

City of Edgewater

Traffic Calming
Mobility Plan
2019



ACKNOWLEDGMENTS

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1 INTRODUCTION

Why does Edgewater need a Traffic Calming Mobility Plan?

Edgewater has a history of working to improve walkability, bikeability, livability, placemaking and advancing other quality-of-life initiatives associated with recognizing streets as valued and valuable spaces within the community. Local and regional active transportation efforts reflect a broad desire for walking, bicycling, transit and active travel choices for all types of trips – to get to school and work, to go to the store and run errands, to visit friends, or simply to enjoy the area’s diverse neighborhoods.

The Traffic Calming Mobility Plan (The Plan) moves Edgewater forward, improving mobility choices by identifying and prioritizing transportation investments that will make the city – and its streets – safer and more people-friendly, while ultimately improving the resilience of the Edgewater community. The Plan provides a framework for developing a network of Complete Streets—streets that are designed, managed, and operated to enable safe access for all users, regardless of age, ability, or mode of transportation— and supporting programs and policies that will promote safer driving speeds and behaviors; increase transportation equity; and foster a sustainable built environment.

This Plan lays out a vision for where we, as a community, want to be. The fundamental guiding principle for The Plan is a people-first approach which downplays speed, auto-dependence and auto-dominance, enabling people of all ages and abilities to walk, bike, roll, and take transit safely and comfortably.

There is much more to transforming streets that celebrate people and places than simply building sidewalks and marking crosswalks. Many of our past transportation and land use practices resulted in growing traffic congestion, reducing social equity, safety, and health. This Plan builds on conversations with residents, careful observations, as well as



COMPLETE STREETS: Streets that are designed and operated for **everyone** and **enable safe access for people of all ages, abilities and users**, including pedestrians, bicyclists, motorists, transit riders, emergency responders, truck drivers, and others. Complete streets **make it easy** to cross the street, walk to shops, and bicycle to work or school.

lessons learned from cities throughout the Denver region and country to establish recommendations that help make Edgewater more supportive of routine physical activity as part of everyday life.

Active Transportation is Important for Individual and Community Health

Everyone is a pedestrian, whether they are being pushed in a stroller, walking under their own power, or using a wheelchair or other mobility device. Every trip begins and ends with walking. Walking is how people get to and from transit, from parking to front doors, and how cyclists and transit users ultimately reach their destinations.

Walking remains the cheapest form of transport for all people, and the construction of a walkable community provides the most affordable way any community can plan, design, construct, and maintain its public realm. Walkable communities are compact with a mix of uses, jobs and services and a variety of transportation choices. They lead to more social interaction, physical activity, and reduce crime and other anti-social problems. Walkable communities are livable communities

and lead to whole, happy, healthy lives for people who live in them. Additionally, various trends are changing the projections for future travel demands:

- *Shifting Market and Changing Consumer Preference:* According to a National Realtor Association and Portland State University study, 79% of Americans want to live in walkable neighborhoods.¹
- *Raising Obesity and Health Issues:* An American Journal of Preventive Medicine study found that people who live in neighborhoods with shops, parks, schools, and other retail establishments within walking distance have a 35% lower risk of obesity.²
- *Growing Environmental Impact and Climate Change:* Bicycling helps reduce greenhouse gas emissions. The European Cyclists Federation found that if levels of cycling in the European Union were equivalent to those found in Denmark, where the average person cycles almost 600 miles each year, bicycle use alone would achieve 26% of the 2050 greenhouse gas reduction targets set for the transportation sector.³



1. 2015 National Community and Transportation Preference Survey

2. Walkability and Body Mass Index

3. Cycle more Often 2 cool down the planet! Quantifying CO2 savings of cycling

The benefits of supporting active transportation - which generally refers to pedestrian modes such as walking and wheelchairs, bicycling, other forms of self-powered transportation, and transit - are numerous. While emerging modes like e-bikes and e-scooters do not exclusively rely on human power, people riding them typically use shared-use paths, bike lanes and sidewalks. These devices offer a practical alternative to the use of motor vehicles and contribute to many of the same goals as walking and biking and should be integrated with added care and sensitivity.

Having safe, convenient, and efficient options in how one moves improves health and reduces health-care costs; reduces the amount of off-street parking needed; and alleviates pressure on roadways that are congested by shifting travel behaviors. This reduces vehicle miles traveled and thereby keeps motorized traffic moving more smoothly. On average, more than 25% of all trips people take are within walking distance (20 minute walk) and 60% are within bicycling distance (20 to 40 minute bike).

The Entire Community Benefits from Traffic Calming

Walking and bicycling are basic human activities that they are frequently overlooked when we think of transportation. Edgewater is looking to change this. Edgewater wants to be a community that is welcoming, safe, sustainable, and enjoyable - with streets that are complete and promote walking, biking, and visiting with neighbors. As Edgewater becomes more walkable, the city seeks ways to restore safety and choice in transportation. This calls for a new way to design local streets so that speed is not rewarded at the expense of community building.

Traffic calming refers to interventions that slow vehicle speeds on streets where drivers travel faster than the posted speed limit. It refers to the many ways communities reduce the negative effects of improper driver behaviors and create conditions that support property owners, retailers, and people of all ages and abilities. To accomplish this, a combination of physical treatments are used, which are outlined in this Plan. Traffic calming is essential to a comfortable multi-modal environment. Traffic calming addresses the following challenges.

Improved Safety: Vehicular traffic travels slowly on traffic-calmed streets, resulting in fewer crashes and less severe ones, if they do occur. The number of fatalities due to motor vehicle crashes is reduced on streets with slower-moving traffic. Traffic-calmed streets also encourage people to walk and bike by making walking and biking more comfortable and convenient.

More Transportation Choices: Safer streets balance mobility and access for all users, particularly the most vulnerable users - seniors, children, people with disabilities, pedestrians and bicyclists. This ensures that our cities work across the life span and that our residents do not age out.

Healthier Environments: Traffic calming improves walkability and livability by reducing the number of automobile trips taken, thereby decreasing levels of pollution, congestion, and traffic-related noise, while increasing the social life of streets. Traffic calming re-images and right-sizes streets, often providing additional space within the street right-of-way for landscaping, sidewalks, sidewalk amenities such as street furniture and outdoor eating areas and transit shelters. These amenities create welcoming streets that attract people to use active transportation for short trips, increasing the likelihood of interactions among residents, and supporting the retail life of the street.

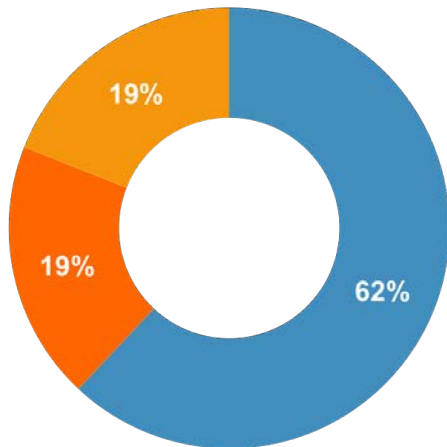


Community Context

Walkable communities are compact and dynamic neighborhoods with a variety of transportation choices, allowing people to spend less time, energy and money on transportation. Factoring in both housing and transportation costs provides a more comprehensive way of thinking about the true cost of housing and affordability within Edgewater.

The typical household in Edgewater spends a combined 38% of annual household income on housing and transportation. This is lower than the typical household in Jefferson County, which spends 49% on housing and transportation.

■ Remaining Income ■ Housing ■ Transportation

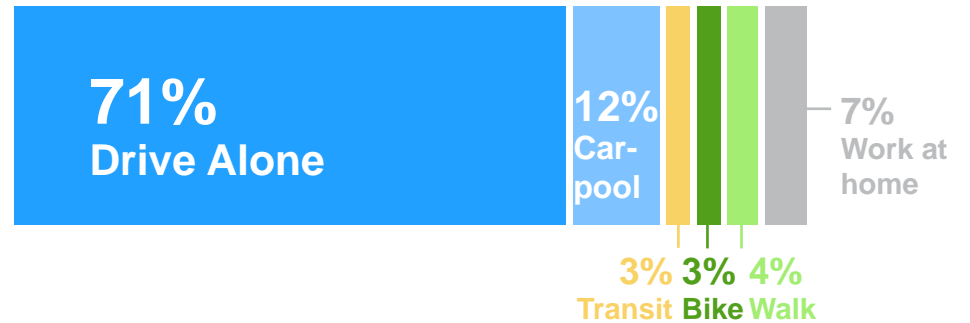


Above: Housing + Transportation Costs % Income for Edgewater.

Source: Center for Neighborhood Technology, H+ T Index; statistics are modeled for the Regional Typical Household –income: \$65,614 and commuters: 1.22 Household Size: 2.56 (Denver-Aurora-Lakewood, CO)

The Center for Neighborhood Technology Housing + Transportation (H+T) Index calculates the annual greenhouse gas per household in Edgewater is 6.75 Tonnes, which is equivalent to the carbon sequestered by 112 tree seedlings grown for 10 years, according to the EPA Greenhouse Gas Equivalence Calculator.

Single occupant vehicle use continues to be the way most Edgewater residents get to work. Seventy-one percent drive alone, and a further 12% carpool, according to US Census data.



Above: How Edgewater Commutes: Work Commute Mode Share.

Source: Five-Year American Community Survey Estimates (2013-2017)

Making Safety a Top Priority

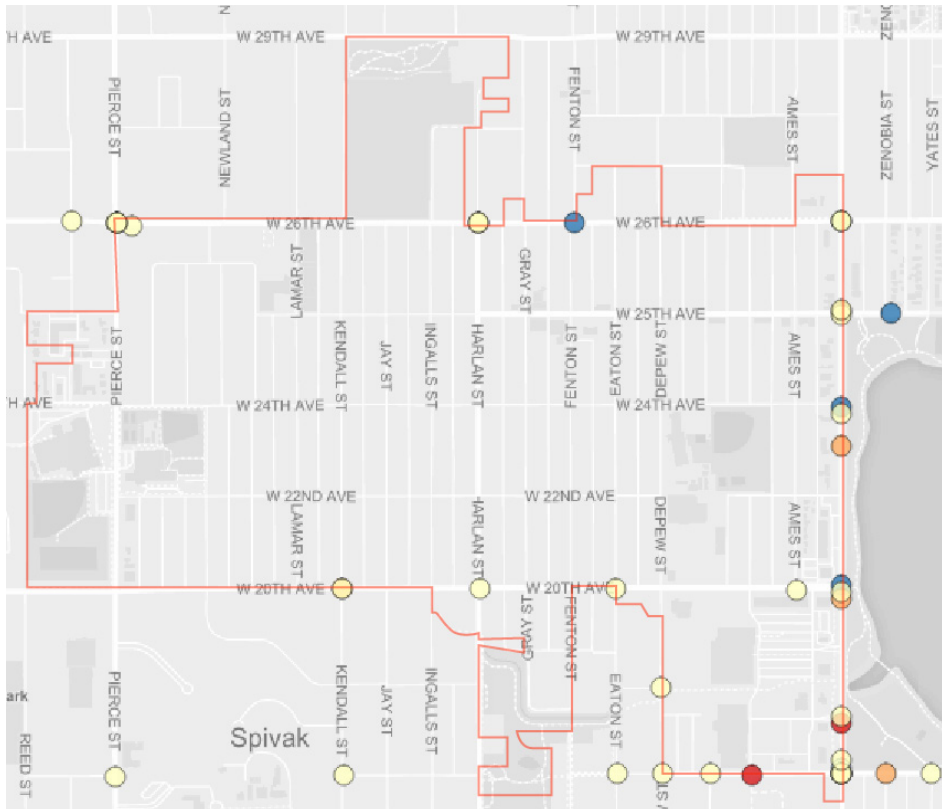
This Plan focuses on designing safer streets and increasing transportation choices to ensure that all people have safer, more comfortable options. Edgewater’s biggest barrier to safe walking and bicycling is Sheridan Boulevard, a Colorado State Department of Transportation (CDOT) roadway. The City of Denver’s Vision Zero Plan identifies a High Injury Network, which includes Sheridan Boulevard. This means that this particular corridor has one of the highest rates of fatal and injury crashes by all modes in the Denver region.

Why Speed Matters

Speed kills places and people, playing a role in all serious injury and fatal collisions. A pedestrian who is struck by a vehicle driving at 20 mph has a 90% chance of surviving the crash. The chances of survival are reduced by nearly 50% when the vehicle is traveling 10 mph faster. The driver’s field of vision increases as speed decreases. At lower speeds, drivers can see more of their surroundings and have more time to see, react, yield, and stop for others.

BICYCLE AND PEDESTRIAN CRASH DATA

Source: Denver Regional Council of Governments (2010-2015)



Injury Levels

- Fatalities
- Serious Injuries
- Other Injuries
- Property Damage Only
- Edgewater Boundary

Design for Target Speed

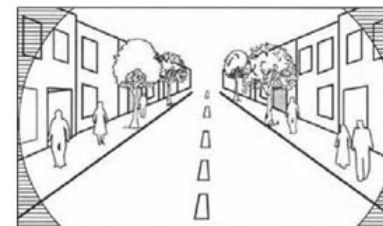
Fewer than one-third of drivers drive the speed limit; rather, they drive to match the “design speed” of the road, using cues such as lane width, street texture, the distance between buildings, trees and other edge features, as well as sight-line distances.

