

# WELCOME!

OPEN HOUSE | NOV 27



**METRAL DRIVE**  
COMPLETE STREET

**DESIGN REVIEW**

**PHASE 2**   
COMMUNITY  
ENGAGEMENT

# INTRODUCTION

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THANK YOU FOR JOINING US!

## WHY ARE WE HERE TODAY?

The City of Nanaimo has developed the design for Metral Drive Complete Street based on feedback received in spring 2019. Please join us to review the design and inform our next steps through detailed design and into construction.

## COMPLETE STREET CONCEPT

The Metral Drive Complete Street aims to increase the safety and comfort for people who walk, bike, take transit, and drive.

Metral Drive Complete Street will:

- ▶ Ensure comfortable and effective mobility for people of all ages and abilities;
- ▶ Improve safety for pedestrians, cyclists, transit users, and motorists;
- ▶ Enhance public amenities such as lighting, sidewalks, boulevards, street trees, and road surfacing;
- ▶ Create a more inviting streetscape and sense of pride for the neighbourhood and City; and
- ▶ Provide an extension to the E&N trail and a connection to the Parkway Trail.

## HOW TO SHARE YOUR FEEDBACK



### Discuss

Engage with other community members at the open house or in your neighbourhood.



### Fill Out an Input Form

Please fill out and submit your completed input form in the submission box. Forms will also be available at the City of Nanaimo or online until December 13th, 2019.



### Talk With Us!

City of Nanaimo staff and project consultants are here today to help facilitate discussion and listen to your ideas.



### Post Your Ideas!

If you have a thought about a specific location, please make the note on a sticky note and post it!



### Other Questions?

If you have questions or comments after this event, please contact:  
metral.drive@nanaimo.ca or  
phone 250-758-5222 Ext. 5343.

## PROJECT TIMELINE



## PROJECT BACKGROUND

Metral Drive has been identified for a range of improvements in the Transportation Master Plan (2014) and the forthcoming Complete Streets Guidelines (2020).

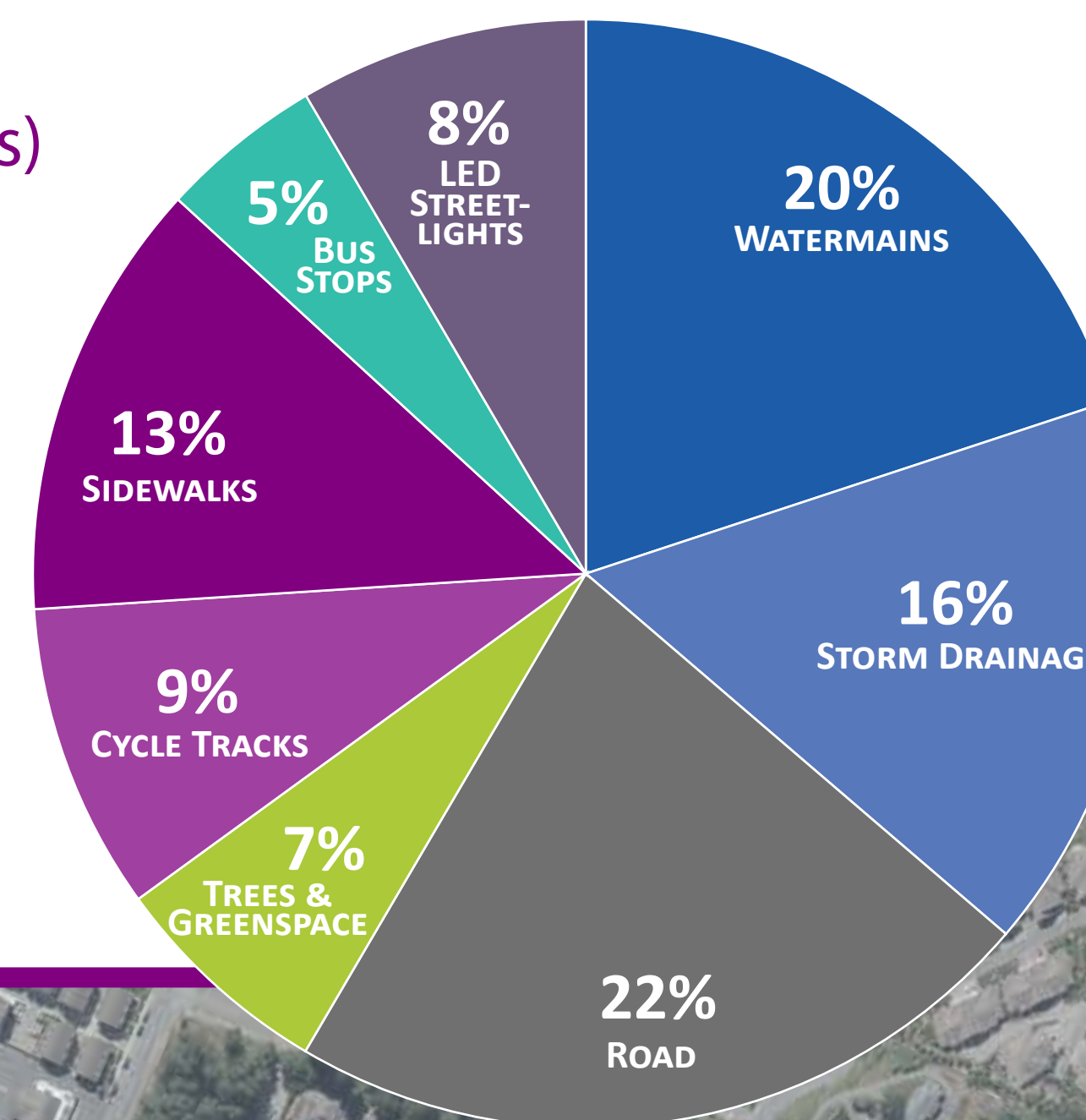
These planned improvements have led to the comprehensive **Metral Drive Complete Street** project that supports the City's mandate to establish a more sustainable, multi-modal network that accommodates and moves people – not only motorists.

