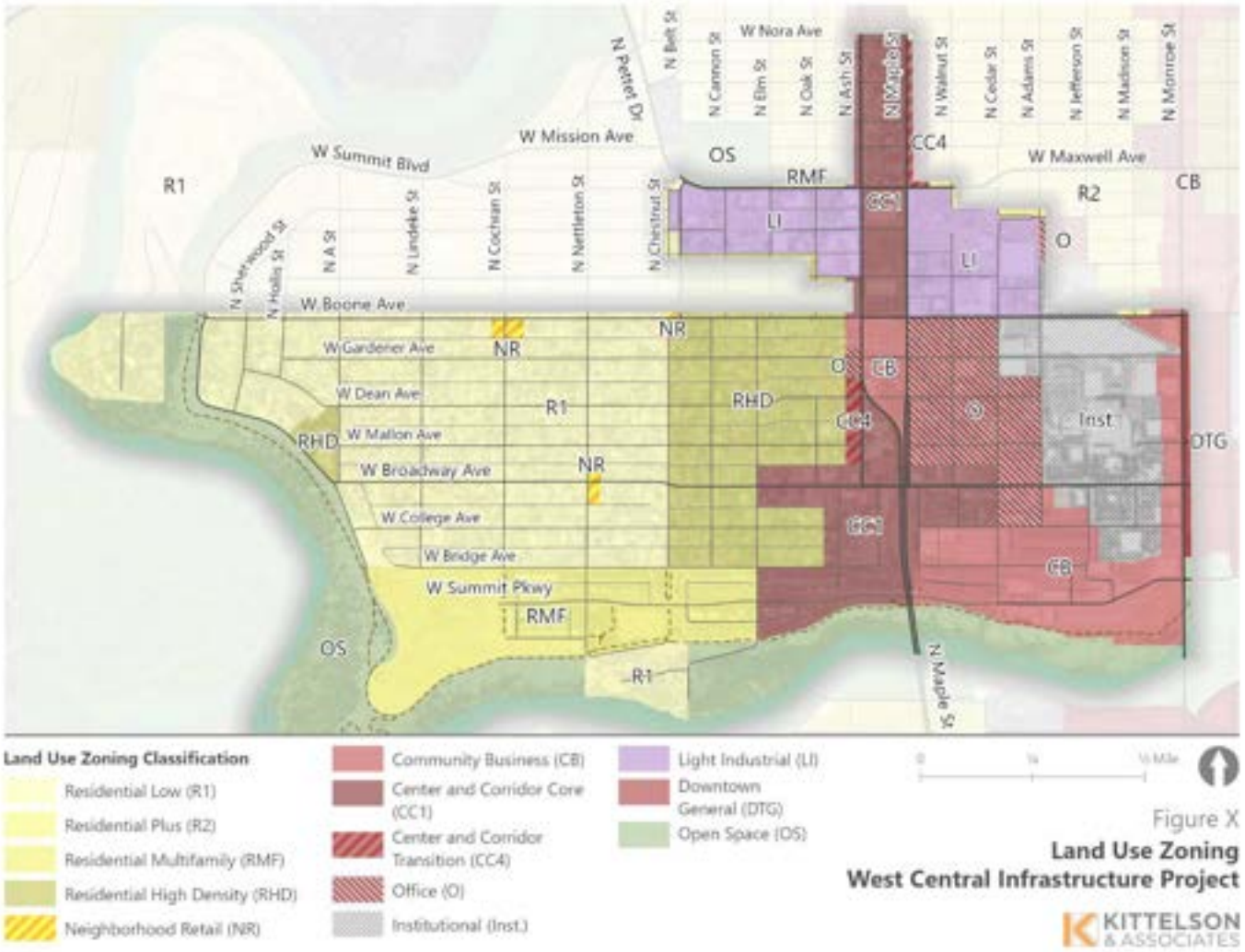


Figure 6: Land Use Zoning

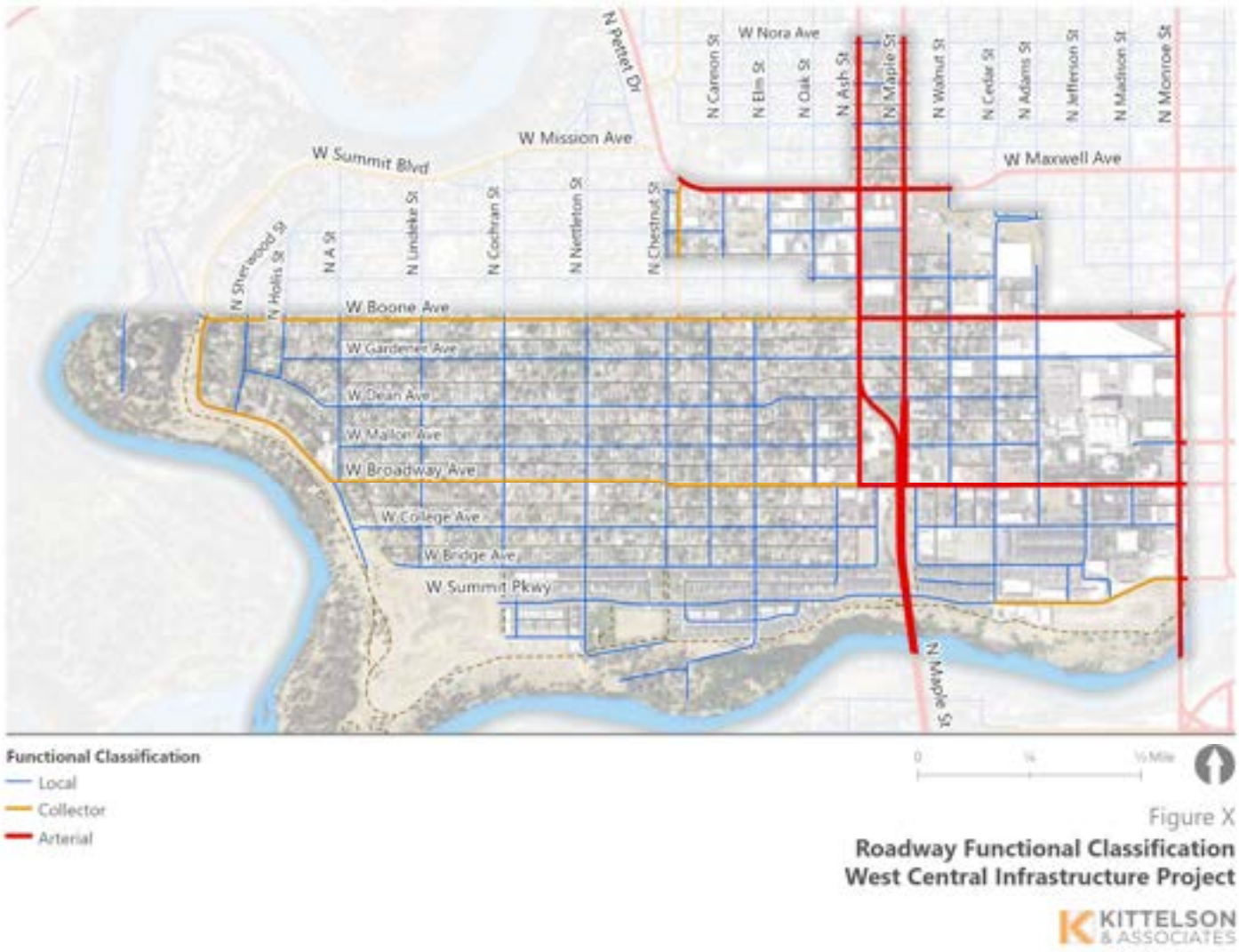


Figure 7: Roadway Functional Classification

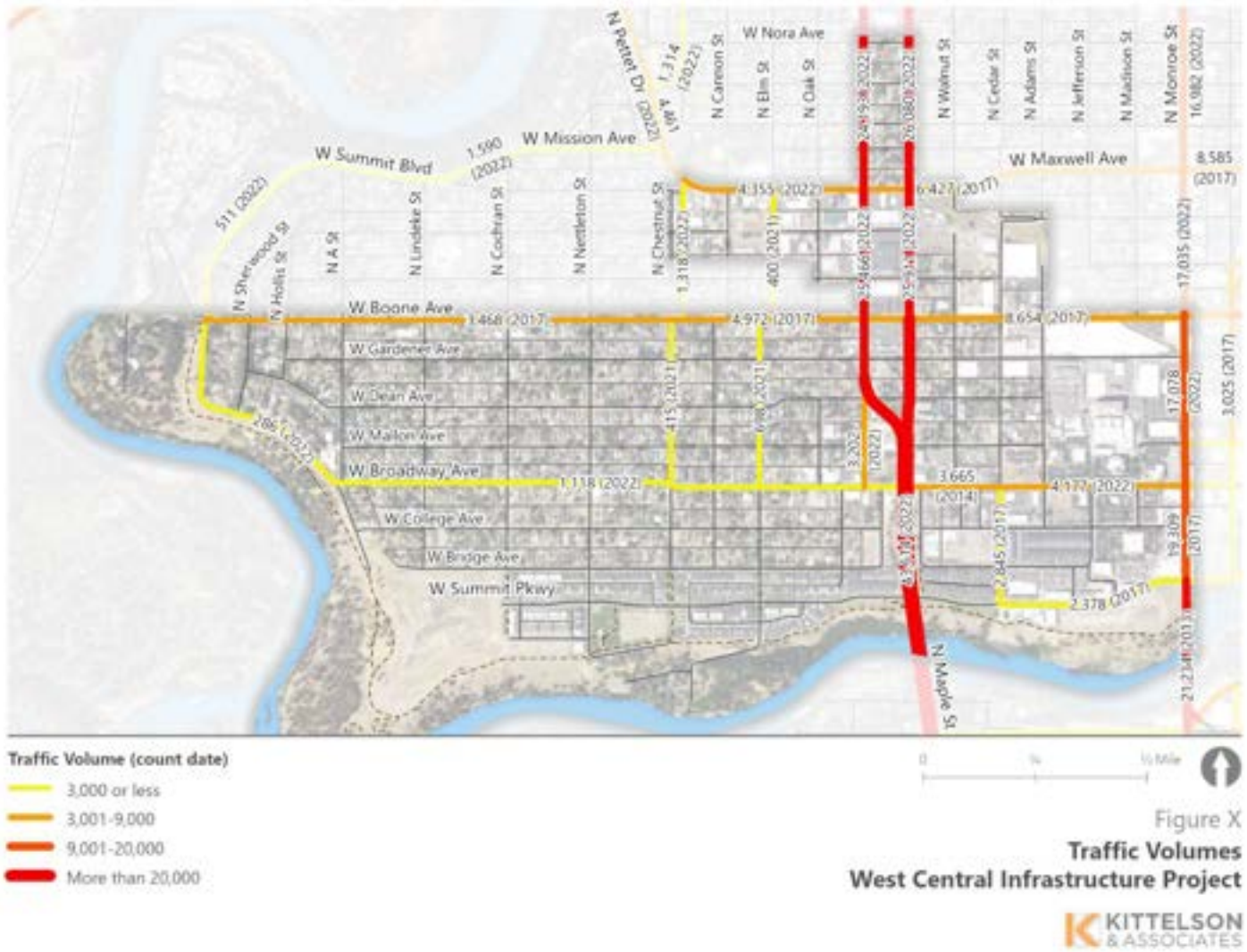


Figure X
Traffic Volumes
West Central Infrastructure Project

KITTELSON & ASSOCIATES