Streets should be designed for a “target” speed: the speed the community wants its drivers to travel. Streets throughout Edgewater should be designed to achieve a target speed of 20 to 25 mph. A lower target speed is a key characteristic of streets in walkable, mixed use, and traditional business main street areas.

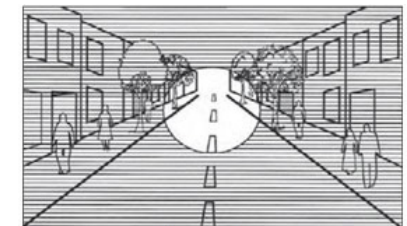


Above: Pedestrian survival rates by vehicular speed.

Below: Motorist’s field of vision by speed.



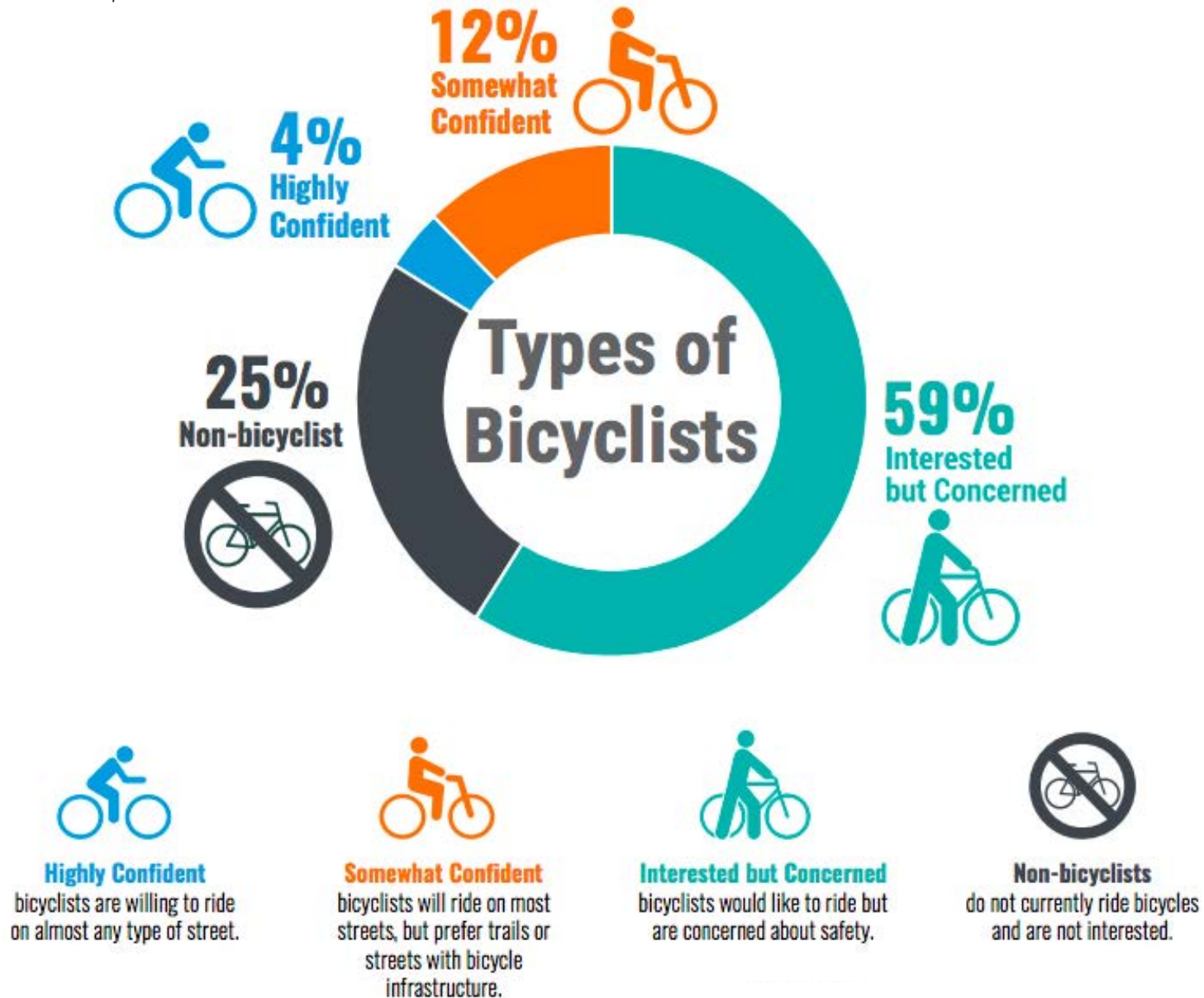
Field of vision at 15 mph



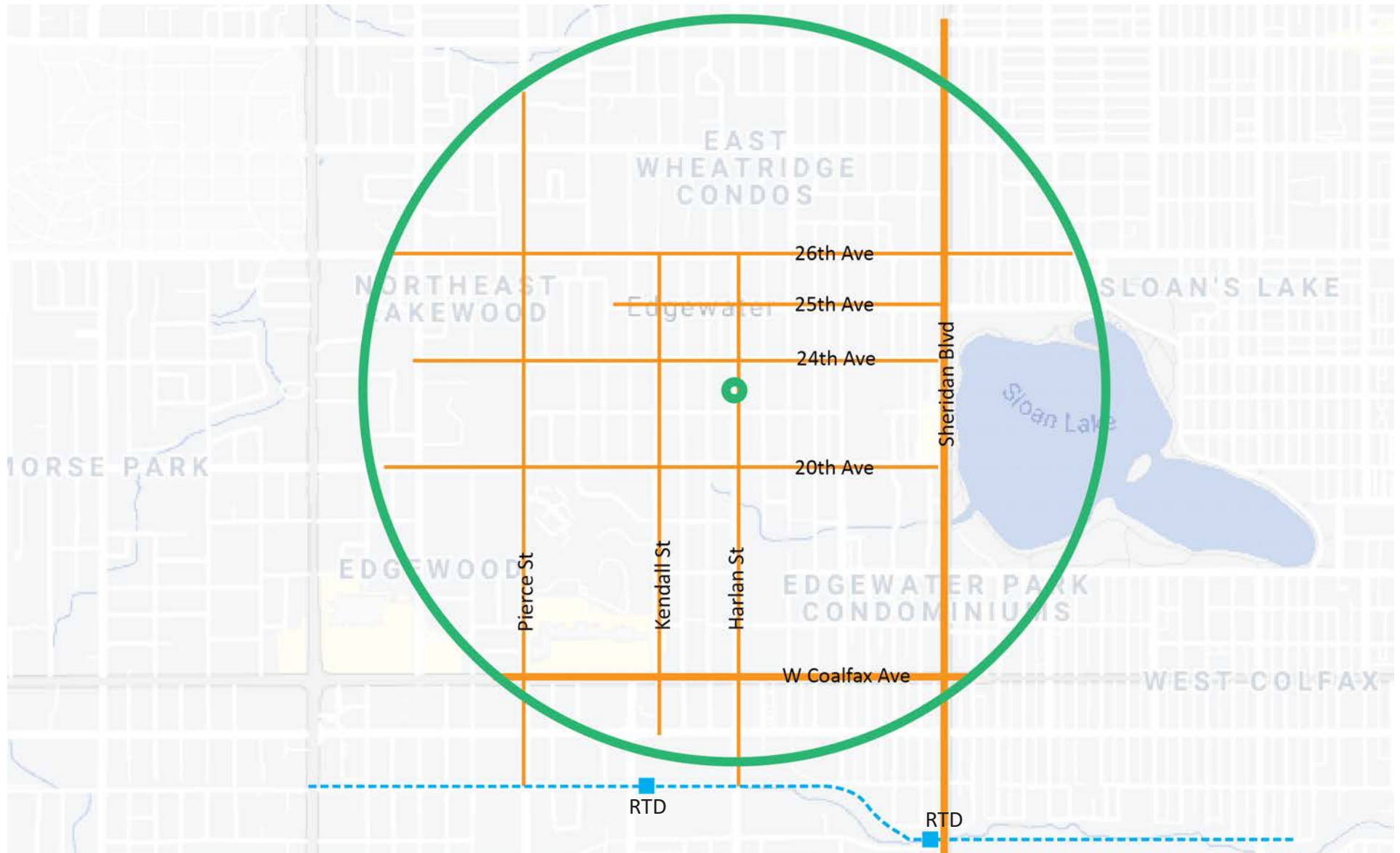
Field of vision at 30 to 40 mph

TYPES OF BICYCLISTS IN THE DENVER REGION

Source: DRCOG, Active Transportation Plan



EDGEWATER WALK RADIUS - 20 MINUTE WALK



Above: A majority of trips can be made in a 20-minute walk with Edgewater.

NEIGHBORING MUNICIPAL POLICIES

City of Denver: Vision Zero is an international movement designed to improve safety. A Vision Zero Action Plan sets the goal of eliminating all traffic deaths and serious injuries that occur on a community's streets by a certain date. The Denver Vision Zero Action Plan is a five-year plan to achieve zero traffic deaths and serious injuries by 2030. The Plan has five goals: 1) a collaborative process; 2) a culture of safety; 3) safe streets; 4) transparent data collection and use; and 5) safer speeds. Through better processes and collaborations, improved street design, safe speeds, a culture of safety, and improved data and transparency, Denver aims to save lives. More specifically, Sheridan Boulevard is on the City of Denver's high-injury network and Denver Moves: Transit Plan capital investment corridor for enhanced bus along with 26th Avenue.

Below: The City of Denver is also advancing its bike network, which includes 26th and 25th Streets.



City of Lakewood completed an update to its Bicycle Master Plan, in 2018. As the Plan resolution notes, the city is dedicated to creating a high quality, safe, convenient, continuous, and accessible bicycle transportation system for all ages and abilities.

City of Wheat Ridge completed an update to its Bicycle and Pedestrian Master Plan, in 2017. The Plan serves as guidance to construct, enhance, and improve bicycle and pedestrian routes and connections throughout the city. Depew and Fenton, starting at 26th Ave, were both identified in the Plan as Neighborhood Bikeways. Additionally, the Plan recommends enhancing pedestrian crossings of multi-lane roads, including Sheridan, by using HAWK signals.

REGIONAL POLICIES

Denver Regional Council of Governments (DRCOG) is the region's planning agency. The mission of DRCOG is to support the collaboration of local governments to establish guidelines, set policies, and allocate funding in the areas of transportation and personal mobility, growth and development, and aging and disability resources.

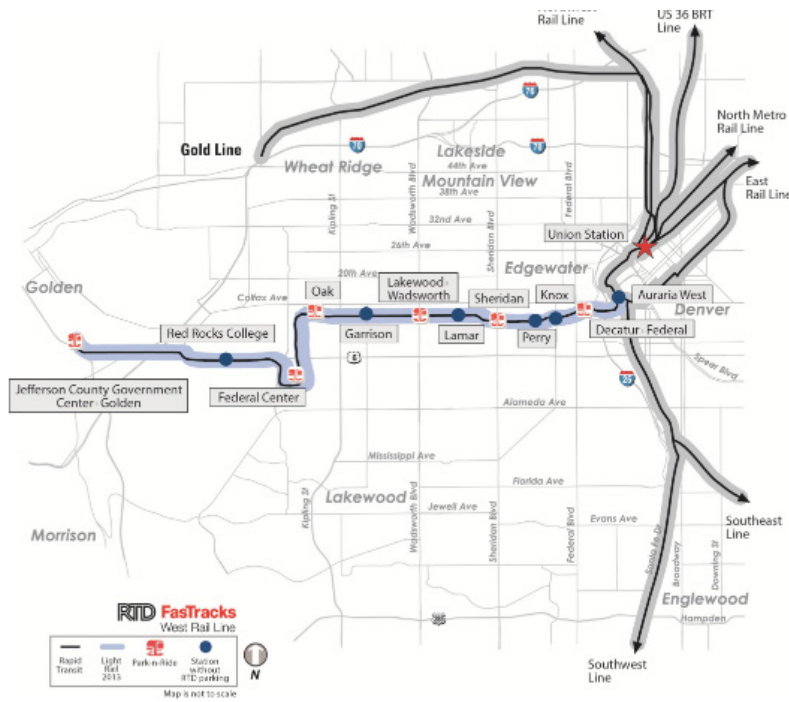
In 2019, the area's first regional *Active Transportation Plan* was published, which outlines the following objectives for the greater Denver area, which includes Edgewater:

- **Reduce** the number and severity of crashes involving pedestrians and bicyclists;
- **Increase** bicycling and pedestrian activity;
- **Expand and connect** regional and local bicycle networks;
- **Expand and connect** comfortable transportation facilities for people who bike and walk;
- **Improve** bicycle and pedestrian access to and from transit;
- **Improve** the region's multi-modal transportation system; and
- **Improve** and extend equitable access to regional active transportation corridors.

Mode Shift Goal: The DRCOG Board of Directors adopted a mode-shift target, aiming to decrease the percentage of workers driving alone from approximately 75% to 65% by 2040. *The City and County of Denver Climate Action Plan, 2015*, also identifies reductions in vehicle miles traveled as a goal.