## FEATURES OVERVIEW

- ▶ Continuous sidewalks
- ▶ Cycle tracks (separated bike lanes)
- ▶ Crosswalks and transit stops
- ▶ Street lighting
- ▶ Street trees and boulevards
- ▶ Water system
- ▶ Storm drainage system
- ▶ Road surfacing

## BUDGET BREAKDOWN

\*Budget to be revised through detailed design



## OBJECTIVES

Through attractive design, enhanced safety, and multi-modal infrastructure, Metral Drive will be transformed into a space that:

- Increases safety
- Provides sustainable and active transportation alternatives
- Encourages a sense of community
- Supports local businesses
- Decreases carbon dioxide emissions



# WHAT WE HEARD...

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## PARTICIPATION



## PUBLIC PRIORITIES



## COMMON THEMES

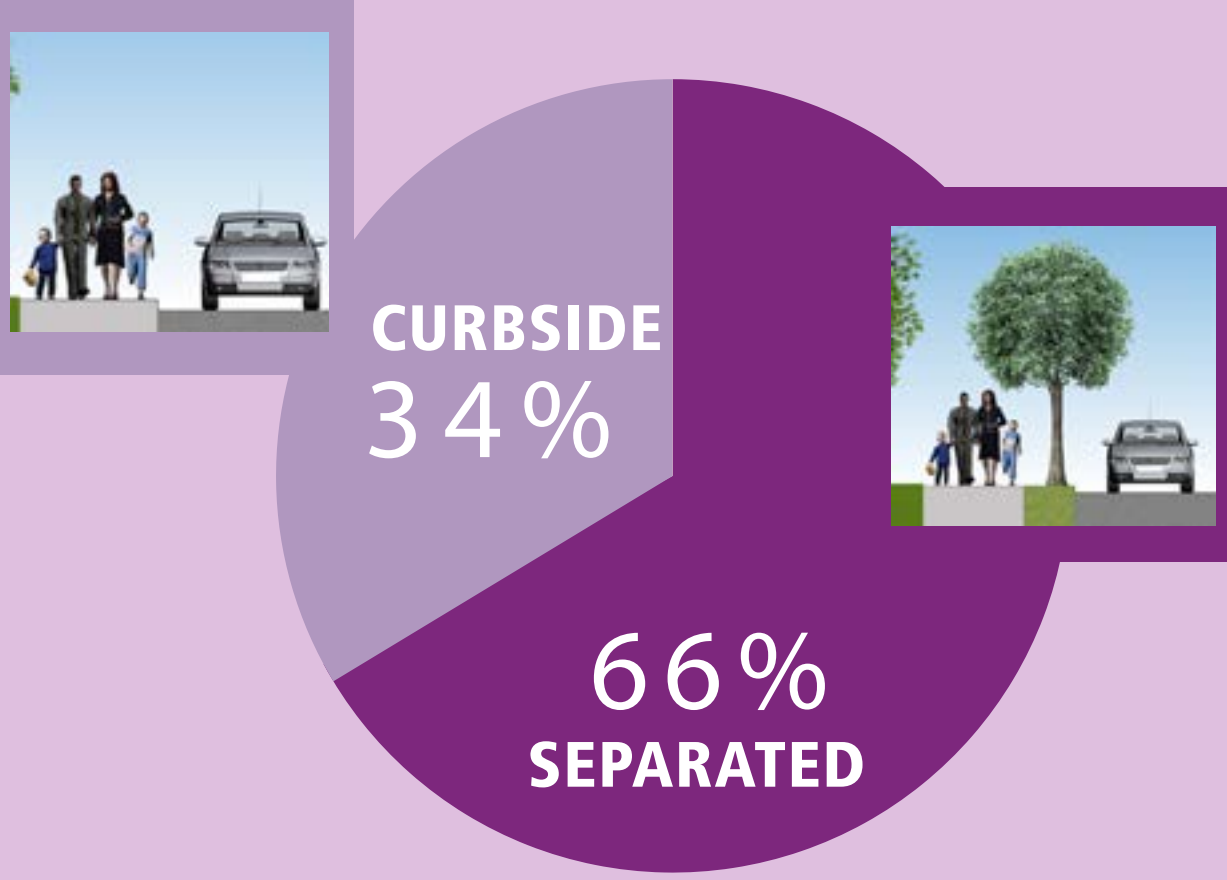
### SAFETY

INCREASE THE SAFETY AND COMFORT FOR A DIVERSE RANGE OF USERS INCLUDING PEDESTRIANS, CYCLISTS, TRANSIT USERS, AND MOTORISTS.



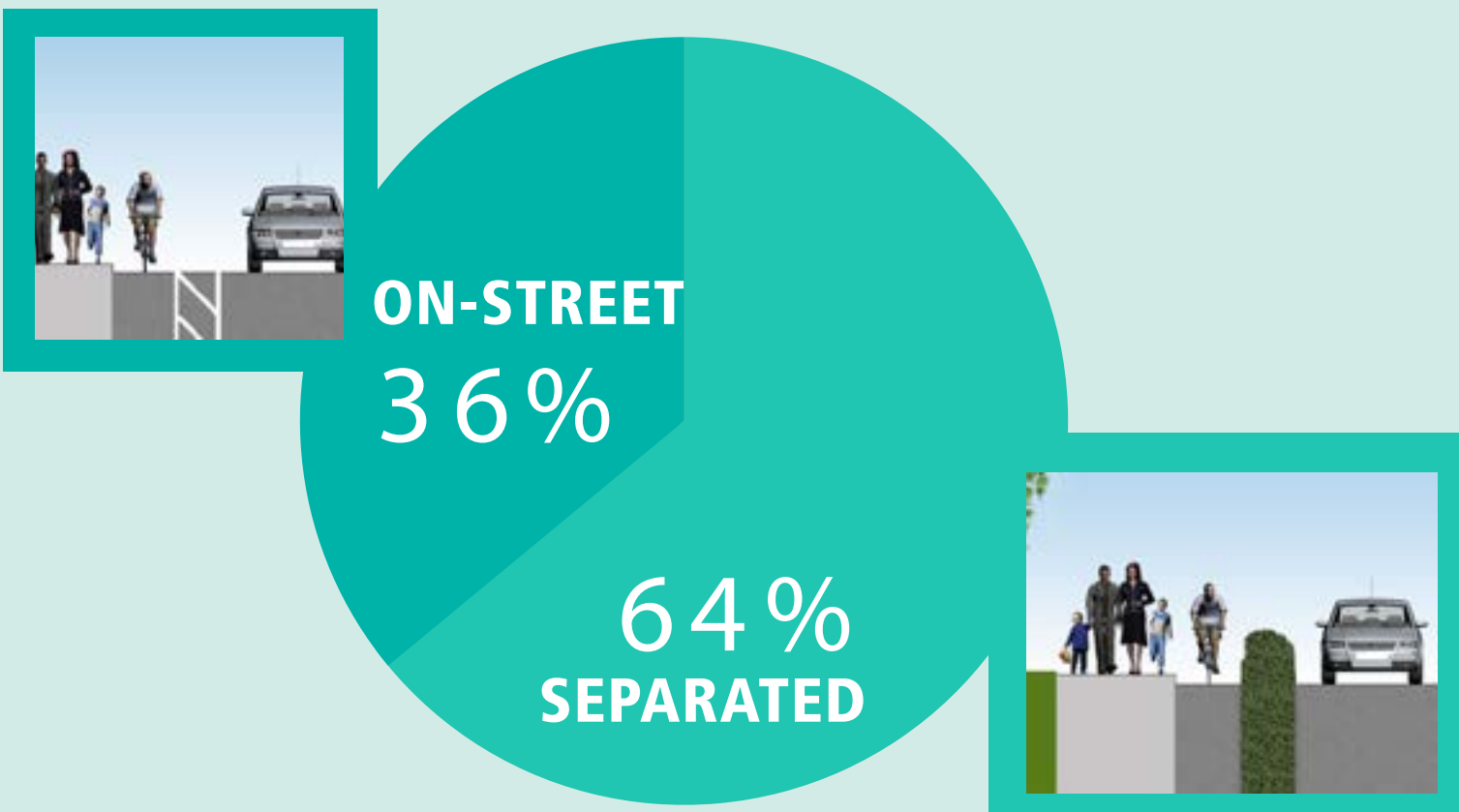
SEPARATED,  
COMFORTABLE,  
AND CONTINUOUS  
PEDESTRIAN ROUTES