Figure 8: Traffic Volumes

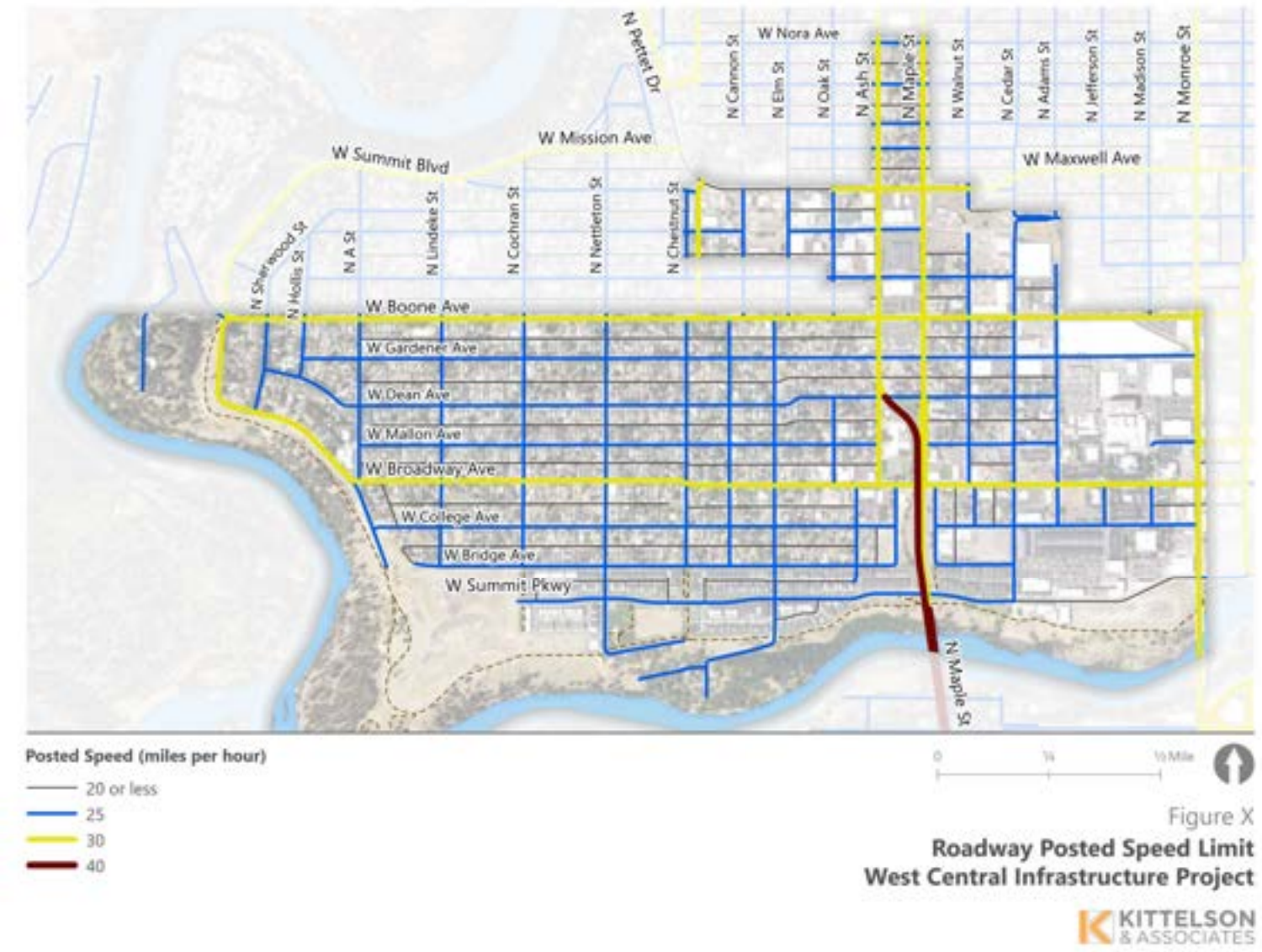


Figure 9: Posted Speed

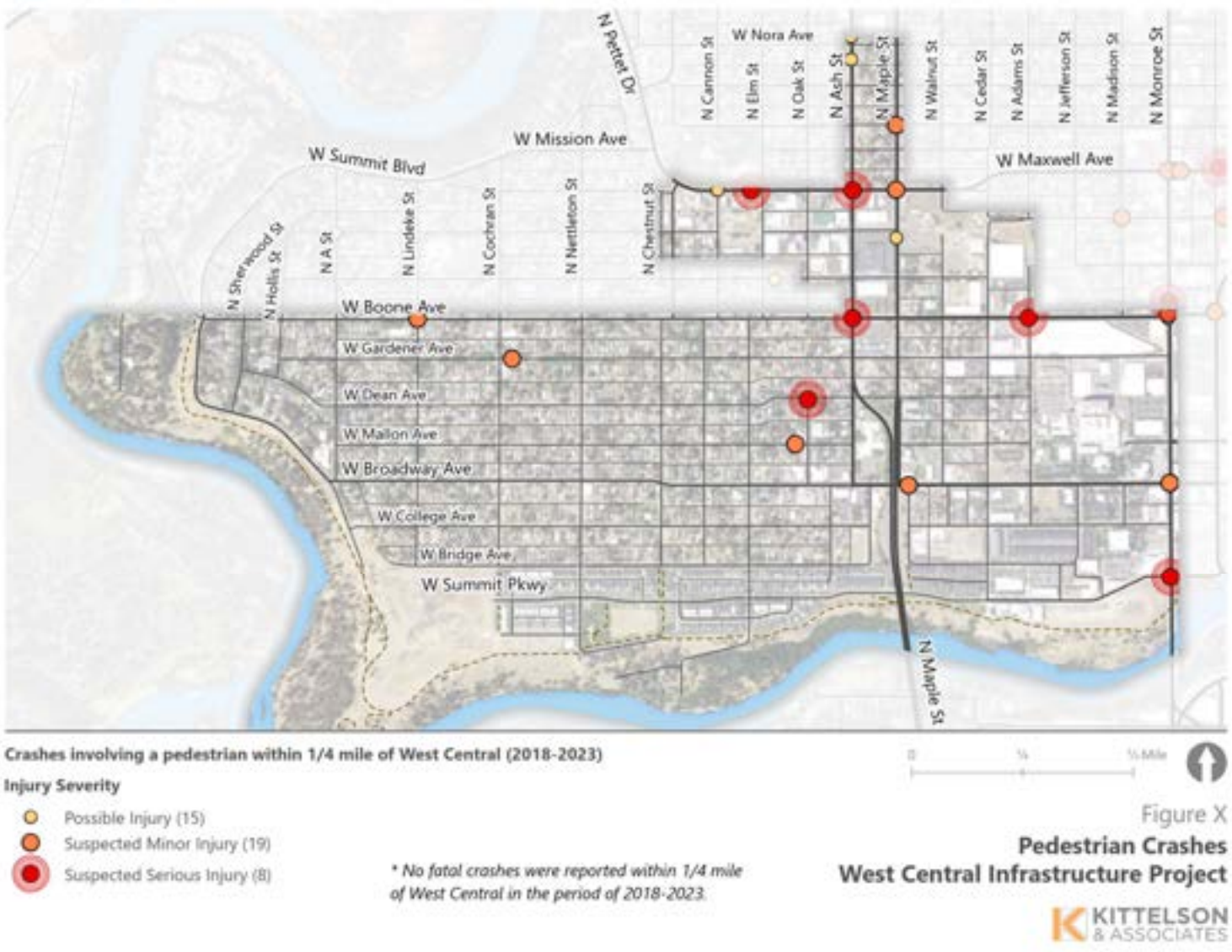


Figure 10: Pedestrian Crash History

Figure 11: Cycling Crash History

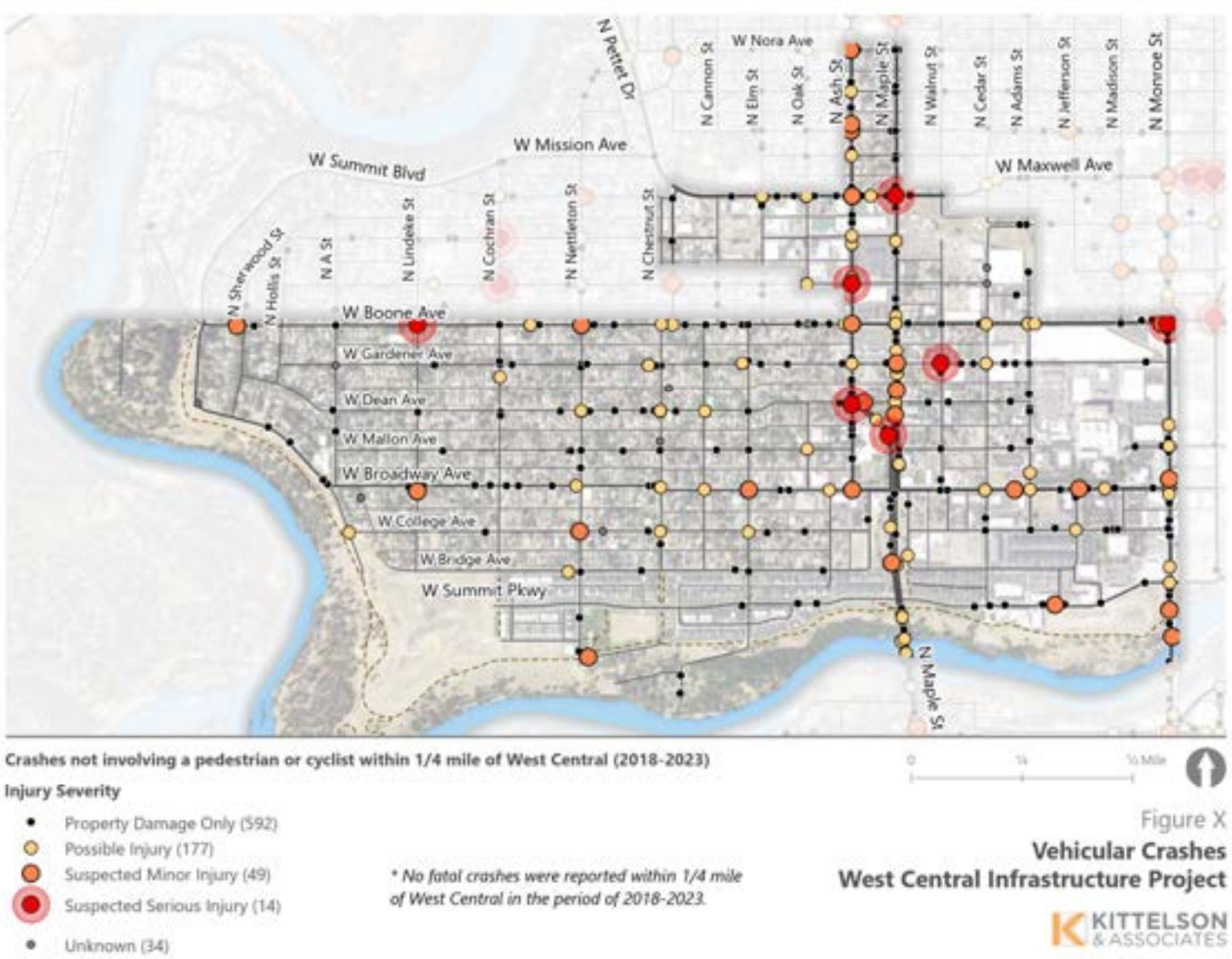


Figure 12: Vehicle Crash History

APPENDIX E.