Regional Transportation District (RTD): The Regional Transportation District mission is to provide safe, clean, reliable, cost-effective, and accessible service throughout the eight county district.

As the greater Denver region grows, RTD continues to work with partners to expand and enhance convenient bus and rail service. Sheridan Boulevard is included in a Bus Rapid Transit (BRT) feasibility Study (2018-2019).



Jefferson County: Developed the *Jefferson County Regional Bikeways Wayfinding Plan, 2016*, to establish a clear visual language and universal graphic standards to guide residents and visitors along regional bikeways and to destinations. The Plan identified 26th Avenue and 20th Avenue as regional wayfinding routes, within Edgewater.

STATE POLICIES

Colorado Department of Transportation (CDOT): Recognizes its mission to provide the best multi-modal transportation system for Colorado that most effectively and safely moves people and goods. CDOT's Bicycle and Pedestrian Program provides resources and administers programs at the statewide level to improve bicycling and walking, including Colorado's Safe Routes to School program. In 2017, a five-year strategic plan was developed to guide CDOT's efforts in increasing the number of children bicycling and walking to and from school.

In 2009, CDOT procedural directive, *Elevating Bicycle and Pedestrian Opportunities in Colorado*, was adopted to promote transportation mode choice by enhancing safety and mobility for bicyclists and pedestrians on or along the state system. The directive requires CDOT to accommodate bicyclists and pedestrians in its transportation facilities from planning, programming, design, construction, operations, maintenance and education. Chapter 14, of the CDOT *Roadway Design Guide*, establishes guidance for the design and implementation of bicycle and pedestrian facilities. Additionally, CDOT endorsed the National Association of City Transportation Officials (NACTO) *Urban Street Design Guide* in 2014.

FEDERAL POLICIES

United States Department of Transportation (USDOT): Supports bicycle and pedestrian mode choice as stated in the *Policy Statement on Bicycle and Pedestrian Accommodation, 2010*: "The USDOT policy is to incorporate safe and convenient walking and bicycling facilities

into transportation projects. Every transportation agency, including USDOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide - including health, safety, environmental, transportation, and quality of life - transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.”

NATIONAL GUIDANCE

National Association of City Transportation Officials (NACTO): Serves as a blueprint for 21st century streetscapes, demonstrating how streets of every size can be re-imagined and reoriented as safe, sustainable public spaces for people walking, biking, and taking transit. Colorado Department of Transportation, the City of Denver, and the Federal Highway Administration, and USDOT have endorsed NACTO’s *Urban Design Street Guide*.

National Complete Streets Coalition: Offers polices and training to support a city’s commitment to designing, operating, and maintaining street systems that are safe, comfortable, and convenient for travel via automobile, foot, bicycle, and transit by people of all ages, incomes, and abilities. Complete Streets represent an approach to street design that integrates the needs of all users and all people, of all ages and abilities, into the planning, design, construction, operation and maintenance of transportation networks. The approach emphasizes context-sensitive and multi-modal project planning. Advancing Complete Streets generally requires training of city staff, consultants, developers, council members, commissioners, and other decision-makers on how to plan, design, operate, and maintain Complete Streets. Engaging members of the public is also central to a successful Complete Streets campaign.

The “20 is Plenty” Movement: Reduces the speed limit on all residential streets to 20mph as the default speed, a policy decision that supports safer streets.

WHAT IS IT LIKE TO WALK AND BIKE IN EDGEWATER TODAY

Given Edgewater’s location in the Denver Metro area, regional transportation funding has been focused predominantly on private vehicles, including high-speed, high-volume roads that make it easier to drive, such as Sheridan Boulevard. Many commuters from the western cities within Jefferson County drive through Edgewater to get to jobs in downtown Denver. Over the past 60 years, investments in driving infrastructure have resulted in an under-investment in walking infrastructure, resulting in pedestrian barriers, lack of connectivity, challenging crossings, lack of sidewalk coverage, inaccessibility, uncomfortable environments for active transportation, and barriers to accessing transit and recreational destinations.

Despite this, residents want neighborhoods and streets that better support walking and make it easier to cycle or ride transit. At the same time, Edgewater’s population is getting both older and younger. The number of young families has increased — and they want more transportation choices as they rely less on automobiles. The percentage of older adults has also increased, with Jefferson County as one of the oldest counties by age demographic in Colorado. As the population ages, transportation options become increasingly important in supporting aging in place and reducing social isolation.

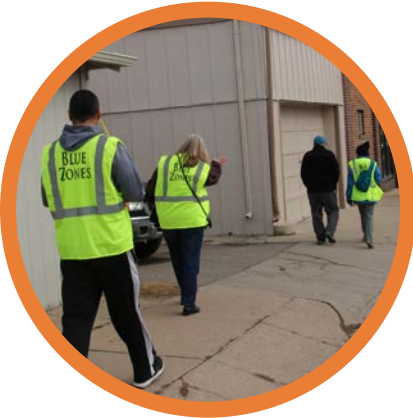
While the current built environment does not make walking convenient, comfortable or enjoyable, Edgewater has recently advanced a “Complete Streets” project on 26th Avenue, in partnership with the City of Wheat Ridge, narrowing travel lanes to 10-feet, adding bike lanes, and higher visibility crossings with Rectangular Rapid Flash Beacons (RRFB) installed at several crossing locations. Additionally, a Safe Routes to School Project on Pierce Street is currently under design. These are steps in the right direction and align with regional initiatives to advance a more walkable, bikeable and livable metro area.

EXISTING CONDITIONS



LACK OF SIDEWALK COVERAGE

Many of Edgewater's streets do not have basic walking infrastructure. Where sidewalks do exist, they are narrow at 4-feet and in many places only as wide as 3-feet. This does not adequately support two people walking side-by-side, especially when a stroller is present.



CHALLENGING SIGHTLINES AT ALLEYS

Intersections between alleys and sidewalks obstruct visibility for people driving and people walking. This is a common issue throughout Edgewater.



HIGHER DESIGN SPEED THAN POSTED SPEED

Wide travel lanes encourage motorists to travel faster than the posted speed limit. Designing streets using target speed, the speed you intend for drivers to go, rather than operating speed improves safety.



LACK OF GATEWAYS & COMPLEX INTERSECTIONS

Numerous driveways and multiple travel lanes make crossings challenging for all modes. Walking along Sheridan Boulevard is uncomfortable, but many people in Edgewater do not have a choice, especially when having to access transit or Sloan's Lake for recreational purposes. A multiple threat crash risk exists - as motorists fail to anticipate pedestrians or cyclists - on Sheridan Blvd. The result is an ugly street that encourages a drive-thru culture.



OPPORTUNITIES TO RIGHT-SIZE, GREEN & CALM STREETS

Many streets in Edgewater present opportunities to remove barriers for people walking and biking, improve motorists safety, and add green to the streets.



2 EDGEWATER COMMUNITY ENGAGEMENT

How we move within our community impacts our quality of life. To ensure that the *Traffic Calming Mobility Plan* represents the community's diverse needs and interests, the project team led a series of events to listen to perspectives, examine local built environment conditions, share information on best practices in street design, and solicit input on the Plan's approach, findings, and recommendations.

Successful projects require that local and regional governments and community stakeholders work together on planning and decision-making, and share responsibility for bringing a policy or project to implementation.

This Plan puts community at the center of the planning process, leading to better answers and a deeper public ownership of implementation efforts. After all, what is a city, but its people? Policy and technical solutions can be easily developed. However, community acceptance is the key to transforming ideas into reality.

Opportunities for engagement were held during two charrette-style periods of outreach in January and March 2019. These engagements included:

- Three walking audits;
- Focus group meetings with staff, regional partners, neighboring cities, state, transit, schools, fire, police, and the business community;
- Community visioning workshops; and
- A community network design workshop.

PROCESS: WALKING AUDITS

Walking audits encourage a community-based approach to city planning. Since the people who live, go to school, work and play around a site already know what issues and strengths the area is dealing with, they are the experts, and their knowledge is considered as the most important resource for determining how a policy or design will be shaped.

The walking audit is a powerful tool to engage staff and community members in a shared conversation about how streets feel and perform in Edgewater. The project team hosted three walk audits: January 17, January 19, and March 1, 2019.

More than three dozen people, including City staff, members of City Council, Planning and Zoning Commission and the Sustainability Committee, community residents, business leaders, and representatives from key regional agencies (e.g. DRCOG) came together to identify conditions that affect walking, biking, active living, aging in place, and access to daily destinations.

The walking audit locations were:

- Edgewater Civic Center to Lumberg Elementary School and Jefferson High School, observing school release;
- Edgewater Civic Center to Edgewater Elementary/22nd Ave. and Depew Street; and
- 25th Avenue from Sheridan Boulevard to Gray Street.

Participants noted many 'aha' moments, seeing Edgewater from a new perspective. The walking audit also validated many participants' concerns for needing to slow vehicular speeds, improve crossing locations, and address sidewalk conditions, especially for children and older adults.

Right: Edgewater walking audit participants share their experiences and knowledge about local streets





**INTERSECTION
RE-VISION:
Walking audit
participants model
a neighborhood
mini-circle**

WHAT WE HEARD: WALKING AUDIT TAKEAWAYS



"I'm encouraged to see some easy methods that can be taken to slow traffic, making it more friendly for all users. 🗨️"



“We want to ensure our students can get to/from school safely.”



"I want to see Edgewater prioritize pedestrians."



"Safer crossings across 20th Ave. are needed. 🗨️"



"I'd like to see an emphasis on bicycle and pedestrian circulation, as well as maintaining tree lawns and detached sidewalks. 🗨️"



"I'm excited by the possibility of more green space with the neighborhood mini-circles. 🗨️"





“I am interested in the idea of roundabouts; anything that slows traffic because high speeds are a pervasive issue throughout the community. ”

“

One of Edgewater’s strengths are trees. They play a strong role in helping calm traffic, as well as add to the beautification of our city.”



“I want the city to be in trees; I don’t want any gas-or coal-powered cars. And I want an ice-cream shop. ”



“

A project is more likely to succeed if motivated individuals set a course to accomplish their shared goals, together.

The walking audits, focus groups, and workshops encouraged participants to work together to strengthen their mobility vision for Edgewater.

What has emerged is a vision for streets as public places that support healthy lifestyle choices, active living, thriving businesses, and an age-friendly community.

When people walk together, they are not only in step with one another, they discover, dream, and achieve together.”

DAN BURDEN



Images: Participants included Mayor Keegan, Mayor Pro-Tem Conklin, Planning Commission members, Edgewater’s Engineer and Planner, Police Chief, adjacent Lakewood and Wheat Ridge Engineers, members from CDOT, DRCOG Active Transportation Director, City of Denver Staff, RTD, West Metro Fire, business leaders, and many community members of all ages. The group gained consensus on the opportunity to implement traffic calming features on Edgewater’s streets, and united on a longer-term vision to make Sheridan Boulevard a true boulevard with improved crossings, landscaped median islands, access management, and wider sidewalks.



3 PLAN VISION & GOALS

Edgewater's streets are safe, slow, walkable, bikeable, green and friendly to the youngest and oldest residents.

Plan Vision: A majority of short trips in Edgewater can be made on foot or by bicycle. Children enjoy independence, walking and biking to school, and seniors are aging in place and can get around easily without a car. People of all ages, abilities, and income levels and backgrounds walk and bike easily and safely to meet many of their daily needs. The walking and bicycling environment is welcoming to all. Active transportation contributes significantly to Edgewater's economic and social prosperity. Household transportation costs are lowered, streets are calmed, people enjoy clean air and water, and because residents incorporate physical activity into their daily lives, they are happier and healthier.

GOAL 1. CREATE CONNECTED AND COMPLETE STREETS

- **Complete** the pedestrian network and enhance the walking environment through a Complete Streets approach;
- **Make** connections safer to the places people need and want to go, at all times of day;
- **Provide** access to transit and community assets;
- **Create** streets as vibrant public spaces.

GOAL 2. MAKE THE EXPERIENCE SAFE

- **Reduce** the number of crashes and eliminate traffic-related injuries and fatalities;
- **Protect** vulnerable users and populations, identifying pedestrian needs first in planning and design;
- **Set** the target speed on residential streets to 20 mph and 25 mph on primary streets;
- **Educate** to reinforce a culture of safety.

GOAL 3. BUILD WALKABLE STREETS FOR ALL

- **Make** walking and cycling a normal part of everyday life in Edgewater through design choices and enforcement activities;
- **Prioritize** projects to meet Edgewater's daily transportation needs, not peak hour commuter needs;
- **Make** investments that improve health, equity and environmental quality.

GOAL 4. STREETS THAT ARE SUSTAINABLE AND RESILIENT

- **Plant** more trees and native vegetation;
- **Reduce** transportation related emissions;
- **Improve** air quality.

GOAL 5. GET IT DONE

- **Maximize** impact within existing capital investments by prioritizing investments and pursuing new funding;
- **Implement** low-cost interim solutions;
- **Engage** residents in demonstration projects and neighborhood traffic calming;
- **Collaborate** with adjacent city, regional and state partners;
- **Document** and celebrate your progress.