Concept Designs

1. Broadway Avenue Bike Lanes
2. Chestnut Street Greenway
3. Elm Street Greenway
4. Nettleton Street Traffic Calming
5. Boone Avenue Traffic Calming
6. Dean Avenue Traffic Calming
7. Boone Avenue & Summit Boulevard Intersection
8. Broadway Avenue & Summit Boulevard Intersection

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024

W11-2
RRFB
W16-7PL
INSTALL SHARED LANE MARKINGS (TYP.)
N CHESTNUT STREET
INSTALL LONGITUDINAL CROSSWALK (TYP.)
FLEX POST DELINEATORS (TYP.)
R4-7
11.00'
6.00'
6.00'
R6-1 (2) ONE WAY
R3-2
R3-7bP EXCEPT BICYCLES
R4-7
W11-15
W16-9P AHEAD
R3-17 BIKE LANE
R3-17bP ENDS
6.00'
1.50'
7.00'
11.00'
W BROADWAY AVENUE
11.00'
7.00'
1.50'
5.50'
ONE WAY R6-1
ONLY R3-5a
EXCEPT BICYCLES R3-7bP
W11-2
RRFB
W16-7PL
W11-15
W16-9P AHEAD
DO NOT ENTER R5-1
EXCEPT BICYCLES R3-7bP
R3-17 BIKE LANE
R6-1 (2) ONE WAY
R1-1 STOP
R3-5R ONLY
R3-7bP EXCEPT BICYCLES
DO NOT ENTER R5-1
EXCEPT BICYCLES R3-7bP

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024

N CANNON STREET

EXISTING STA BUS STOP

5.50'
1.50'
7.00'
11.00'
60.00'
8.50'

W BROADWAY AVENUE

INSTALL GREEN BICYCLE CONFLICT MARKINGS (TYP.)

INSTALL BIKE LANE SYMBOL (TYP.)

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'
20 10 0 20

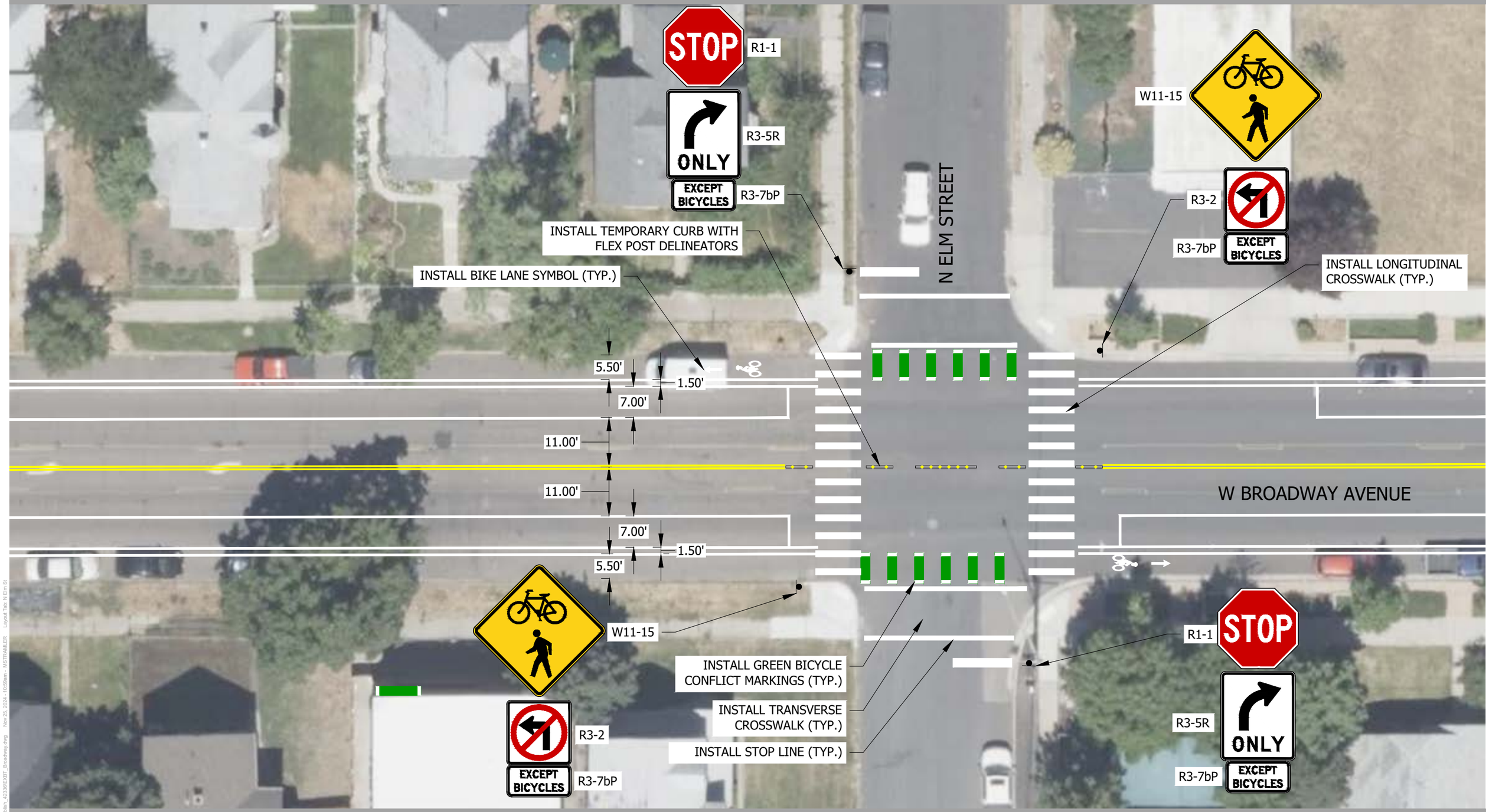
N

West Central Infrastructure Project
Spokane

C:\Users\local_matramer\Temp\AcPublish_42\3\EXBT_Broadway.dwg Nov 25, 2024 - 10:59am - MSTRAMLER Layout Tab: N Cannon St

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

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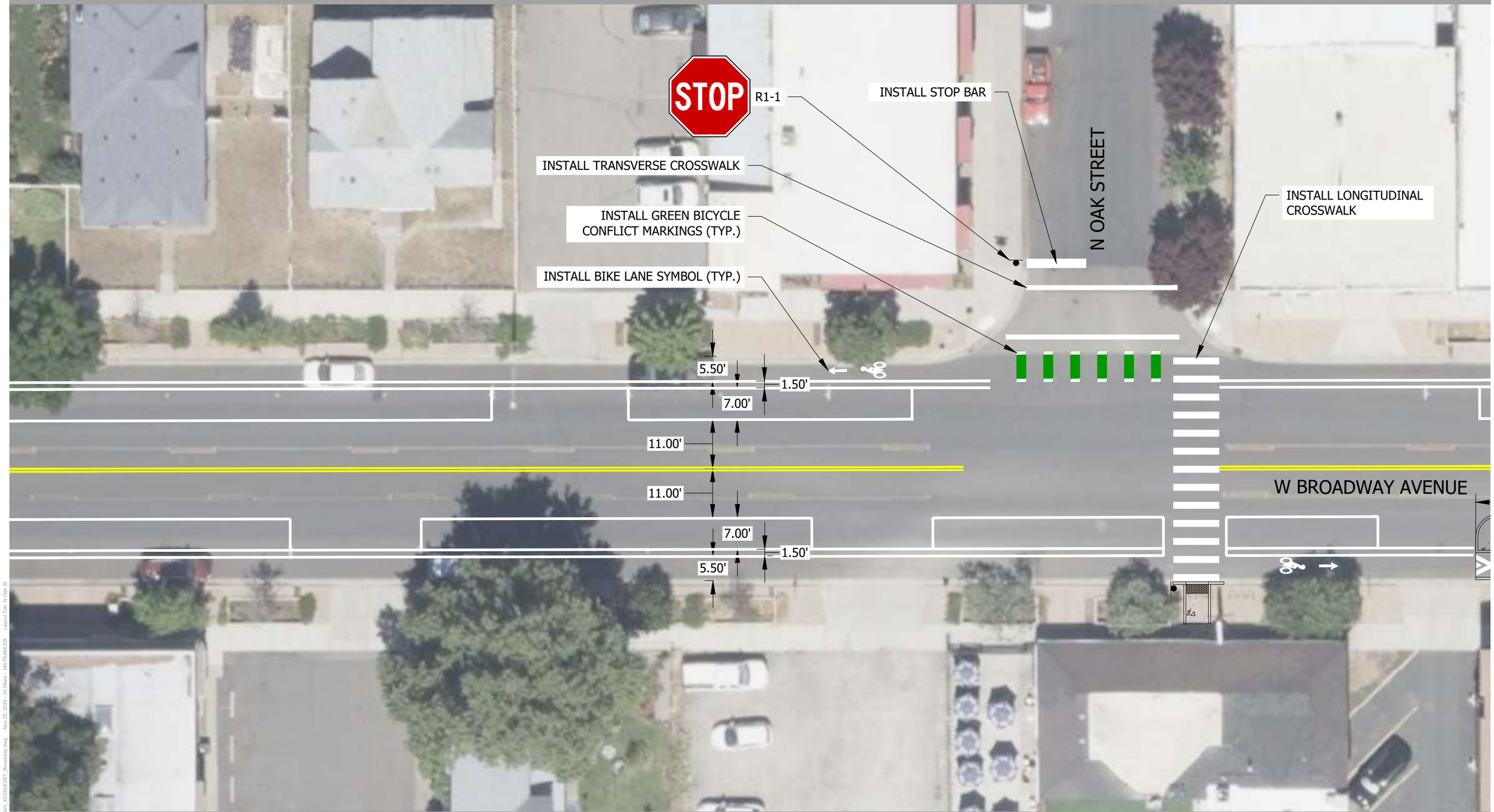
West Central Infrastructure Project
Spokane

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

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West Central Infrastructure Project
Spokane

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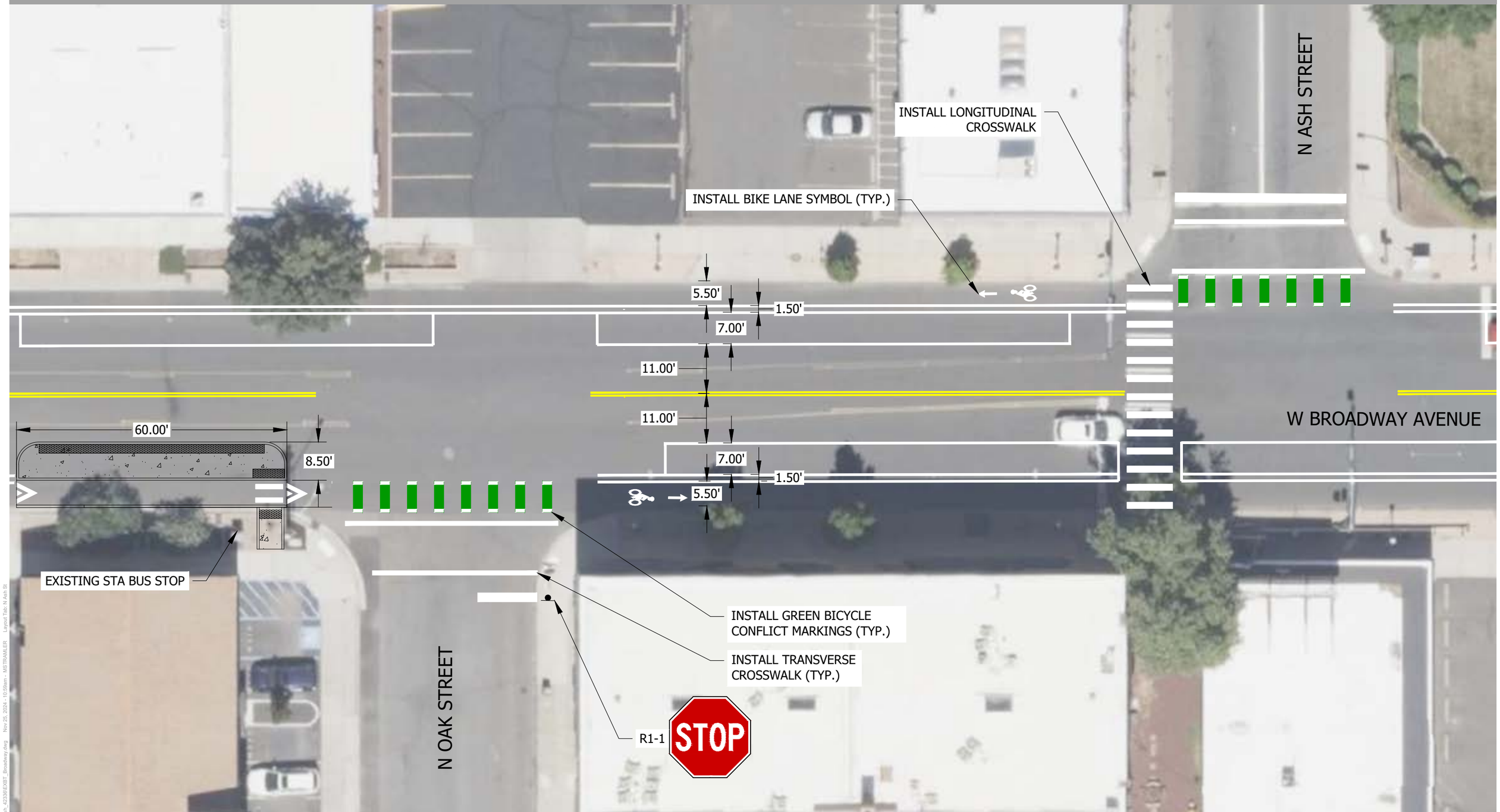
Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

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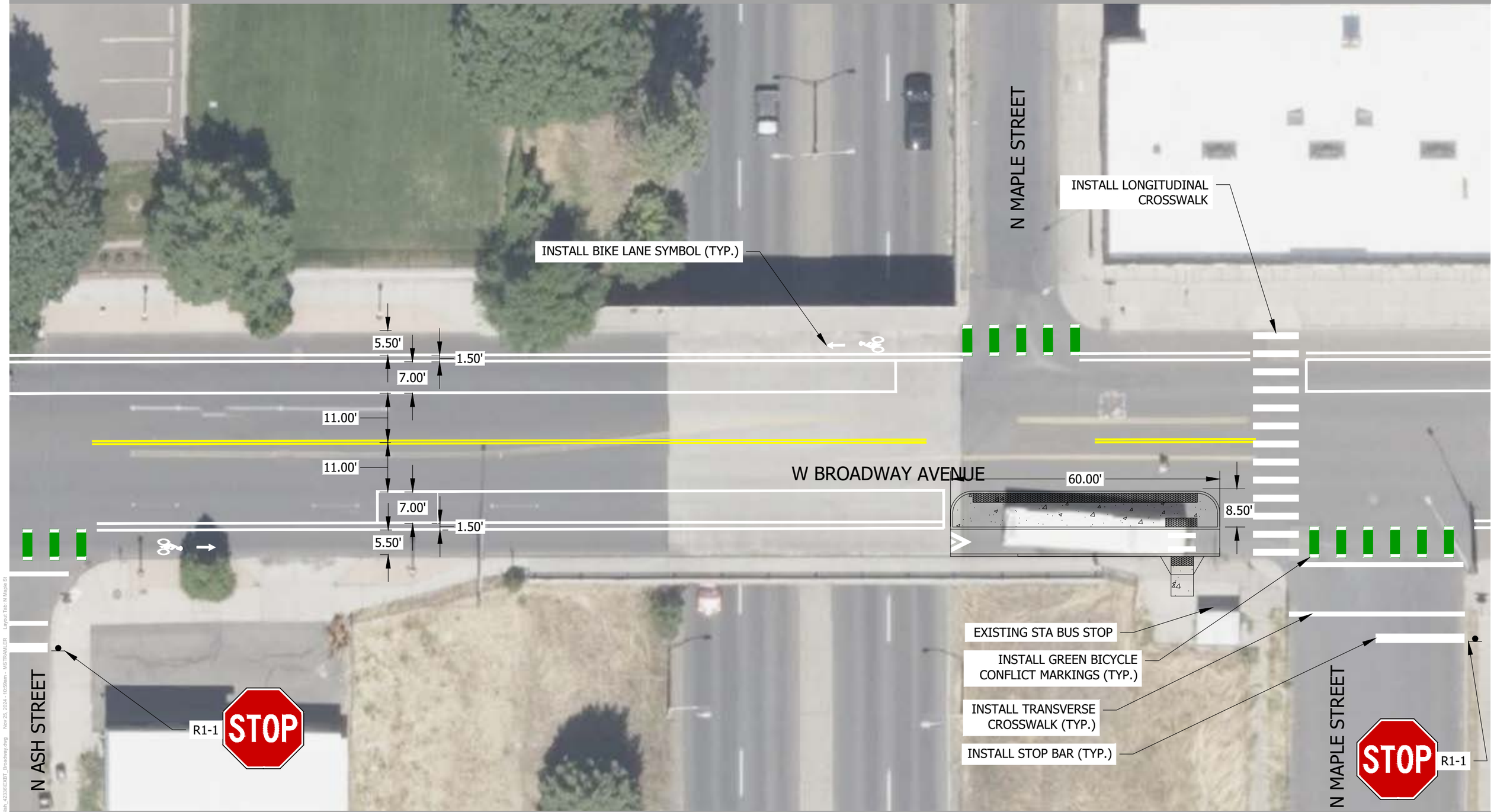
West Central Infrastructure Project
Spokane

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

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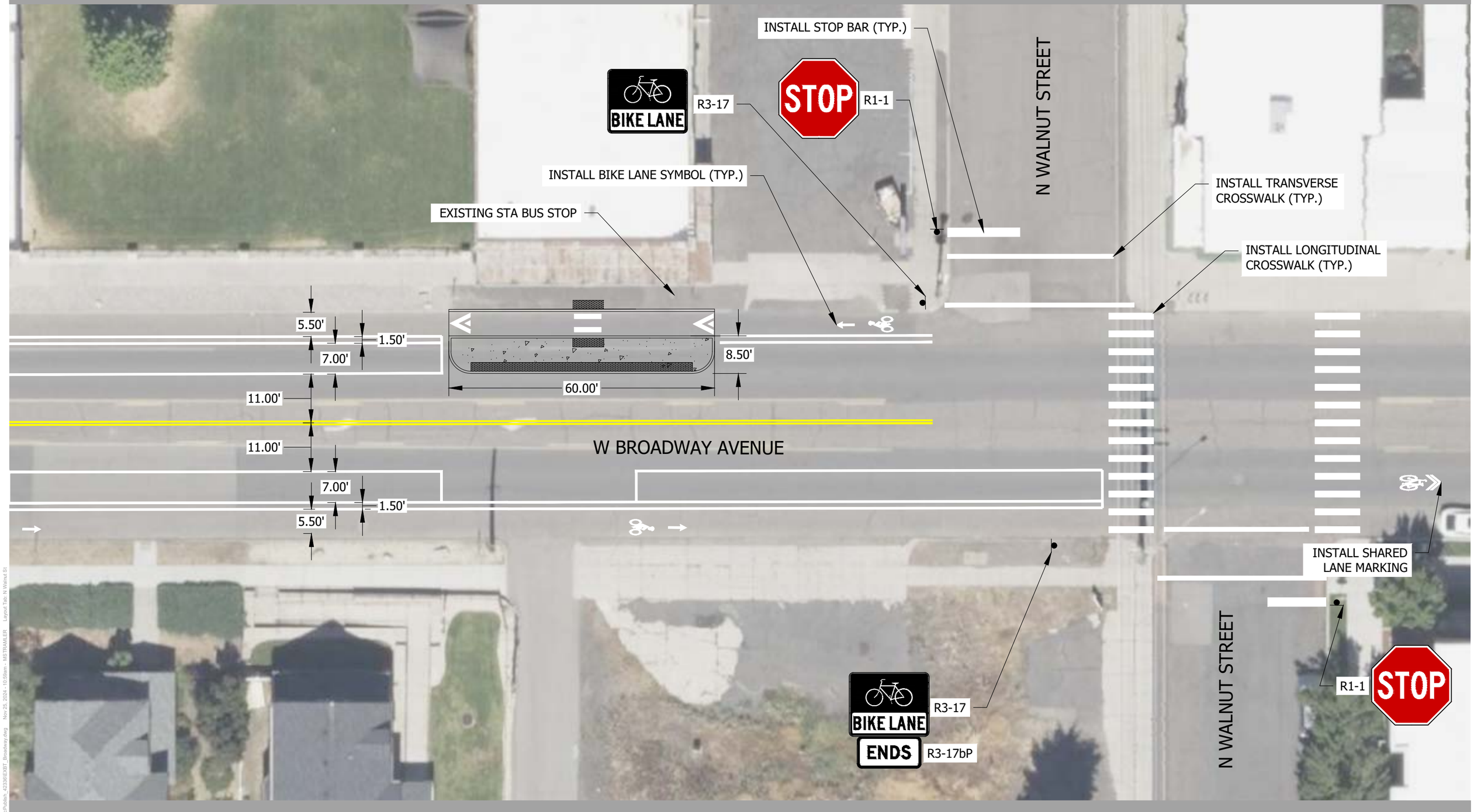
West Central Infrastructure Project
Spokane

Broadway Avenue Bike Lanes Concept

Preliminary Design Subject to Change
October 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
November 2024

MATCH EXISTING SIDEWALK (TYP.)