4 COMMUNITY PRIORITIES & TRAFFIC CALMING NETWORK

As Edgewater continues to evolve into a more people-focused place and investment opportunities become available, the goal should be to reduce vehicle traffic and aim to cap vehicle growth, by creating an environment that makes active transportation the easy, safe and comfortable choice, while continuing to support those who choose to drive. Based on community input, the overarching priorities for this Plan are as follows:

Safety is paramount: Safety, including addressing motor vehicle speed, was a key transportation issue identified by the community. The crossing of 25th Avenue and Sheridan was identified as the most dangerous crossing in the city by residents.

Transportation choice matters: There was strong support to make non-driving modes more comfortable and attractive.

Basic walking infrastructure requires investment and maintenance: The biggest challenge identified for walking was the lack of sidewalks, or narrow sidewalks. People identified the need for more sidewalks, fewer gaps, more trees, and better maintenance (especially in winter season) to improve walking in Edgewater.

Strengthening connectivity and access to community assets and key destinations are key opportunities: Citing concerns about high vehicle speeds and lack of sidewalks, people identified neighborhood traffic calming tools to create 'neighborways' or shared streets as the biggest opportunity to strengthen the walking and bicycling network. Additionally, taking a comprehensive placemaking approach to 25th Avenue is envisioned to tie together business from Sheridan to Gray.



RECOMMENDED FOCUS AREAS

- Streets near schools;
- Parks, including connections to Sloan's Lake;
- Shopping areas, including 25th Avenue

RECOMMENDED PRIORITY ROUTES

Sidewalks:

- Widen the sidewalks on 20th Avenue, 25th Avenue and Sheridan Boulevard.
- Provide separation from moving traffic through landscaped buffers, bike lanes, and/or on-street parking.

Residential Streets:

- Where sidewalk widening may be a long term-solution or altogether cost prohibitive, focus on creating yield and shared streets by implementing traffic calming tools and pavement markings including sharrow or share the road pavement markings, play streets, and painted pathways.

Crossings:

- Provide well marked and frequent crossings.
- Ensure crossings at signals and mid-block locations adhere to best practices.
- Enhance crossings on Sheridan Boulevard by creating two mid-block crossings using a HAWK signal, z-median crossing and advance stop lines.

Key Corridors:

- 20th Avenue: Short-term roundabouts at Harlan and Benton; long-term consider roundabouts at Pierce and Depew.
- 25th Avenue: Raised intersection or mini-circle at Gray.
- 25th Avenue: Mini-circle at Harlan and Ames Streets.
- Sheridan Boulevard: True boulevard, wider sidewalks with

trees, landscaped buffer, access management, and mid-block crossings between 20th and 25th. Utilize a Z-crossing, HAWK or half-signal.

- Kendall and 26th: Address crossing and traffic calming needs.
- 26th Avenue: Traffic calming required.
- 25th Avenue: Trial a temporary pop-up project.

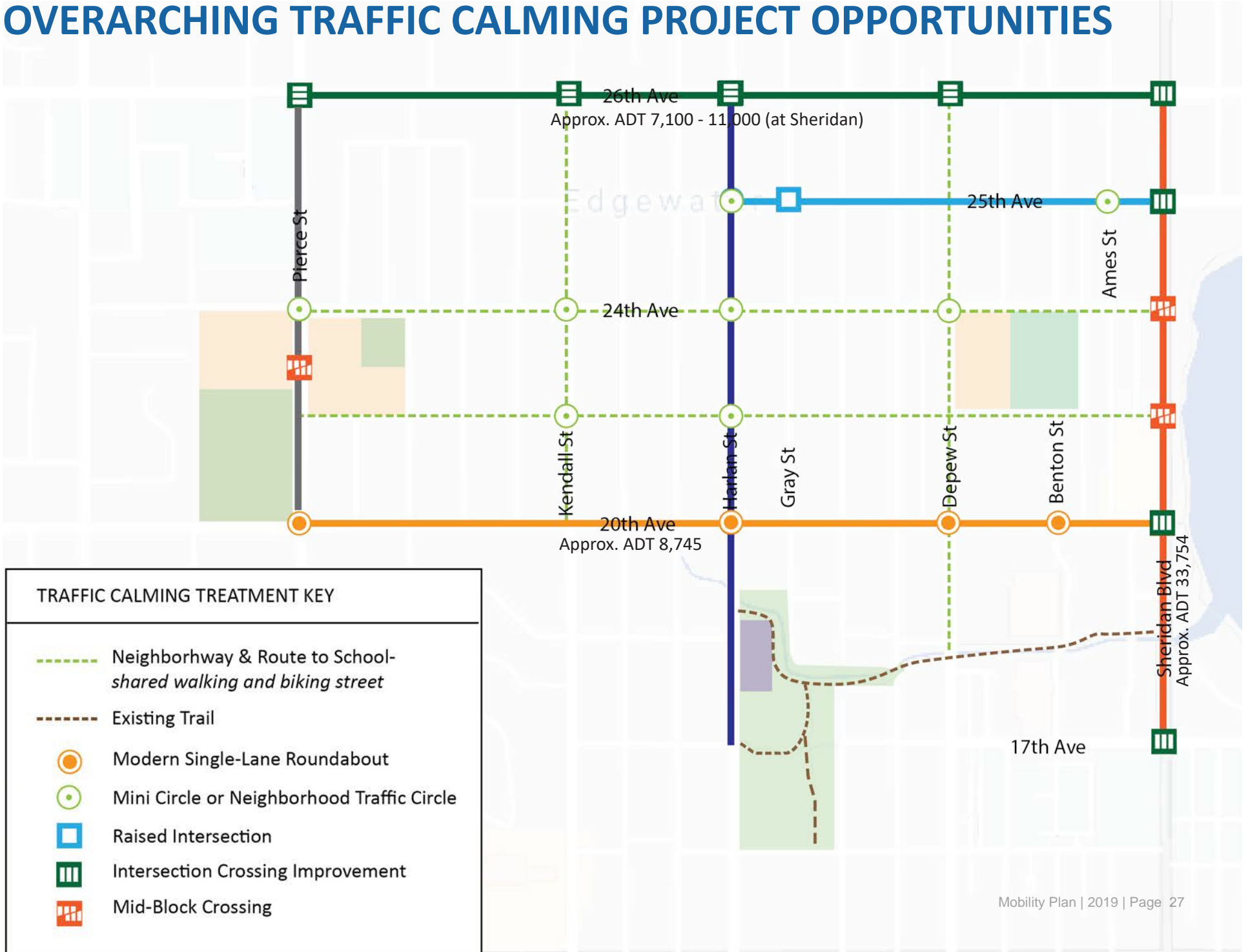


PRIORITY PROJECTS

The map presents the highest priority areas and projects based on feedback from the city staff and community members. These are projects to focus on early for a high level of impact. The numbered projects are showcased on pages 30-47 as examples of the recommendations for each project.



OVERARCHING TRAFFIC CALMING PROJECT OPPORTUNITIES





5 IMPLEMENTATION: DESIGNING STREETS FOR PEOPLE

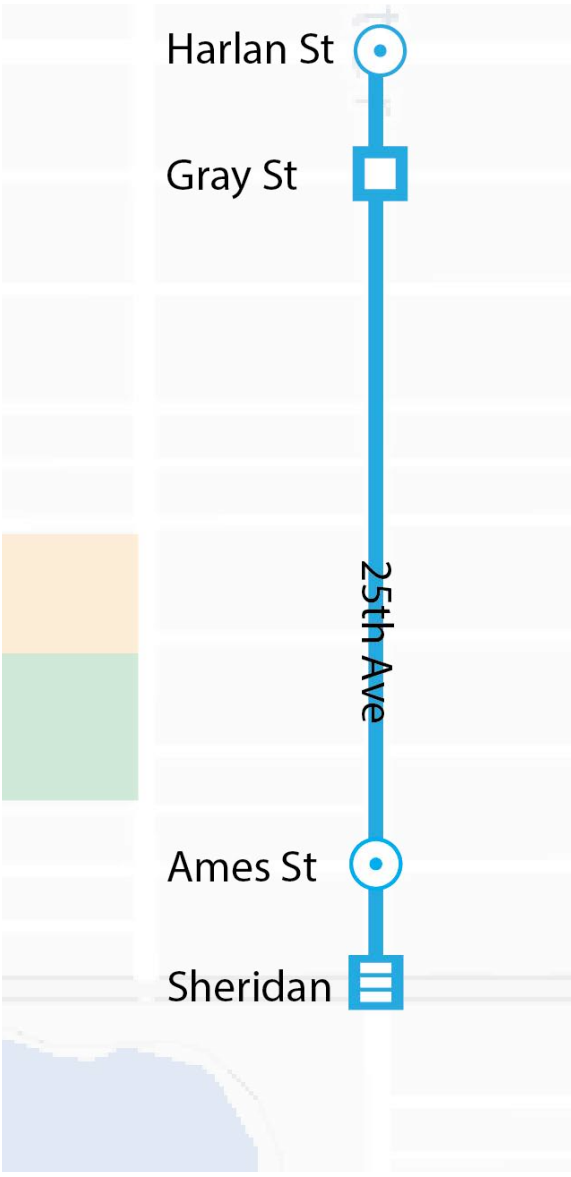
This Plan aims to move Edgewater forward, improving mobility choices for an increasingly interconnected and sustainable future. It integrates transportation modes and priorities to make the city – and streets – safer, more sustainable, resilient, and people-friendly.

This section presents streets as they exist today and how they might exist with the application of design elements that calm traffic and establish place. The goal is a thriving community filled with healthy people because routine physical activity and social connectedness are included in every day decisions for residents.

In addition to providing photo-visions of key corridors, this section also provides an explanation of tools that align with the vision and goals set forth by the Edgewater community.

1

25TH AVENUE



25th Avenue is Edgewater’s “main street” lined with small businesses on both sides of the street from Sheridan to Benton Street and then another small business node at Gray and Fenton Street. 25th Avenue is a key pedestrian, people-first, priority street given its main street character, mix of residential, and connection to Sloan’s Lake. It presents several short- to longer- term opportunities to further calm the street and build upon placemaking elements that reward the short trip, encouraging people to choose an active mode of transportation instead of getting in their car because it is more efficient, comfortable, and enjoyable.

Project Need:

- Improve safety for all, especially at the crossing of 25th Avenue and Sheridan Boulevard
- Address narrow commercial sidewalks by finding ways to provide more space for outdoor seating, eating, and greenscape.
- Better manage traffic speeds.
- Connect commercial nodes.

Key Features:

- Mini-circles at Ames and Harlan Street.
- Raised intersection at Gray Street.
- Improved crosswalk markings and single timing at Sheridan Boulevard.
- One-way festival street from Sheridan Boulevard to Ames Street with additional on-street parking.
- Curb extensions to reduce crossing distances and improve sightlines at intersections along the street.

The following pages provide a photo vision, a conceptual illustration, and explanation of treatments to provide guidance as Edgewater works to finalize design details and bring traffic calming and placemaking transformations to 25th Avenue.

TODAY: 25TH AVENUE & AMES STREET



ENHANCING THE BUSINESS CORE - EDGEWATER'S MAIN STREET:

Edgewater has a lovely main street which encourages walkability and livability. Redesigning the street to encourage social interaction would provide businesses which a needed boost. Outdoor dining becomes a possibility when the street is greened and traffic speeds and volumes come down. Main street design should be flexible to encourage many uses - including closing the street at regular intervals for festivals, gatherings and community events. The highest performing Main Streets have common design features: a design speed of 20 mph or less; on-street parking; curb extensions; valley gutters; 10-foot travel lanes; textures, art, and interesting street furniture. Center line removal can be considered on lower volume streets; the Manual of Uniform Traffic Control Devices (MUTCD) requires a yellow centerline only on streets with over 6,000 vehicles a day.

PHOTO VISION: 25TH AVENUE & AMES STREET



CURB EXTENSIONS

Curb extensions provide inset parking, narrow crossing distances, and offer space for rain gardens, trees, other landscaping materials, benches, bicycle racks, and street furniture.

HEAD-OUT ANGLED PARKING

Parking is increased with head-out angled parking, which is the safest way to park a car and the first step of parallel parking.

GATEWAY: MINI-CIRCLE

The intersection at 25 Avenue and Ames Street becomes a gateway that welcomes people to the heart of Edgewater.

ONE-WAY TRAVEL LANE

25th Avenue becomes a place more supportive of people and businesses. The street is narrowed by converting the street to a one-way, 10-foot travel lane for one block. The street could be curb-less to support a festival street design.

TOOLS FOR CHANGE

MINI-CIRCLES

Mini-circles or neighborhood traffic circles are one of the most popular and effective tools for calming traffic in neighborhoods. Seattle has 1,200 mini-circles, which have led to a reduction in intersection crashes by 90%. They are the best neighborhood safety feature of any treatment type. These inexpensive features do not interrupt drainage. Mini-circles work outward from intersections on all three or all four legs of approaching traffic. Mini-circles bring speeds down to levels where motorists are more courteous to pedestrians and they allow all types of turns, including U-turns, which can assist with school area traffic management. A common engineering mistake is to put in four way stops around a mini-circle rather than yield signs.

HEAD-OUT ANGLED PARKING

Head-out angled parking, or back-in angled parking, is the safest form of on-street parking, while maximizing parking spaces. It offers multiple benefits, including creating a sight line between motorists and other road users, such as people biking, when un-parking. For people driving with young children, seniors or others who need extra help, the open doors direct passengers to the safety of the sidewalk, not into traffic. Getting into a head-out angled parking spot is simple—a person driving signals their intention, slows, pulls past the spot and then backs into it, which is equivalent to making the first maneuver of parallel parking.