R15.00' (TYP.)

N CHESTNUT STREET

ONE WAY

R6-1 (2)

LANDSCAPING OR HARDSCAPE (TYP.)

SIDEWALK INFILL- CHESTNUT TO CANNON

25.50'

32.25'

W BRIDGE AVENUE

ONE WAY

R6-1 (2)

CURB RAMPS TO ALIGN WITH PEDESTRIAN PATHS

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 10'

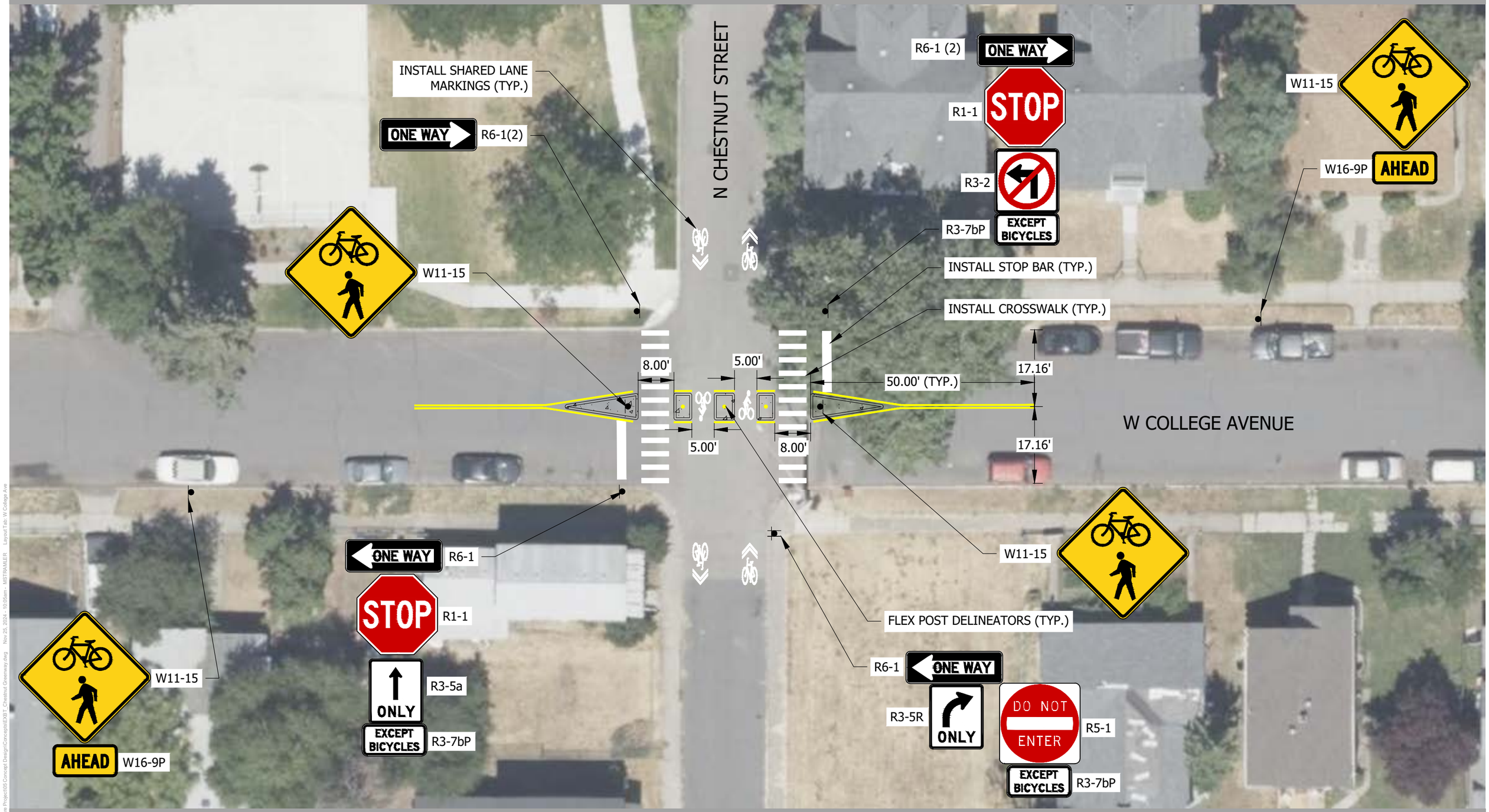
10 5 0 10

N

West Central Infrastructure Project
Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
November 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'

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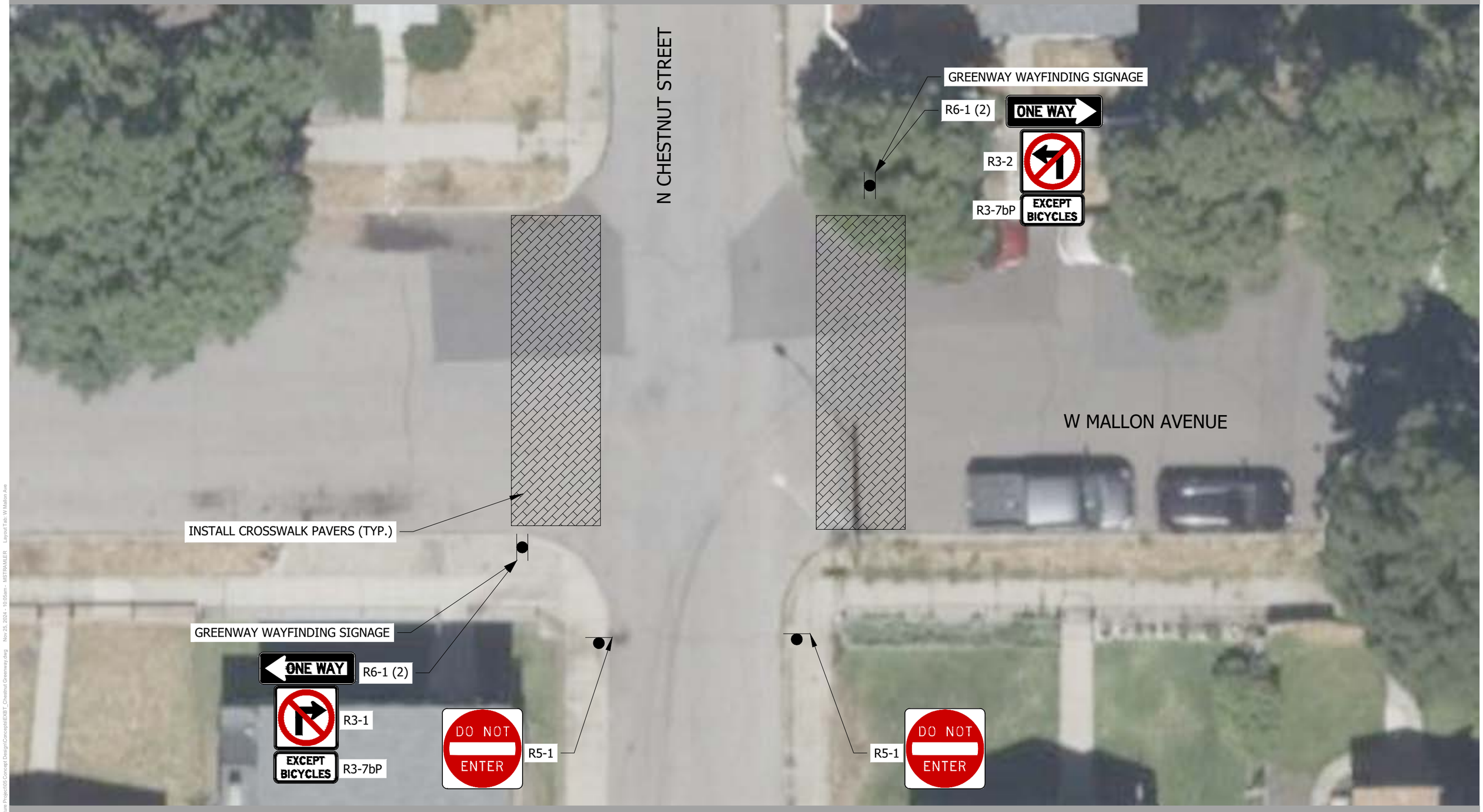
N

Chestnut Street Greenway Concept

Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
November 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 10'

10 5 0 10

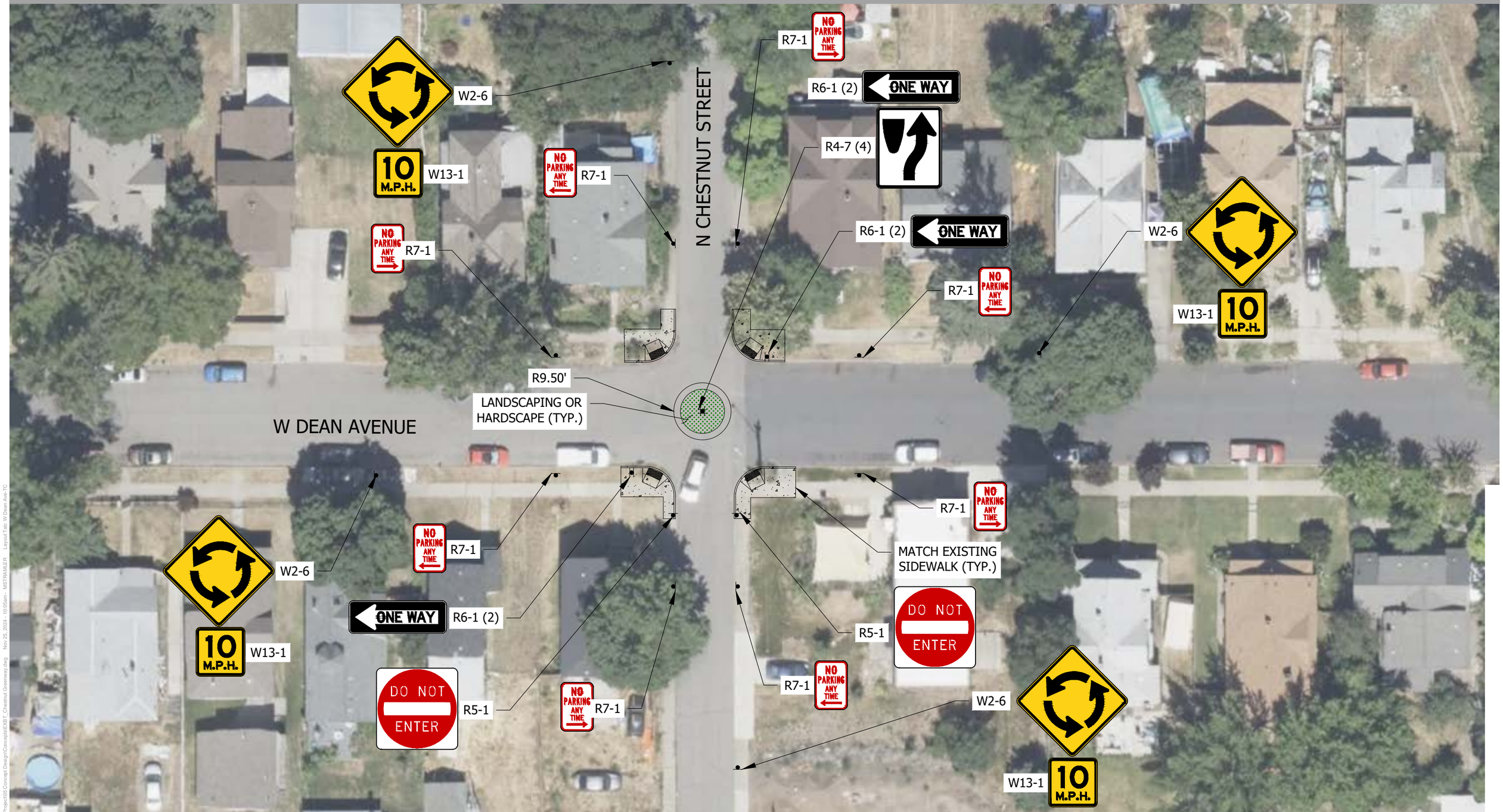
N

West Central Infrastructure Project

Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
November 2024



KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 30'

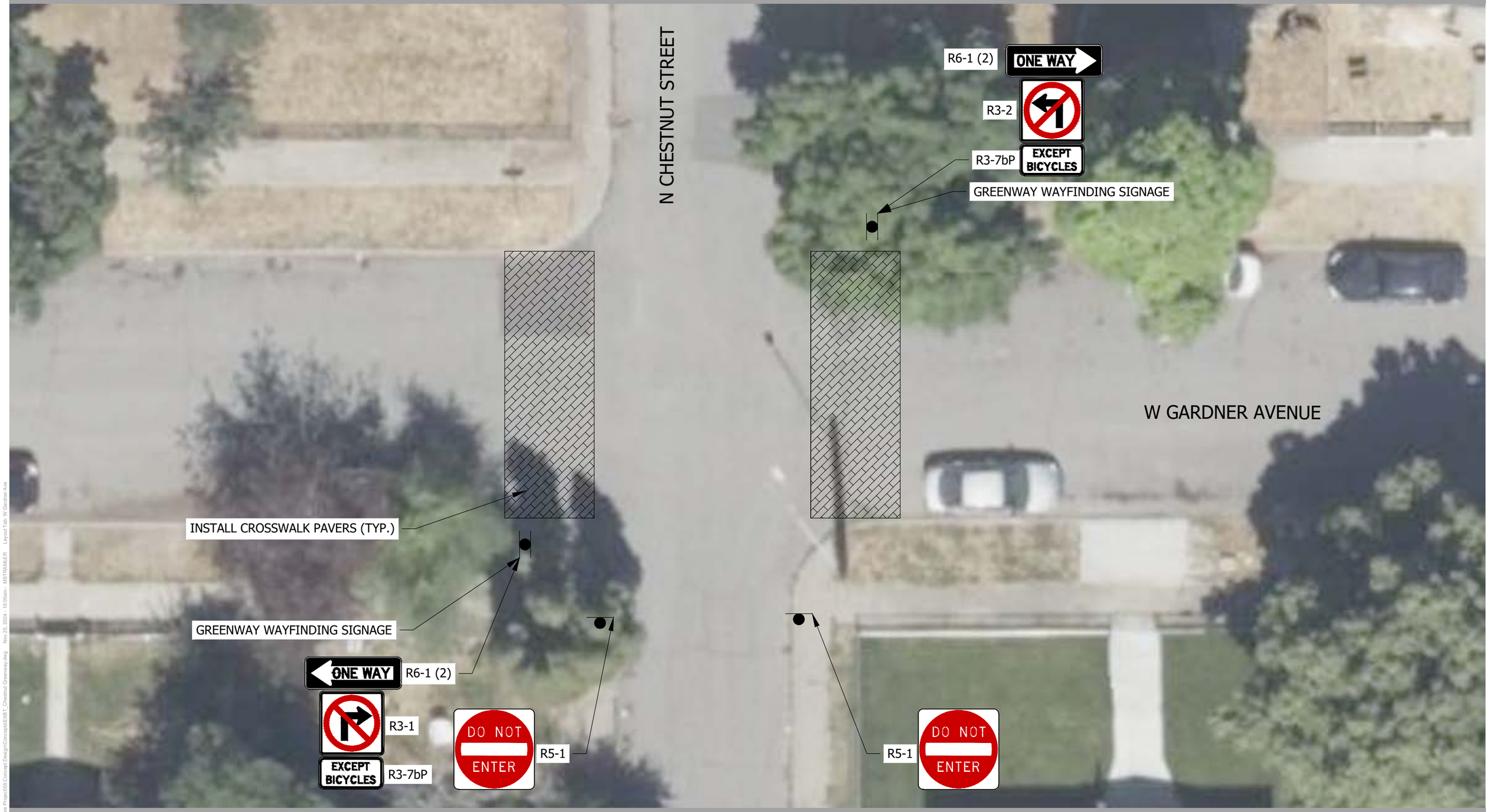
30 15 0 30

N

West Central Infrastructure Project
Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
November 2024



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West Central Infrastructure Project
Spokane

Chestnut Street Greenway Concept

Preliminary Design Subject to Change
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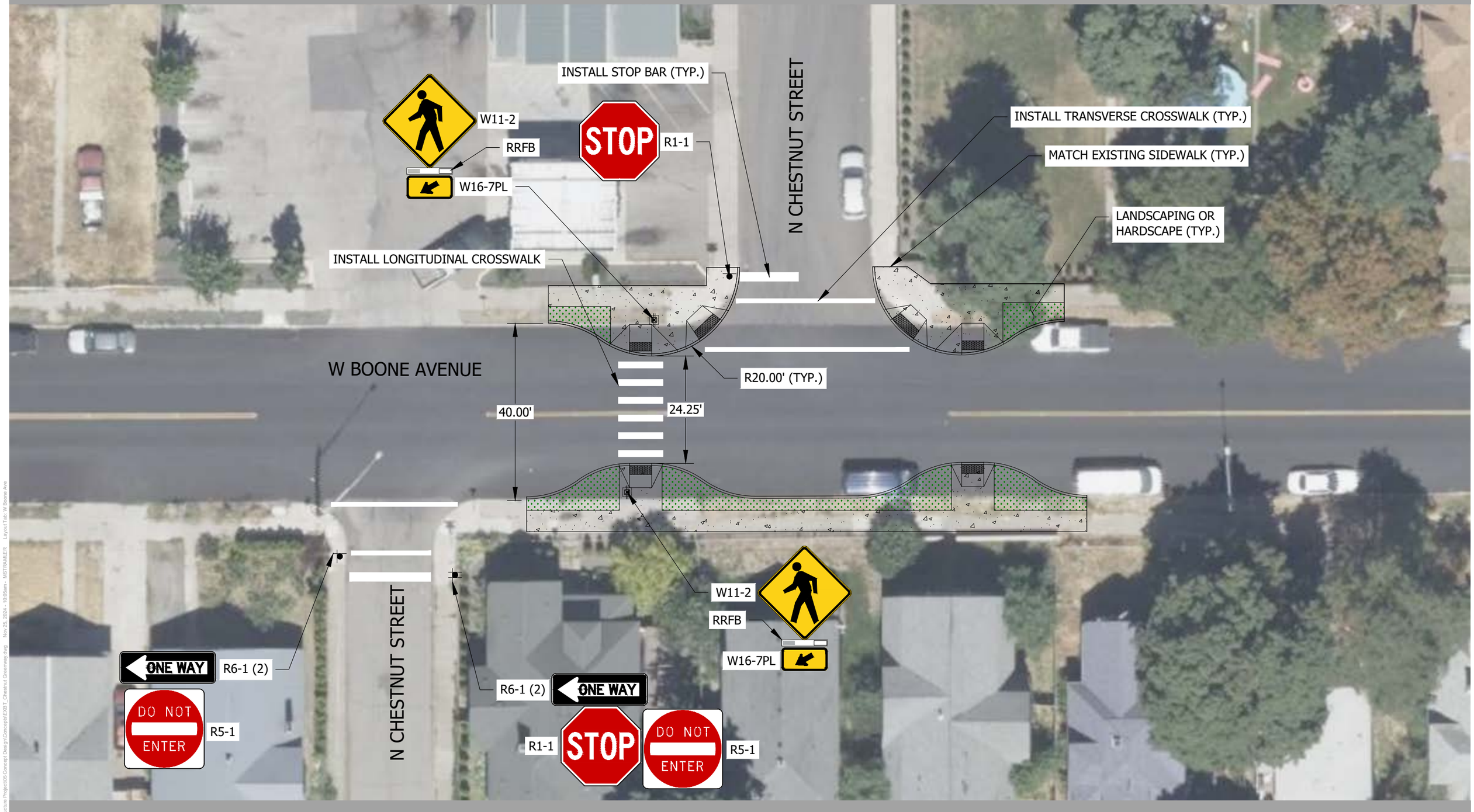


KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'