CURB EXTENSIONS

Curb extensions (also known as bulb outs) bring down right-turn speeds by extending the sidewalk to the edge of the vehicle travel lane, often in-setting on-street parking. Doing this improves pedestrian visibility, making it much easier for drivers to see the most vulnerable roadway users such as children, elders, and people with disabilities. Curb extensions are great locations for rain gardens, street trees, signs, seating, bicycle racks, and other amenities.



Above: A neighborhood mini circle | Holland, MI



Above: Head-out angled parking | Seattle, WA (left) and Tucson, AZ (right)

Below: Curb extension with a covered bike rack | Portland, OR



TOOLS FOR CHANGE

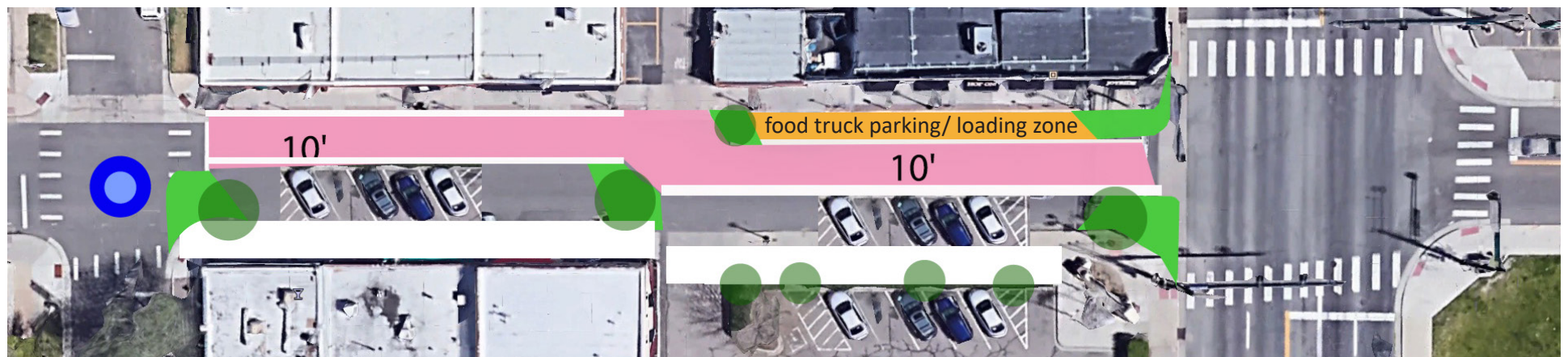
RAISED INTERSECTION

Raised intersections are used where roundabouts or mini-circles are not functional or practical, and where speeds need to be brought under control. They are different from raised intersection crossings, since they cover the entire intersection. This increases their costs considerably. Raised intersections can be expensive, due to their potential to interrupt drainage. Meanwhile, they have many advantages and maintain speeds 24 hours a day. Raised intersections can be used in snow country. A raised intersection should be considered for the intersection of 25th Avenue and Gray Street.



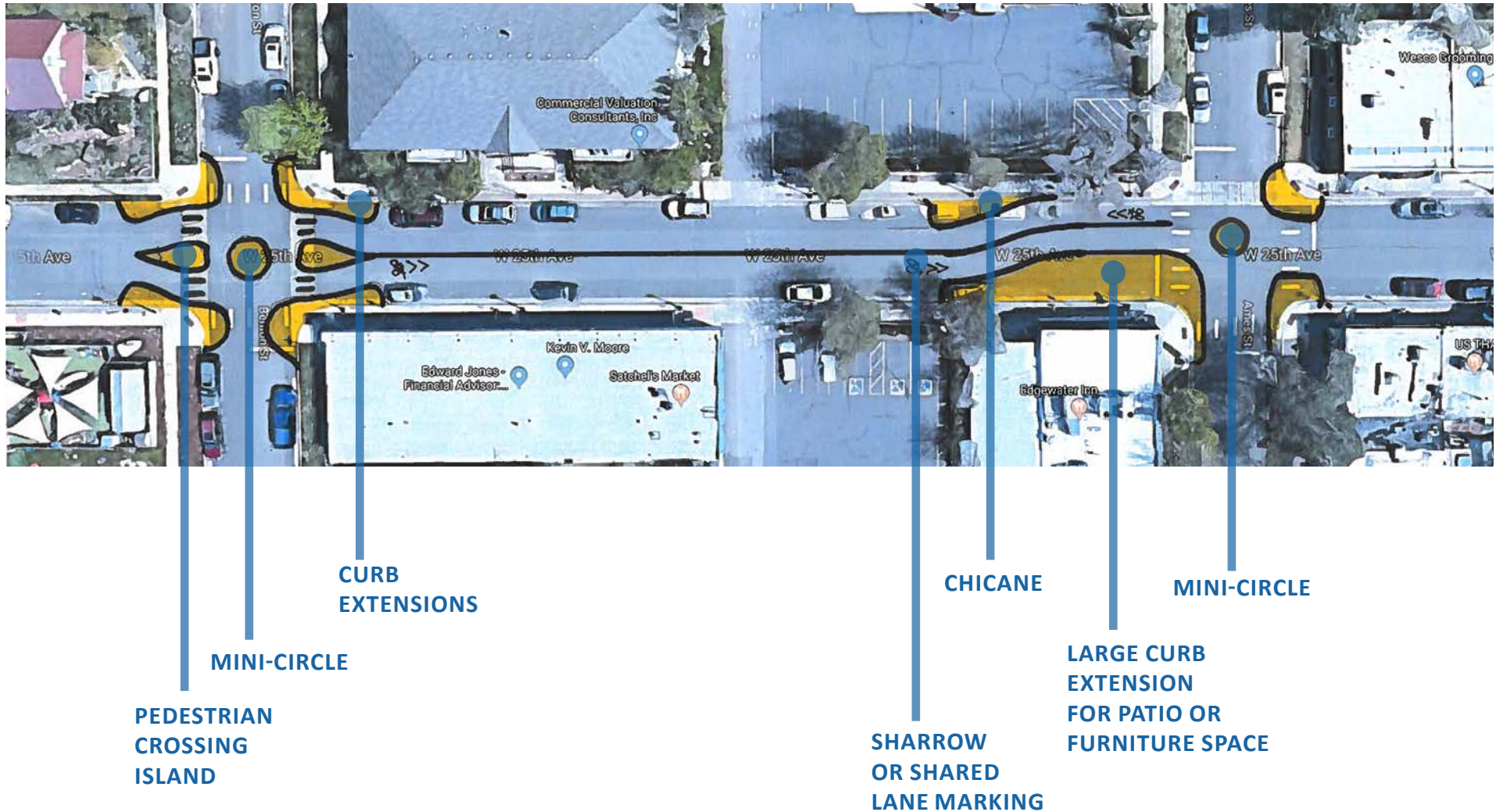
FESTIVAL STREET

A street that is designed as a Festival Street closes to vehicular traffic to encourage people to take to the streets for parties, celebrations and community / civic activities. The example at right is from Coquitlam, British Columbia. This design provides flexibility for parking when the street is in use and opportunities for seating, outdoor dining and booths when the street is closed for festivals. Below is a conceptual sketch of the one-way street design for 25th Ave between Sheridan Blvd and Ames Street.

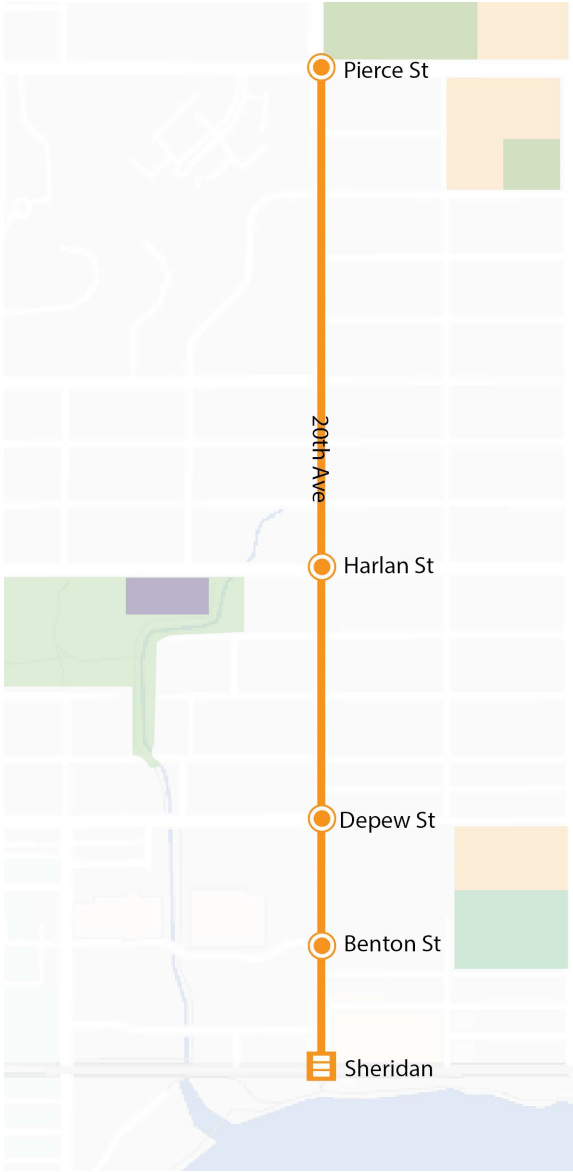


DEMONSTRATION OR POP-UP PROJECT

In order to build capacity for change and trial new treatments in a low-cost way, demonstration or pop-up projects can be launched with community partners. 25th Avenue was identified as a potential pop-up, demonstration project from Ames to Benton Street. Below is a starter sketch of a what a pop-up could look like in this area (sketch by McDowell Engineering).



20TH AVENUE AT HARLAN STREET & BENTON STREET



Short-term, a roundabout first approach should be applied to the re-design of the Harlan and Benton Street intersections. Long-term, a roundabout should be strongly considered at both Pierce and Depew Street, along with widening the sidewalk on the City of Edgewater’s side of the street.

Project Need:

- Improve safety for all, especially at the crossing of 20th Avenue Harlan Street.
- Better manage traffic and motorists’ speeds.
- Improve walking environment with wider and buffered sidewalks.

Key Features:

- Modern roundabouts
- Improved crosswalk markings and single timing at Sheridan Boulevard.
- Wider sidewalks with improved driveway and alley curb cuts.

The following pages provide a photo vision, a conceptual illustration, and explanation of treatments to provide guidance as Edgewater works to implement a roundabouts first approach at both Benton and Harlan Street.

TODAY: HARLAN STREET & 20TH AVENUE



ADDRESS WIDE, COMPLEX INTERSECTIONS:

The intersection of Harlan Street and 20th Avenue provides challenges for all modes. The lack of crossings, and faded crossings, place pedestrians at risk since motorists may not be expecting them. Wide travel lanes and sun-blinding at certain times of the year creates a dangerous environment in which high speed crashes may occur. The lack of 'eyes on the street' due to fencing and building setbacks creates a lonely walking environment. The sprawling land use and abundance of parking makes walking and biking less desirable given the distances one must travel. The lack of trees and pedestrian scaled lighting further creates a drive-thru environment.

PHOTO VISION: HARLAN STREET & 20TH AVENUE



GREEN PAINT:

Colored pavement within the bicycle lane increases the visibility of the facility, identifies potential conflict areas, and reinforces the priority to bicyclists in conflict areas, including driveways.

CROSSINGS IMPROVED:

Crossing distances for people on foot go from 40-feet to two 14-foot crossings. Properly placed, crosswalks are setback one car length from the circulating lanes.

SINGLE LANE MODERN ROUNDABOUT:

The intersection becomes well-managed, improving the access, safety and efficiency for all users while creating a gateway (place) with the instillation of a modern roundabout. The truck apron accommodates the thru-movement of the largest fire-truck, or semi-truck.

OPTIONAL BIKE RAMP:

People on bikes can choose to ride through the roundabout with motorists or exit the street and walk their bike through the pedestrian crossings.

TOOLS FOR CHANGE

MODERN ROUNDABOUT

Roundabouts facilitate through-traffic and turning movements without requiring a signal control. Roundabouts allow vehicles to circulate around an island that is often used for landscaping, a gateway or for other decorative features, like artwork. The circulating roadway is typically wider than the approach roadways and features an additional 'apron' against the edges of the island. Both of these features allow for fire trucks, ambulances and other large vehicles to enter and exit with ease. Roundabouts increase intersection carrying capacity by up to 30% and reduce crossing distances for people on foot, keeping the walking and driving environment more efficient. As the only requirement for yielding the right-of-way is to traffic already in the circulating roadway, roundabouts also lessen delays for everyone and reduce personal injury crashes by 90-percent.

Benefits include:

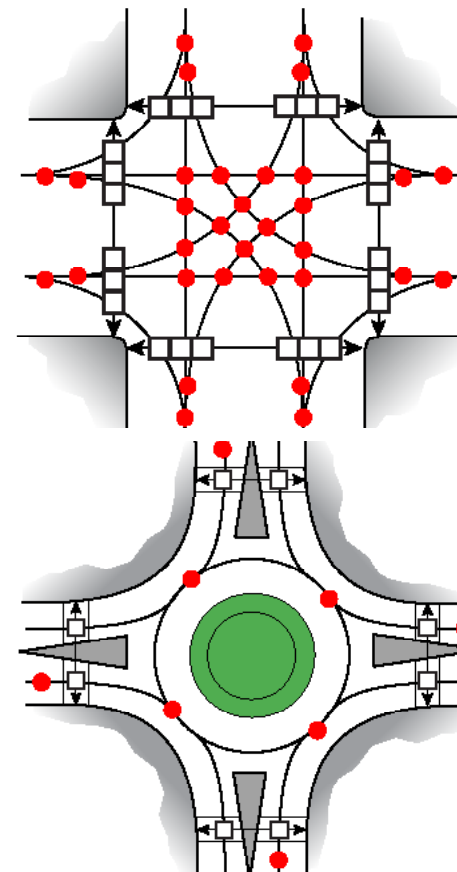
- Reduces delay, travel time and vehicle queue lengths;
- Facilitates safer U-turns;
- Reduces conflict points for vehicles and pedestrians;
- Lowers vehicle speeds through the intersection;
- Reduces emissions as vehicles spend less time idling;
- Less delay for pedestrians wishing to cross;
- Reduces maintenance and operational costs;
- Reduces noise levels;
- Provides the opportunity to create a gateway feature.

ROUNDABOUTS FIRST POLICY

By reducing the number and severity of conflict points, and because of the lower speeds of vehicles moving through the intersection, roundabouts are a significantly safer type of intersection. For this reason, many communities have chosen a "Roundabouts First" policy as an assessment measure for all new intersections. If the constraints of the site do not allow for a roundabout, then other intersection treatments will be considered.



Above: Roundabout crossing | Hamburg, NY



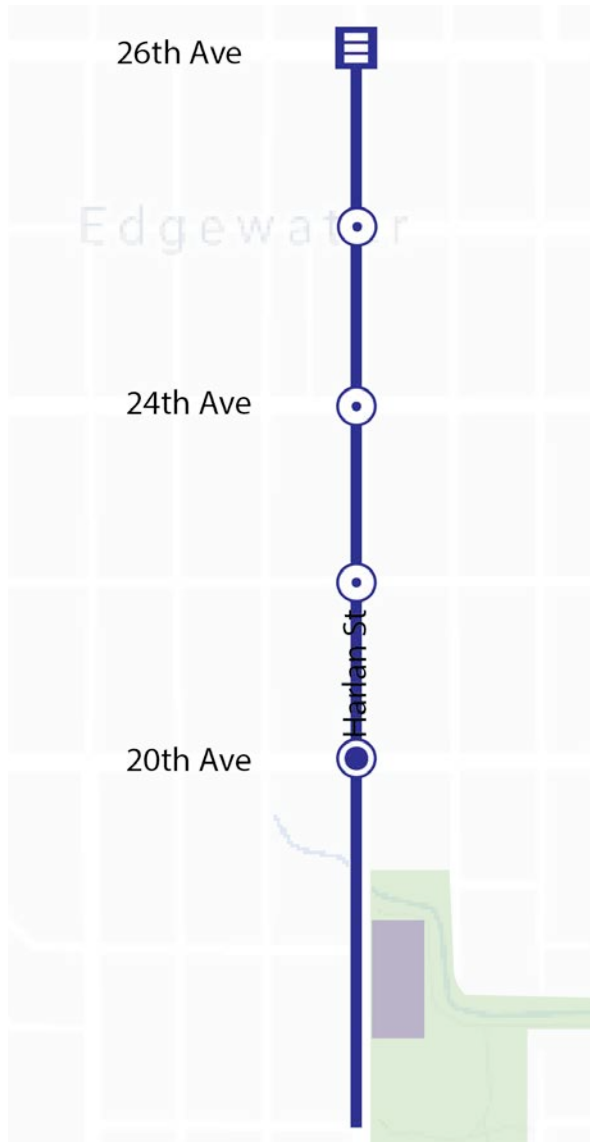
Conflicts at a conventional intersection with single lanes in each direction

- 32 vehicle-to-vehicle conflicts
- 24 vehicle-to-person conflicts

- 8 vehicle-to-vehicle conflicts
- 8 vehicle-to-person conflicts



La Jolla Blvd., San Diego, CA



Harlan Street is a key north-south street in Edgewater, connecting residents to Edgewater Library and Civic Center. Between 20th Avenue and 26th Avenue, Harlan is overbuilt for cars, resulting in high motorists speeds even though the adjacent land use is residential in nature. Many participants identified Harlan as a good biking route, and the need to continue the bike lane from the Civic Center to 26th Avenue. Harlan can be right-sized by narrowing the travel lane to 10 feet, activating the median with street trees, adding bike lanes or buffered bike lanes (located between the curb and parked cars), and better managed intersections through curb extensions and other traffic calming treatments such as mini-circles.

Project Need:

- Provide key north-south bike connection.
- Better manage traffic and motorists' speeds.
- Green the street.
- Support and increase connections to the Library, Civic Center, Parks, and light rail transit service.

Key Features:

- 10-foot travel lanes.
- 5-foot bike lanes.
- On-street parking.
- Modern roundabout at 20th Avenue.
- Improved crosswalk markings at 26th Avenue.
- Mini-circles at 22nd, 24th and 25th Avenue.
- Raised and landscaped center median.

The following pages provide an explanation of tools for change, or treatments, to consider and give guidance as Edgewater works to complete Harlan Street, much of which can be done with paint to start.



TOOLS FOR CHANGE

Neighborhood Boulevard



University Place, WA

ON-STREET PARKING

BIKE LANE

BOLD EDGE STRIPE (8-10 IN)

10-FOOT TRAVEL LANE

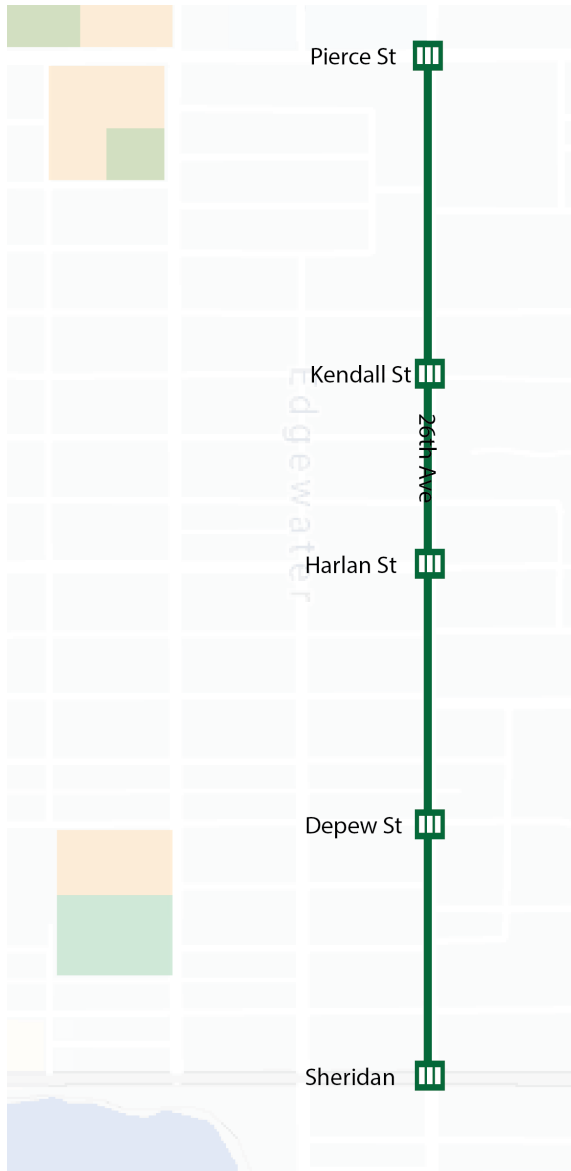
RAISED, LANDSCAPED MEDIAN (SIZE VARIES)

Below: Landscaped Medians | University Place, WA



Below: Tree-Lined Neighborhood Boulevard | Boise, ID





In partnership, Edgewater and the City of Wheat Ridge narrowed travel lanes to 10-feet and installed Rectangular Rapid Flash Beacons at several intersections along 26th Avenue. These are great steps. Speeding, however, remains an issue due to the lack of visual cues, which creates a “shotgun” effect. 26th Avenue is a designated regional bike and bus route, connecting cities to the West of Edgewater to Downtown Denver. The intersections of Kendall and Depew are important due to the existing land use (higher density residential) and are key routes to school. In the short-term, Edgewater can pilot intersection chicane traffic calming treatments at Kendall and Depew. Long term, additional intersection treatments may need to be examined for the intersections of Pierce, Harlan, and Sheridan to better control speeds, create gateways, and safer crossings with dedicated and well marked space for people walking and riding bicycles, especially at Sheridan Boulevard.

Project Need:

- Slow and better manage traffic speeds.
- Reduce north-south cut-through traffic.
- Enhance a key west-east bike and bus route.

Key Features:

- Intersection chicane at Kendall and Depew Street.
- Bus bulbs.
- Pedestrian crossing islands.
- Street trees.

The following pages provide a photo vision, a conceptual illustration, and explanation of traffic calming treatments that Edgewater can use to further design and implementation of changes for 26th Avenue.

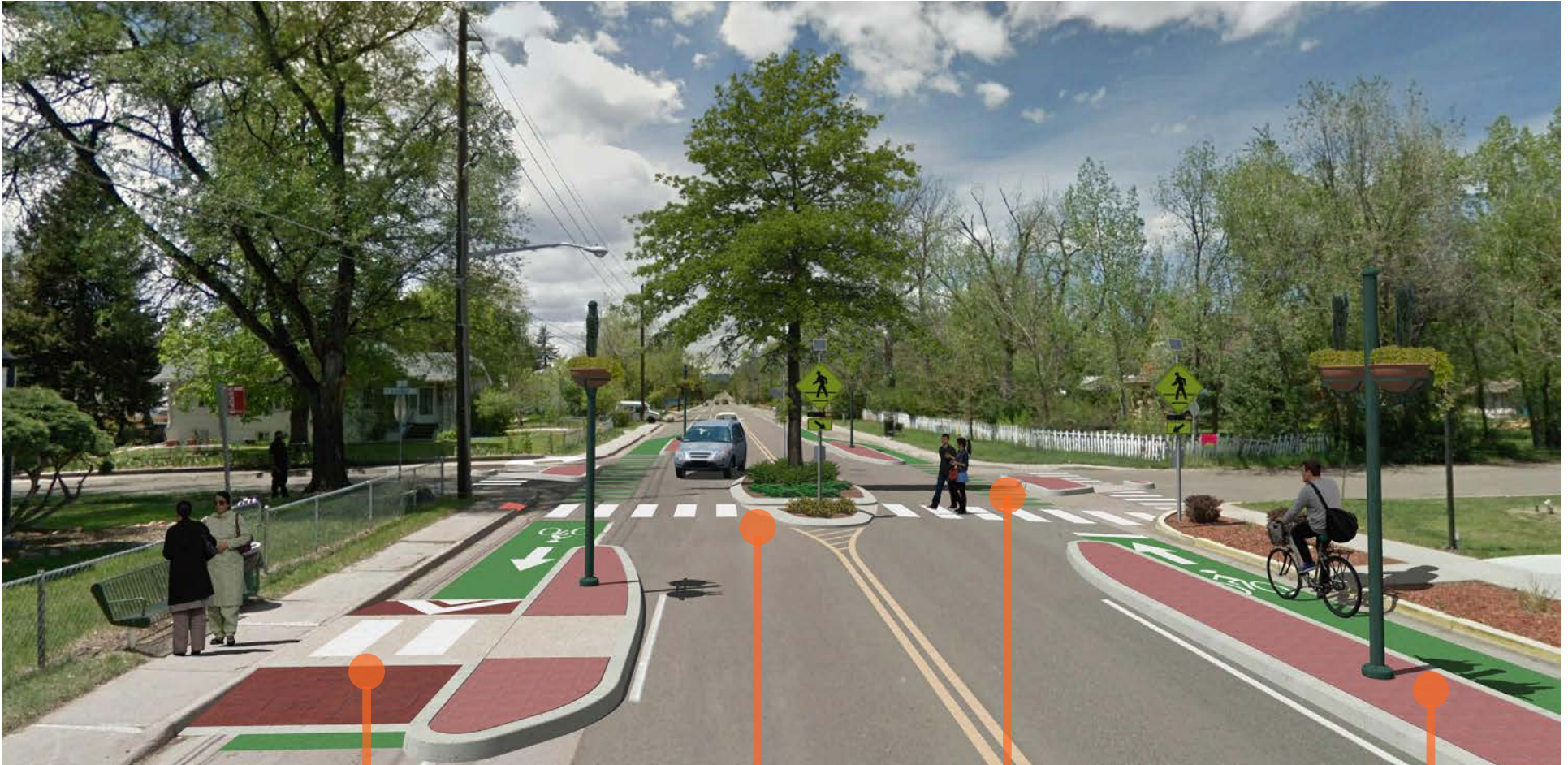
TODAY: 26TH AVENUE & KENDALL



BETTER MANAGE TRAFFIC AND SPEEDS:

Speeding remains an issue on 26th Avenue, due to the long and straight street that lacks vertical height and a sense of enclosure from street trees. The lack of visual cues creates a “shot-gun” effect, inducing motorists to speed. To control speeds and manage traffic from the new development coming to Kendall between 26th and 29th Avenue, Edgewater envisions a better managed intersection by applying new traffic calming tools.