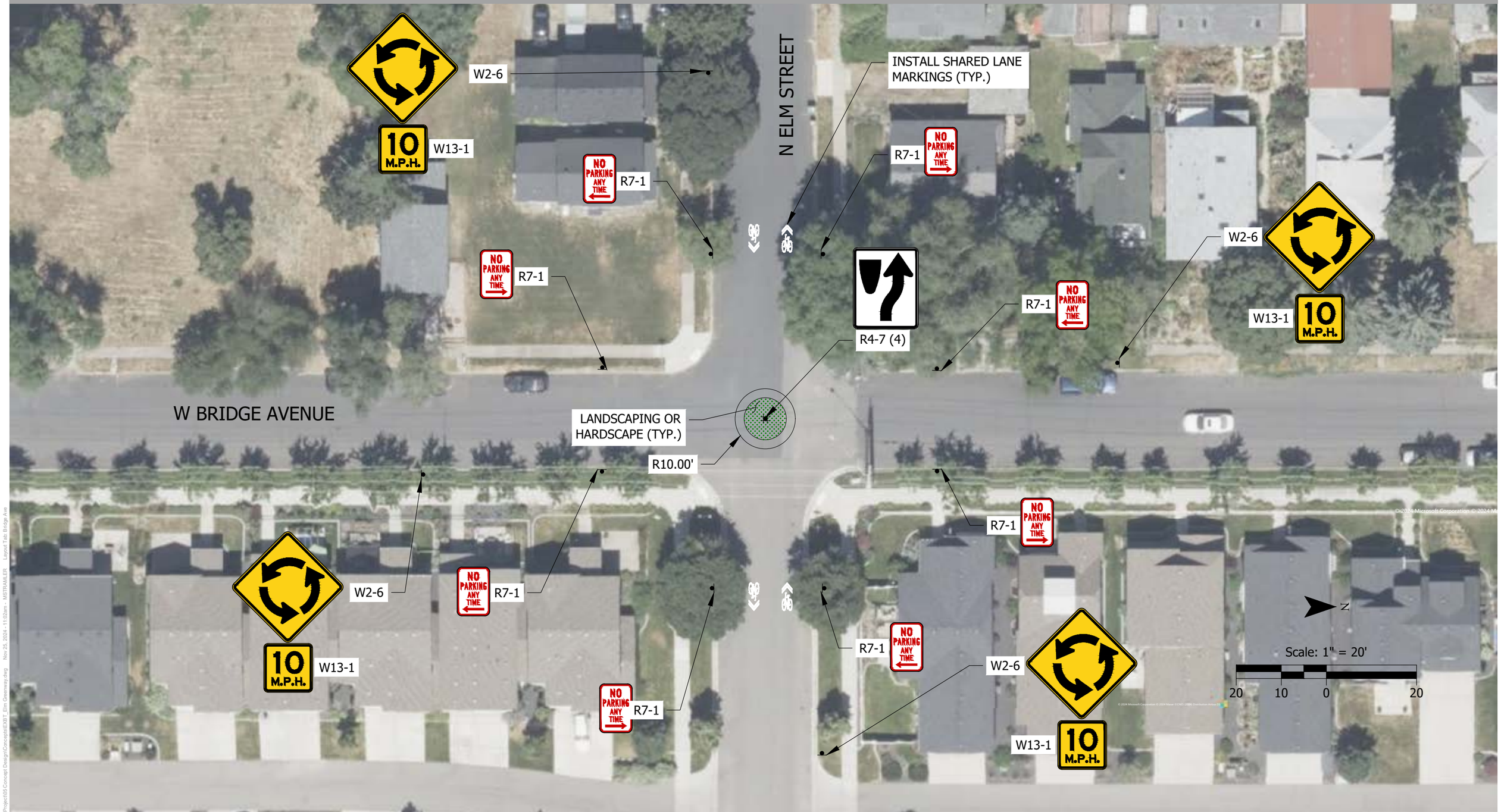
20 10 0 20

N

West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
Date: November 2024



KITTELSON & ASSOCIATES
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Scale: 1" = 30'
30 15 0 30

N

West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
Date: November 2024

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West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
Date: November 2024

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Scale: 1" = 20'

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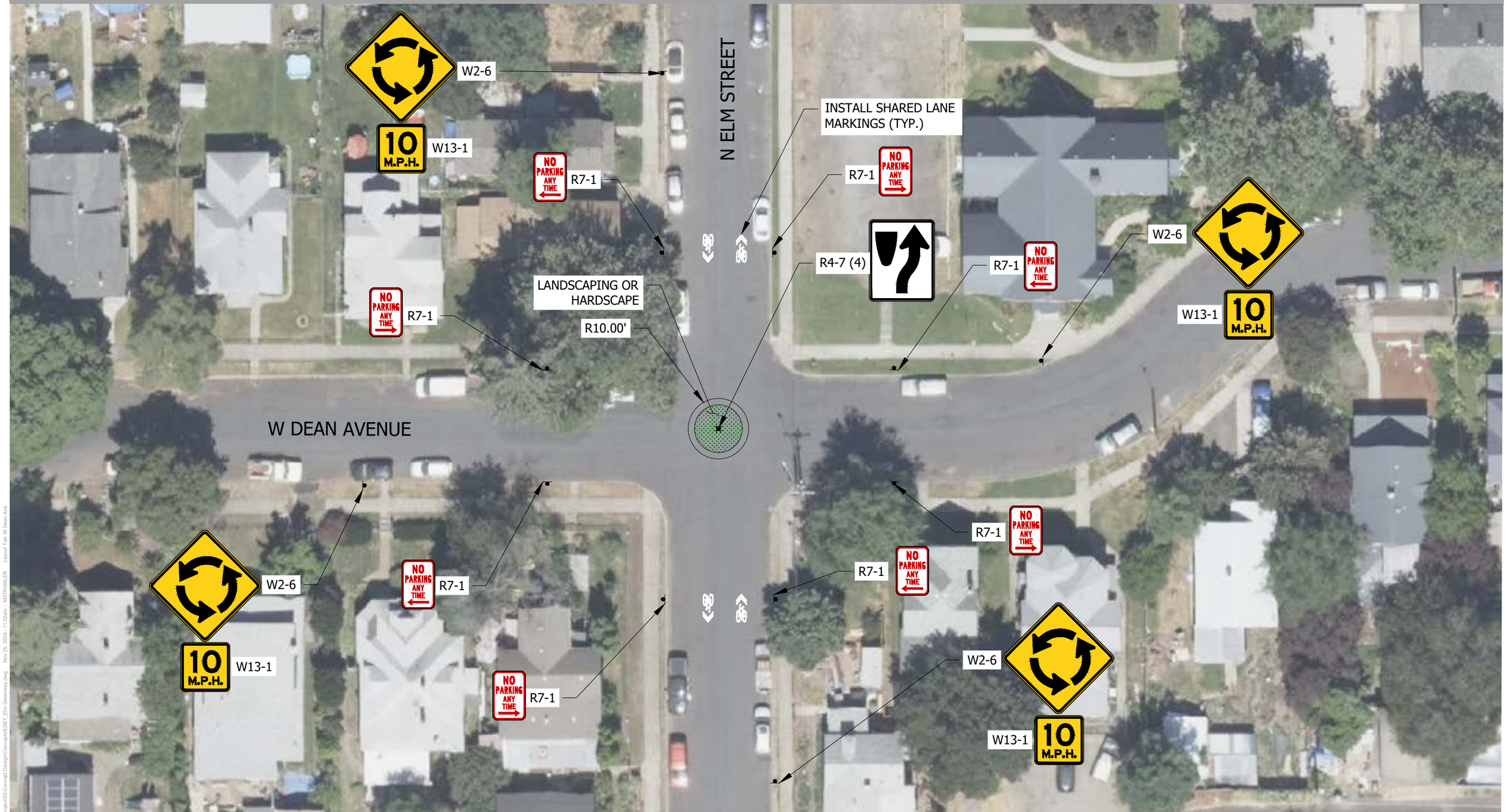
West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
Date: November 2024



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Scale: 1" = 30'
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West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
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West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

Preliminary Design Subject to Change
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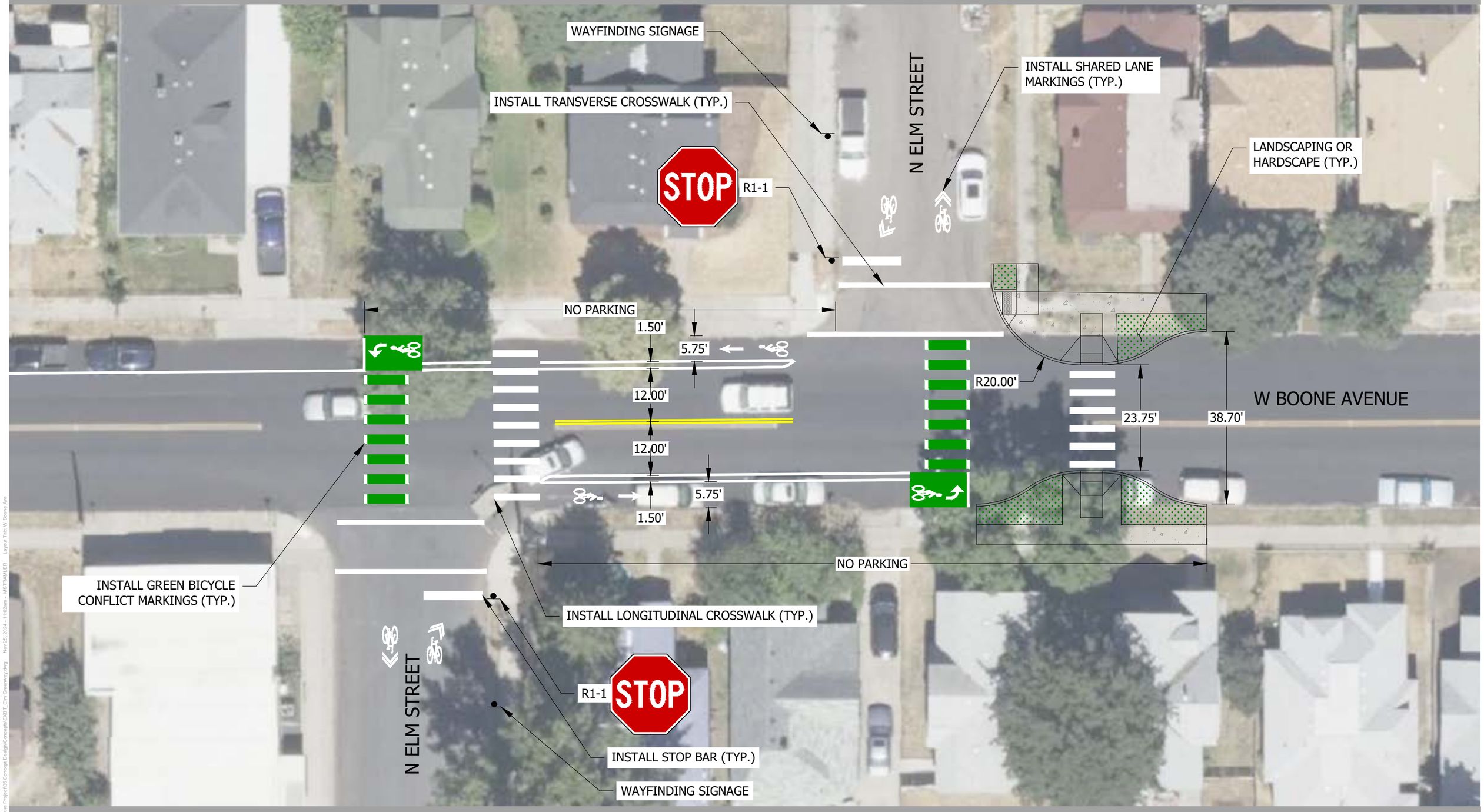