PHOTO VISION: 26TH AVENUE & KENDALL



RAISED TABLE CROSSING & BUS BULBOUT: Parking is removed at the intersection, on the near and far side of this image.

INTERSECTION CHICANE: This deflection path bring speeds down to the desired level, while the median creates a crossing island.

RIGHT-IN RIGHT-OUT CHANNELIZATION: Channelized islands manage traffic flow and indicate the proper use of the intersection.

SEPARATE THE BIKE LANE: For improved comfort of all modes.

TOOLS FOR CHANGE

Traffic Calming Speed Management Tools



Golden, CO

SHORT MEDIAN:

Short medians create a pinchpoint at the center of the roadway slowing motorists. Paired with a mid-block crossing location, short medians can reduce pedestrian crossing distances and improve yielding behavior of people driving. The raised area provides space for trees, art, and other features that help to further slow speeds and beautify the street.

MINI-CIRCLE:

Mini-circles lower speeds at neighborhood intersections and are an ideal treatment for uncontrolled intersections. Trees and other vegetation, art, and other vertical features further the traffic calming effect and beautify the street.

CHICANE:

Offset curb extensions on residential streets that create a chicane effect that slows traffic. As pictured, the curb extensions can be designed with a 1-2 foot gap from the curb as to not impact drainage.

TOOLS FOR CHANGE

INTERSECTION CHICANE

An intersection chicane includes curb extensions on one side of the intersection, and a median on the opposite side. This combination of treatments brings the motorist toward the center, then brings them back toward the side. This deflection path brings speeds down to the desired level. All raised areas become gardens for the neighborhood. Both sides of the intersection are narrowed, minimizing crossing distances and time. Chicanes can be used on streets with volumes as high as 12,000 daily trips. Emergency responders and transit providers generally prefer chicanes to more intrusive four-way stops and raised crossings.

RIGHT-IN, RIGHT-OUT CHANNELIZATION

Right-in, right-out channelization is used to control left-turning movements in to and out of side street approaches. Combined with the intersection chicane, channelization of Kendall will regulate the traffic flow and indicate proper use of this intersection, while protecting and enhancing the pedestrian environment and better managing the traffic impacts of the new development at Kendall and 29th Avenue.

RAISED TABLE CROSSING

At key access points to bus stops, schools, parks, and at intersections with local streets, raised table crossings increase visibility, yielding behavior, and create a safer pedestrian crossing environment.

BUS BULBS

Bus bulbs align bus stops with the parking lane, allowing buses to stop and board passengers without ever leaving the travel lane. Bus bulbs move buses more reliably by decreasing the amount of time lost when merging in and out of traffic.



Above: A large vehicle being deflected through a neighborhood Intersection Chicane | Santa Barbara, CA



Above: Right-in and right-out only design

Below: Raised table crossing and bus-bulb | Victoria, BC



TOOLS FOR CHANGE

SHORT MEDIAN

Short medians bring down speeds near schools and other locations where people should be expected. Short medians are placed away from intersections, but they can be located near driveways. These inexpensive features do not interrupt drainage and they have many other advantages. They bring speeds down to levels where motorists are more courteous to pedestrians and they allow U-turns, which can assist with area traffic management. Short medians also serve as gateways, announcing an important location, such as a school. They help put motorists on greater alert. They work well in snow cities, as well as temperate climates.

PEDESTRIAN CROSSING ISLAND

Crossing islands (also known as pedestrian refuge islands or median islands) are one of the best tools for improving the safety of wide streets. Used with curb extensions, crossing islands allow pedestrians to avoid visual obstructions like parked cars. One of the greatest benefits of crossing islands is that they lead to more courteous yielding behavior by motorists. Rapid Flash Beacons or raised crossings can also be used to increase yielding behavior. Z-crossings can be integrated to properly orient pedestrians to oncoming traffic, which is especially helpful for younger children.

PARKING CHICANE

Chicanes are offset curb extensions, resulting in an S-shaped street that slows speeds considerably. Chicane often increase the amount of public space available on a corridor and can be activated using benches, parking, trees, and other features. Where the application of a chicane adversely impacts drainage, it can be designed with a 1-2 foot gap from the curb. Additionally, they can be implemented using low-cost or temporary materials.



Above: Short median with crossing



Above: Pedestrian crossing island | Charlotte, NC

Below: Head-out angled parking chicane | Seattle, WA





Neighborway:
A slow-speed, low-volume street that is shared by people driving, walking, and bicycling. It includes improvements that calm traffic and give people walking and bicycling priority. The target speed of 20 MPH is achieved through the use of mini-circles, raised tables and raised table crossings, chicanes, pavement markings and wayfinding.



Neighborways, or bicycle boulevards, are slow-speed, low-volume streets that are shared by people driving, bicycling and walking. It includes improvements that calm traffic and give people walking and bicycling priority. The target speed of 20 MPH (or less) is achieved through the use of traffic calming tools such as mini-circles, raised tables, short medians and chicanes. Neighborways provide direct access to destinations and are easy to find and follow through the use of wayfinding treatments with pavement markings and signage. Creating the shared street environment also helps to address the lack of or very narrow sidewalks found on Edgewater's quieter and lower volume streets. 24th and 22nd Avenue are the east-west streets that provide key connections to the schools, parks, and shopping areas within Edgewater. These streets can become excellent low-stress connections for people walking and bicycling.

Project Need:

- Improve walking and bicycling connections to the schools and parks by establishing a bicycle and pedestrian-priority route on the low volume, slow speed streets of 22nd and 24th Avenue.
- Ensure speeds remain low by installing traffic calming treatments that by design manage traffic speeds.
- Safer crossing mid-block at Sheridan (long-term partnership and change).

Key Features:

- Mini-circles.
- Sharrows or shared lane markings.

The following pages provide examples of shared street environments and neighborways. Work closely with residents to design the neighborway and traffic calming treatments to support local needs.

TOOLS FOR CHANGE

YIELD STREETS & SHARED STREETS

In residential environments where drivers are expected to travel at low speeds, two-way yield streets that are 24-28 feet wide - with on-street parking on both sides - are appropriate. Parking should be monitored and managed; a checkered parking scheme can be used to improve the functionality of the yield street. While most yield streets should have a minimum of signage and striping, signage should be used to indicate bidirectional traffic at transition points or where two-way operation has recently been introduced, per NACTO guidelines.



Above: Two-way yield street | Seattle, WA



Above: A shared street | Holland

TOOLS FOR CHANGE

Neighborway Pavement Markings



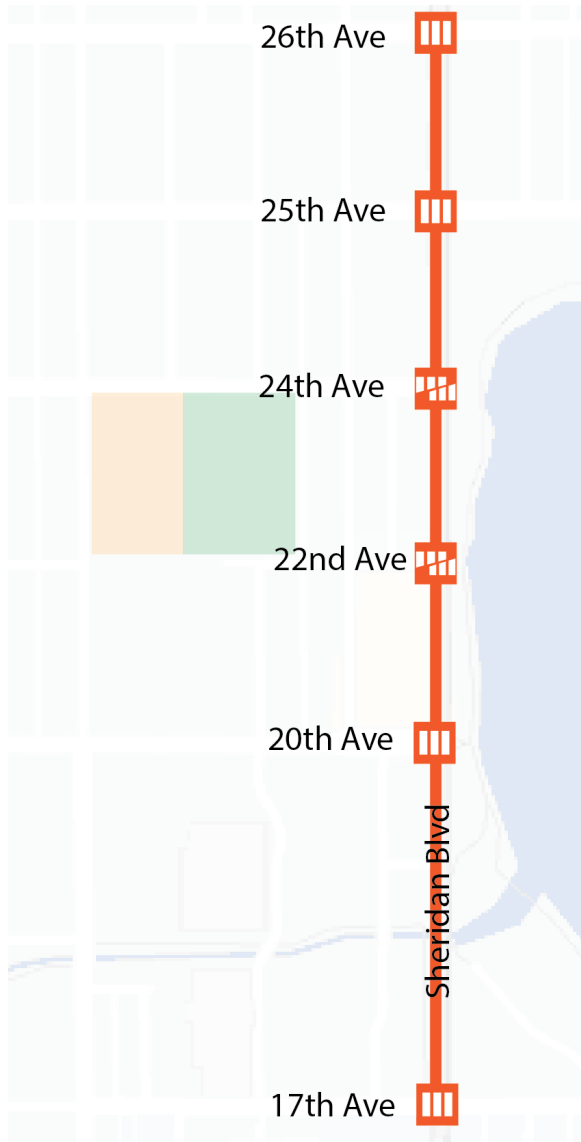
Bicycle Boulevard, Portland, OR
Photo By: Samantha Thomas

SHARROWS OR SHARED LANE MARKINGS

For lower speed streets, a sharrow or “shared lane marking” - usually paint - placed in the center of a travel lane to alert motorists and bicyclists alike to the shared use of the lane. Sharrows reinforce the legitimacy of bicycle traffic on the street, encourage bicyclists to position themselves in the lane, away from parked cars, and provide a wayfinding element along bike routes or bicycle boulevards. Sharrows work on low volume, low speed streets and should not be considered a substitute for bike lanes, cycle tracks, or other separation treatments. Markings should be placed in the center of the travel lane.

STREET PAINTINGS

Street paintings are creative placemaking and community building activities for residential intersections and mid-block locations on residential streets. Throughout Portland, OR and a growing number of cities, neighborhoods are designing and implementing, and maintaining street paintings to further their ownership of place.



A long-term project that needs a strong partnership with CDOT, among other partners, is right-sizing Sheridan Boulevard making it a true boulevard with landscaped medians, better access management, intersection crossings, and wider sidewalks with street trees and more welcoming and sheltered transit stops.

Project Need:

- Improve safety for all, especially at signalized and uncontrolled intersection crossings, which are all the highest pedestrian and bike crash areas in Edgewater.
- Create a gateway and a sense of welcome into the City of Edgewater.
- Better manage traffic and motorists' speeds.
- Improve walking environment with wider and buffered sidewalks.
- Strengthen connection to Sloan's Lake.
- Better support businesses along Sheridan Boulevard with better access management.

Key Features:

- Traffic signal timing upgrades.
- Pedestrian and bicycle activate signal (either half-signal or HAWK) at 24th and 22nd Avenue.
- Wider sidewalks with improved driveway cuts, transit shelters, and buffer from moving vehicles with street trees.
- Tree-lined center median.

The following pages provide a photo vision, a conceptual illustration, and best practice examples to further illustrate the vision Edgewater has for a more complete, green, and safer Sheridan Boulevard. Partnership with CDOT, City of Denver, DRCOG, and other partners will be integral to the success of this project.



TODAY: SHERIDAN BOULEVARD & 25TH AVENUE



CROSSING THE BIG DIVIDE:

Wide travel lanes and a lack of enclosure create a run-way through the Edgewater community which must be tamed. Given the natural beauty of the surrounding area, and the park, this street could function as a true boulevard. The addition of trees would signal to motorists that they have entered someone's community. Providing shelter for transit users should also be a priority. The crossing at 25th Avenue and Sheridan Boulevard is a heavily-used crossing, connecting Edgewater residents from their homes to Sloan's Lake, and connecting visitors to Sloan's Lake to Edgewater's Main Street. Many workshop participants noted close calls; one person even reported being hit by a motorist at this location. Many others noted that they will not even cross here with their children. As traffic speeds and volumes increase, so does the level of protection desired by people walking. This is true along Sheridan Boulevard. The presence of a crosswalk does not in-and-of-itself make a safe street. Based on the surrounding context, speed, and overall road width, crosswalks require additional proven safety measures such as median islands and actuated signals. This is priority at 24th and 22nd Avenue, and is strong proposed.

PHOTO VISION: SHERIDAN BOULEVARD & 25TH AVENUE



HIGH VISIBILITY CROSSWALK MARKINGS:

High visibility, ladder or zebra crosswalk markings are more visible to approaching motorists and have been shown to improve yielding behaviors. The crosswalk is as wide or wider than the walkway it connects to, ensuring that when two people side-by-side meet in the crosswalk they can comfortably pass on another.

MEDIAN NOSE:

Allows for some refuge and encourages slower turning movements by motorists.

GREENING:

Sheridan Boulevard becomes a true boulevard with landscaping and a tree-lined median.

WIDENED SIDEWALKS & TRANSIT AMENITIES:

Sidewalks are widened allowing for a landscaped buffer with street trees. Transit stops are improved with shelters.

TOOLS FOR CHANGE

BOULEVARDS

Boulevards offer tremendous opportunities to establish place and enforce community pride through a combination of amenities. Boulevards separate very large streets by buffering the commercial or residential street edge. While many boulevards were built at the turn of the 20th century, they fell into disrepair or were redesigned to highway standards over the course of the century. This encouraged poor yielding behaviors by motorists and has often cut off parts of the community by creating a physical barrier to walkability.

Today, many cities are restoring these boulevards by applying updated boulevard design standards to tame overbuilt urban arterials. This includes:

- Greening the street and providing a double or triple canopy of street trees;
- Utilizing high-visibility crossing treatments to prevent multiple threat crashes by using 'z' median crossing, and pedestrian activate signals like HAWK signals, and simplify crossings;
- Narrowing crossing distances at intersections through pedestrian refuge islands and median noses;
- Including street furniture such as benches, litter cans and pedestrian scaled lighting to encourage pedestrians;
- Sheltered transit stops, which are well-marked.

There are a number of benefits to redesigning boulevards as community assets:

- Increases physical activity rates;
- Encourages social connectedness;
- Catalyzes small business development;
- Increases property values;
- Improves access and safety for all;
- Advances social equity;
- Reduces pollution and run-off;
- Provides safe routes to school and other important places.



Above: Triple canopy boulevard | Lake Oswego, OR



Above: Mid-block crossings with a half signal | University Place, WA

Below: A median z-crossing and half signal | Bellevue, WA



TOOLS FOR CHANGE

SIGNALIZED AND UNCONTROLLED INTERSECTIONS

Intersections are a critical component of street design; they are locations where various movements of motorists, pedestrians and bicyclists converge. Well-designed intersections address the mobility and safety needs of all users. Intersection control devices are critical if walking, bicycling and motoring are to work, and work together. People who cross at intersections, when they are signaled to do so, are most predictable. Drivers appreciate predictable and compliant behaviors. Intersections, by design, should reduce conflict between users, ensuring a high level of visibility, facilitating eye contact and awareness between users, enhancing stopping or yielding compliance, and denoting a clear right-of-way to movement.

Intersections and intersection crossing can be both controlled (i.e. traffic signal, stop signs, roundabouts) or uncontrolled (no traffic control).

Uncontrolled intersection crossings occur where sidewalks or other designated paths intersect a street at a location where no traffic control, which includes non-intersection or mid-block locations. These locations often correspond to higher pedestrian crash rates due to inadequate crossing treatments and design. Edgewater has identified the need to improve the uncontrolled intersection crossings on Sheridan Boulevard at 24th Avenue and 22nd Avenue.

By focusing on these locations, Edgewater (and the State) can improve safety for pedestrians and promote a more age-friendly, active-living environment by improving the connection to key community and regional destinations like Sloan's Lake.

At signalized intersections, signal timing should be automated for inclusion of walking cycles. Signal timing should be adjusted so that signals recall to WALK during the cycle, minus the clearance interval. A large proportion of vehicle-pedestrian collisions at signalized intersections involve left- and right-turning vehicles. One phasing strategy to improve pedestrian safety in locations with heavy volumes of

turning traffic and frequent pedestrian crossings is to provide a leading pedestrian interval (LPI.) During the leading interval, all motor vehicle flows are stopped for 2-4 seconds while pedestrians are given the WALK signal. This enables pedestrians to begin crossing in advance of vehicular turning movements. This should be advanced at Sheridan and 25th Avenue.

PEDESTRIAN HYBRID BEACON (OR HAWK)

A pedestrian hybrid beacon, also know as a High-intensity Activated Crosswalk (HAWK) are used to improve pedestrian and bicycle crossings of major streets in locations where side-street traffic volumes do not support installation of a conventional traffic signal. Hybrid beacons also can be used at mid-block crossing locations, for example at schools or trails. Hybrid beacons must be actuated by a person walking or biking, at which point the beacon begins flashing yellow, changes to steady yellow, then displays a solid red. During the solid red phase, drivers must stop and remain stopped. Prior to returning to no indication (beacon is dark, off) the beacon displays an alternating flashing red that allows drivers to stop and then proceed if clear, as they would a stop sign.



Hybrid Beacon | Phoenix, AZ

Photo: www.pedbikeimages.org - Mike Cynecki

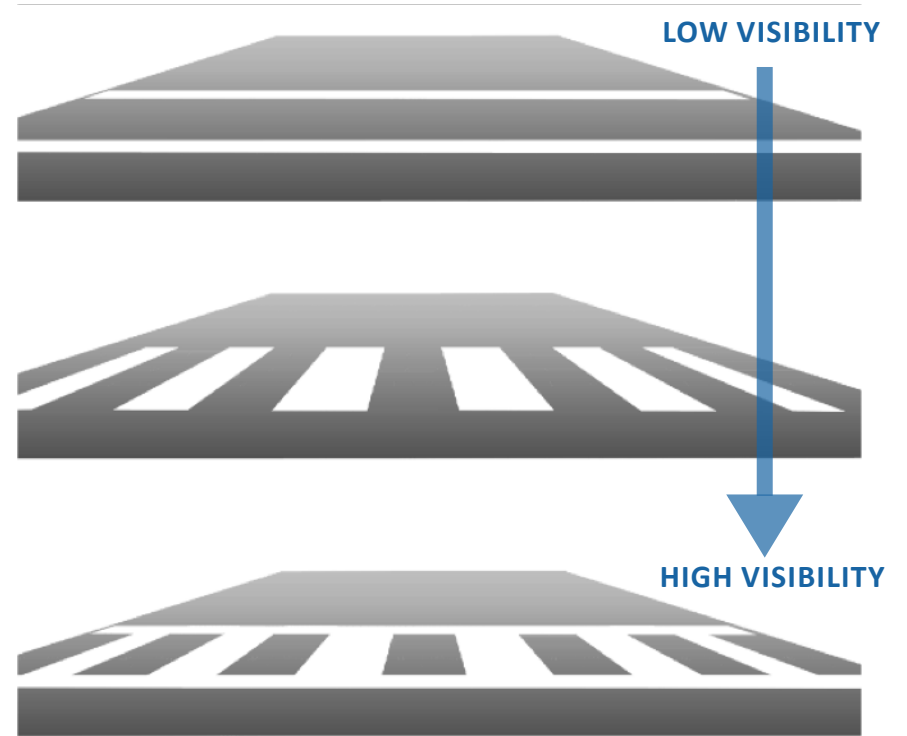
TOOLS FOR CHANGE

HIGH VISIBILITY CROSSWALK MARKINGS

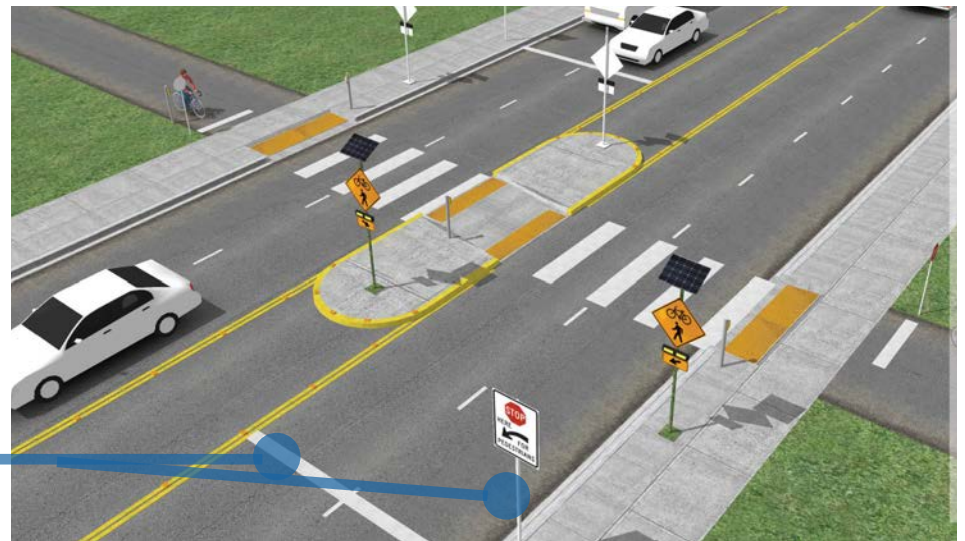
Crossings should be well placed and located where there is a strong desire to cross, sight distances are good, and speeds are controlled. The visibility of crosswalks to the driver varies by type. Piano key or ladder-style markings are the most visible. All five marquee crossing locations should include high visibility crosswalk markings on all or appropriate legs of the intersection.

ADVANCED STOP HERE FOR PEDESTRIAN SIGN & STOP BAR

Advance stop here signs and bars are placed 30-50 feet in advance of the marked crosswalk. This treatment can be used at any uncontrolled crossing location, but has the highest benefit on streets with four or more lanes and streets with speed limits of 35 mph or greater as it helps improve sightlines and reduce the multiple-threat crash—where a stopped motorist screens a person crossing and the approaching motorist does not see the person crossing and does not have enough stopping time.



ADVANCED STOP HERE FOR PEDESTRIANS SIGN & STOP BAR



TOOLS FOR CHANGE

SIDEWALKS

Sidewalks reflect their setting. Placement, design and surface materials can vary significantly based on the community context. However, sidewalks typically have four zones:

1. *Shy Zone* – Also known as the furniture, located immediately adjacent to buildings, this space is for building-related features such as entryways, ramps, awnings, signs, news racks, displays and outdoor café seating.

2. *Pedestrian Zone* – Between the shy zone and the furniture zone, this area is dedicated to walking and should be kept clear of all fixtures and obstructions.

3. *Furniture Zone* – Contains all fixtures, such as street trees, bus shelters, parking meters, utility poles, lamp posts, bike racks, waste receptacles and other street furniture.

4. *Curb Zone* – Serves primarily to prevent storm water and vehicles from encroaching on the pedestrian realm

The width of a sidewalk is governed by its context. A width of five to seven feet is appropriate in residential areas and eight to twelve feet is suitable for commercial districts.

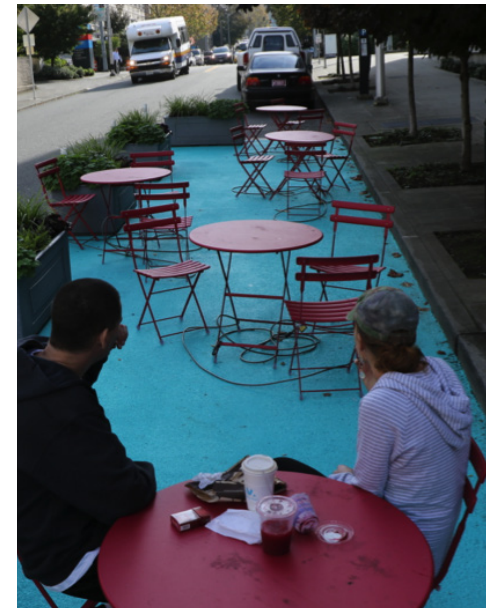
A connected network of sidewalks and walkways is essential to achieving walkability. People want to spend time in attractive, well-designed, and cared-for public places. Vibrant public spaces add value to all buildings and homes in an area. Converting parking spaces, sidewalks, alleys, and streets into parklets, pocket parks, plazas, or paseos creates lively places for people to gather, celebrate, and enjoy being together.

Prioritize locations where there is currently little access to green spaces or where sidewalks are not wide enough to accommodate vibrant street life like outdoor dining.



Above: Sidewalk zones | Holland, MI

Below: Painted protected walkways (left) and Pavement to Park initiatives activate places (right) | Seattle, WA



ADDITIONAL TOOLS FOR CHANGE

ALLEYS

Intersections between alleys and sidewalks often obstruct visibility for people in vehicles and passing people on foot. Raise the intersection to the sidewalk grade to better mitigate some of the visibility issues.

Additionally, while alleys are often thought as a safe route, they can be designed to play an integral role in the street network and improve the pedestrian realm, especially in and around commercial areas.

Many residential alleys have low traffic and are generally well maintained, but can still feel uninviting or unattractive.

Green alleys use sustainable materials, pervious pavements, and effective drainage to create an inviting public space for people to walk, play, and interact. Since alleys generally run parallel to the larger street network, they are low-speed, low-volume links for cyclists and pedestrians.



Above: Alley | Mountain View, CA

Below: Green alley design | NACTO



5 CONCLUSION: MOVING FORWARD

Early successes provide the hand and toe-holds needed to pull the group from one achievement to the next. As you move forward with the recommendations presented in this report, remember that roadway efficiency is of less importance than safety. To be successful, you must make walking and cycling easy and comfortable. Stop building streets for peak hour traffic. In downtown areas and neighborhoods, 20 mph is appropriate and 10' travel lanes (or less) should be set as the default lane width. Aim for compact, low speed intersections and green streets which utilize native trees and shrubs. Further activate the Edgewater community by ensuring that any future development watches over the street, as well as festival and shared streets which establish pace and diminish auto dominance.

In select locations, encourage neighbors to design and paint attractive intersections with the city's assistance. This can become a model project to advance community pride. Testing temporary applications of suggested recommendations allows the community to monitor the results. Did the treatment slow traffic, increase yielding to pedestrians, reduce noise and danger, increase place-making or otherwise create greater livability? Were there any unintended or negative consequences to be aware of as the city refines designs and endeavors to make them permanent?

The design of streets should create nodes where people naturally gather, share, gain information and knowledge. Edgewater has staff and community leaders eager to advance the art of building streets for all people and all modes. To achieve this, high levels of collaboration between departments, agencies and stakeholders will build goodwill and trust. Once projects are in design, referring to tools presented in this report will be helpful to enable groups to speak with an informed, united and compelling voice.