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Scale: 1" = 20'

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West Central Infrastructure Project
Spokane

Elm Street Greenway Concept

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Scale: 1" = 20'

20 10 0 20

N

West Central Infrastructure Project
Spokane

Nettleton Street Traffic Calming

Preliminary Design Subject to Change
November 2024

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

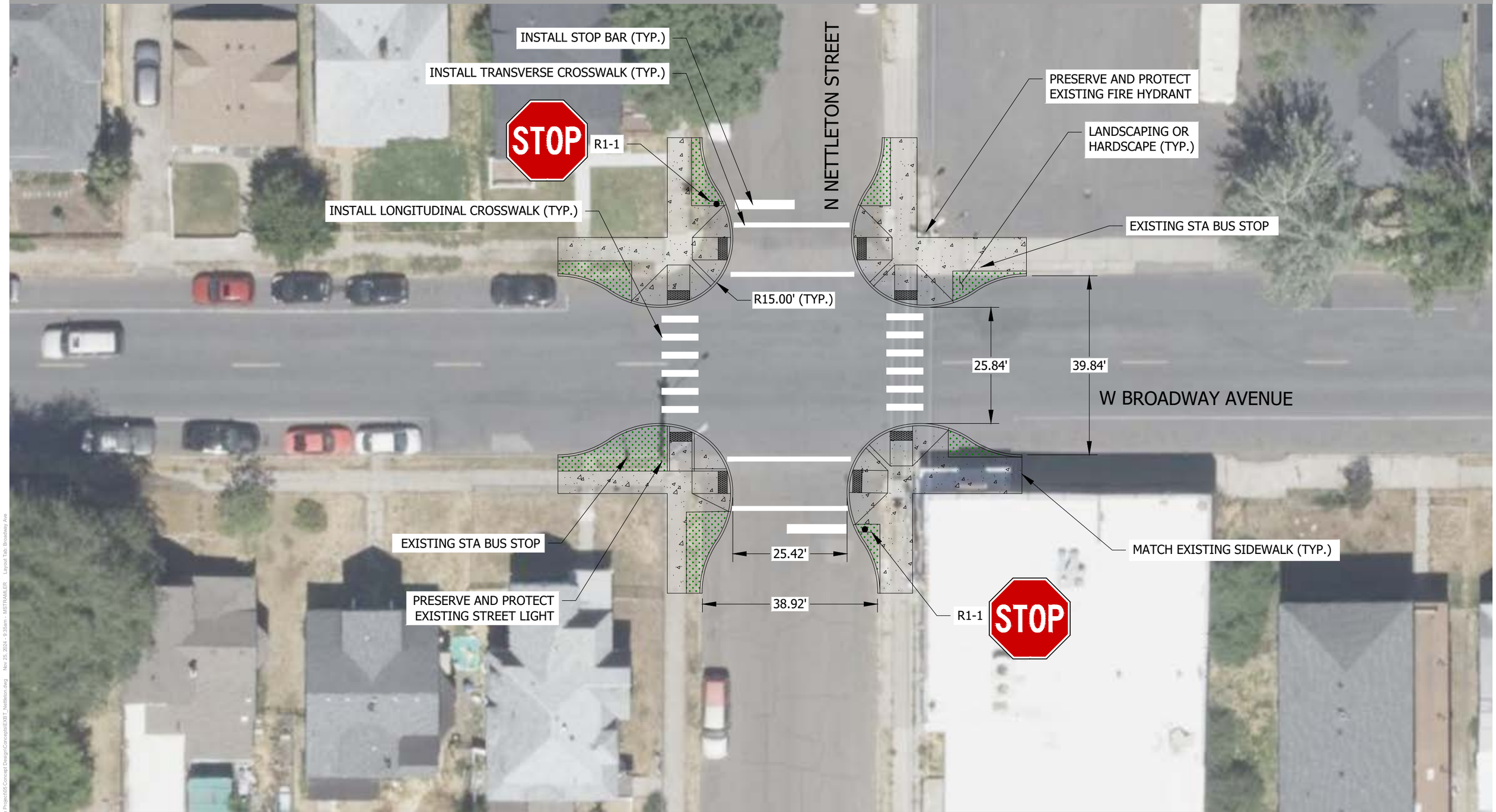
Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane

Nettleton Street Traffic Calming

Preliminary Design Subject to Change
November 2024



KITTELSON & ASSOCIATES
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Scale: 1" = 20'

20 10 0 20

N

West Central Infrastructure Project
Spokane

Boone Avenue Traffic Calming

Preliminary Design Subject to Change
November 2024

STOP
R1-1
W11-2
RRFB
W16-7PL
INSTALL NEW TRANSVERSE CROSSWALK (TYP.)
MATCH EXISTING SIDEWALK (TYP.)
PRESERVE AND PROTECT EXISTING MANHOLE
N COCHRAN STREET
R15.00' (TYP.)
W BOONE AVENUE
26.25'
40.00'
INSTALL NEW LONGITUDINAL CROSSWALK
LANDSCAPING OR HARDSCAPE (TYP.)
PRESERVE AND PROTECT EXISTING STREET LIGHT
W11-2
RRFB
W16-7PL
R1-1
STOP
INSTALL STOP BAR (TYP.)

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane

Dean Avenue Traffic Calming

Preliminary Design Subject to Change
November 2024

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane

Dean Avenue Traffic Calming

Preliminary Design Subject to Change
November 2024

W2-6
W13-1
10 M.P.H.
R7-1
NO PARKING ANY TIME
R4-7 (4)
LANDSCAPING OR HARDSCAPE
R13.00'
W DEAN AVENUE
MATCH EXISTING SIDEWALK (TYP.)
PRESERVE AND PROTECT EXISTING UTILITY POLE
PRESERVE AND PROTECT EXISTING FIRE HYDRANT
N NETTLETON STREET

Scale: 1" = 30'
30 15 0 30

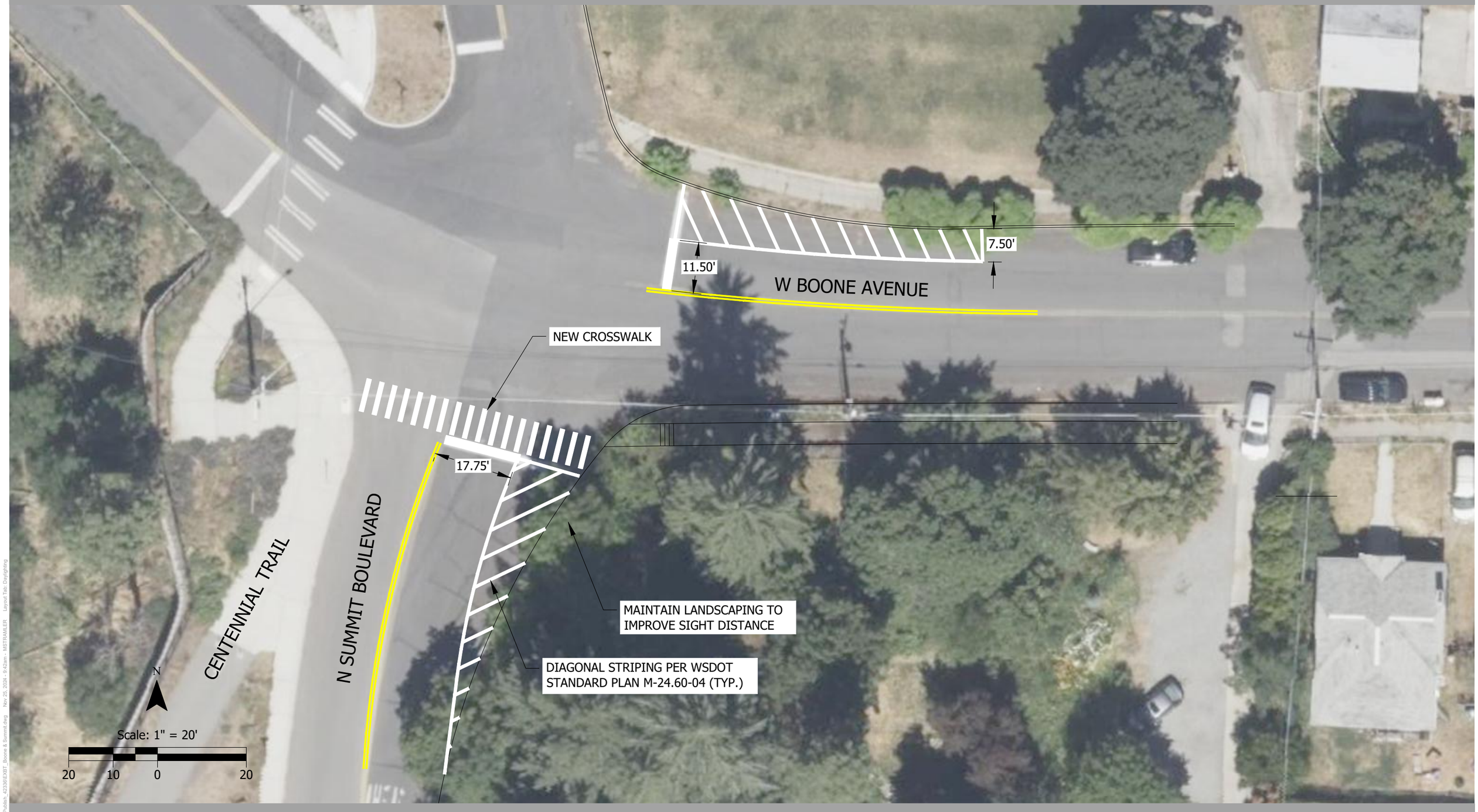
N

KITTELSON & ASSOCIATES
PHONE: (503) 228-5230 CONTACT: Wende Wilber

West Central Infrastructure Project
Spokane

Boone Avenue & Summit Boulevard Intersection Improvements

Preliminary Design Subject to Change
November 2024



KITTELSON & ASSOCIATES
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West Central Infrastructure Project
Spokane

Broadway Avenue & Summit Boulevard Intersection Improvements

Preliminary Design Subject to Change
November 2024

EXISTING STA BUS STOP
INSTALL TRANSVERSE CROSSWALK (TYP.)
PRESERVE AND PROTECT FIRE HYDRANT
N SUMMIT BOULEVARD
N A STREET
STOP R1-1
R1-1 STOP
EXISTING STA BUS STOP
INSTALL STOP BAR (TYP.)
34.60'
27.60'
R20.00'
R15.00'
28.08'
35.08'
W BROADWAY AVENUE
R20.00'
STOP R1-1
30.00'
LANDSCAPING OR HARDSCAPE (TYP.)
PRESERVE AND PROTECT EXISTING STREET LIGHT
38.25'
R1-1 STOP
MATCH EXISTING SIDEWALK (TYP.)

KITTELSON & ASSOCIATES
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Scale: 1" = 20'
20 10 0 20

N

West Central Infrastructure Project
Spokane