PEDESTRIANS (SIDEWALKS):  
CURBSIDE VS. SEPARATED



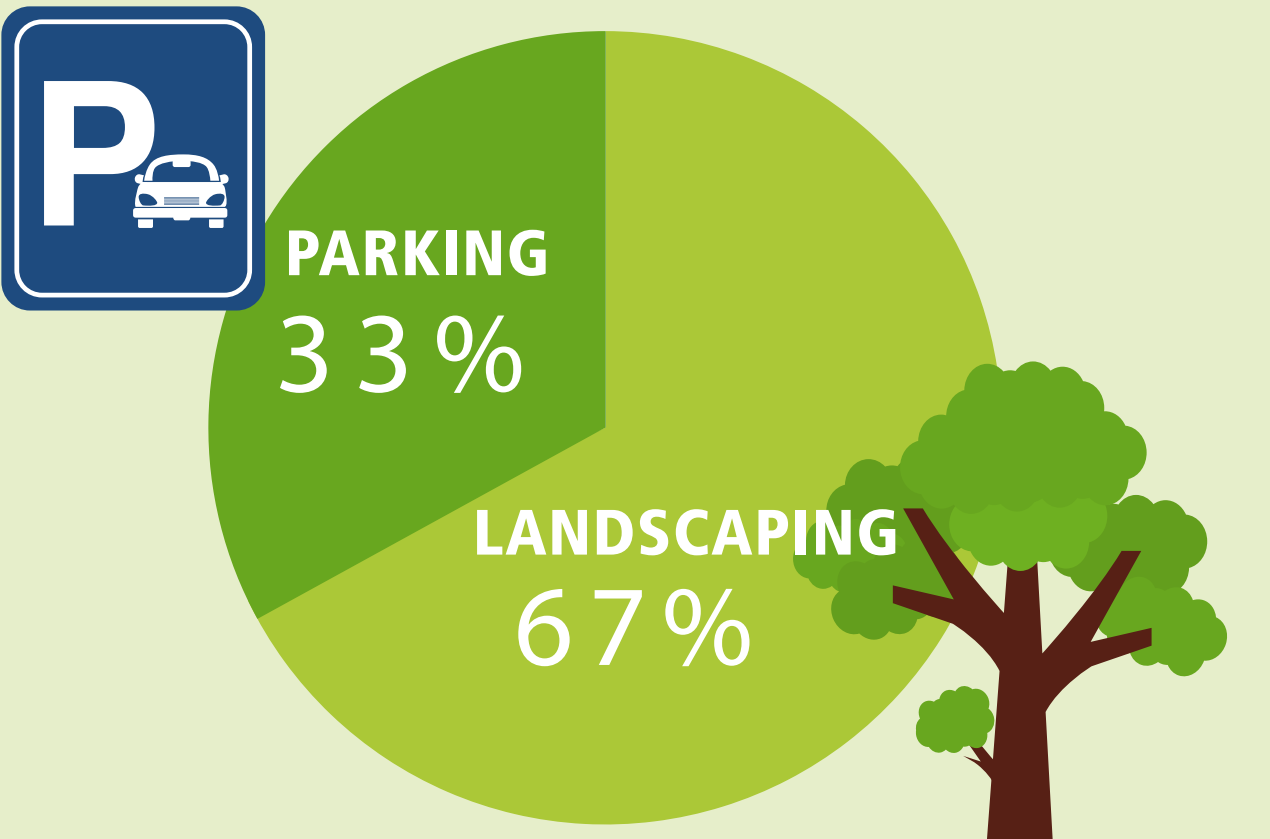
SEPARATED CYCLING  
ROUTES FOR ALL  
AGES AND ABILITIES

CYCLISTS:  
ON-STREET VS. SEPARATED



GREEN  
BOULEVARD  
AREAS

BOULEVARDS:  
PARKING VS. LANDSCAPING

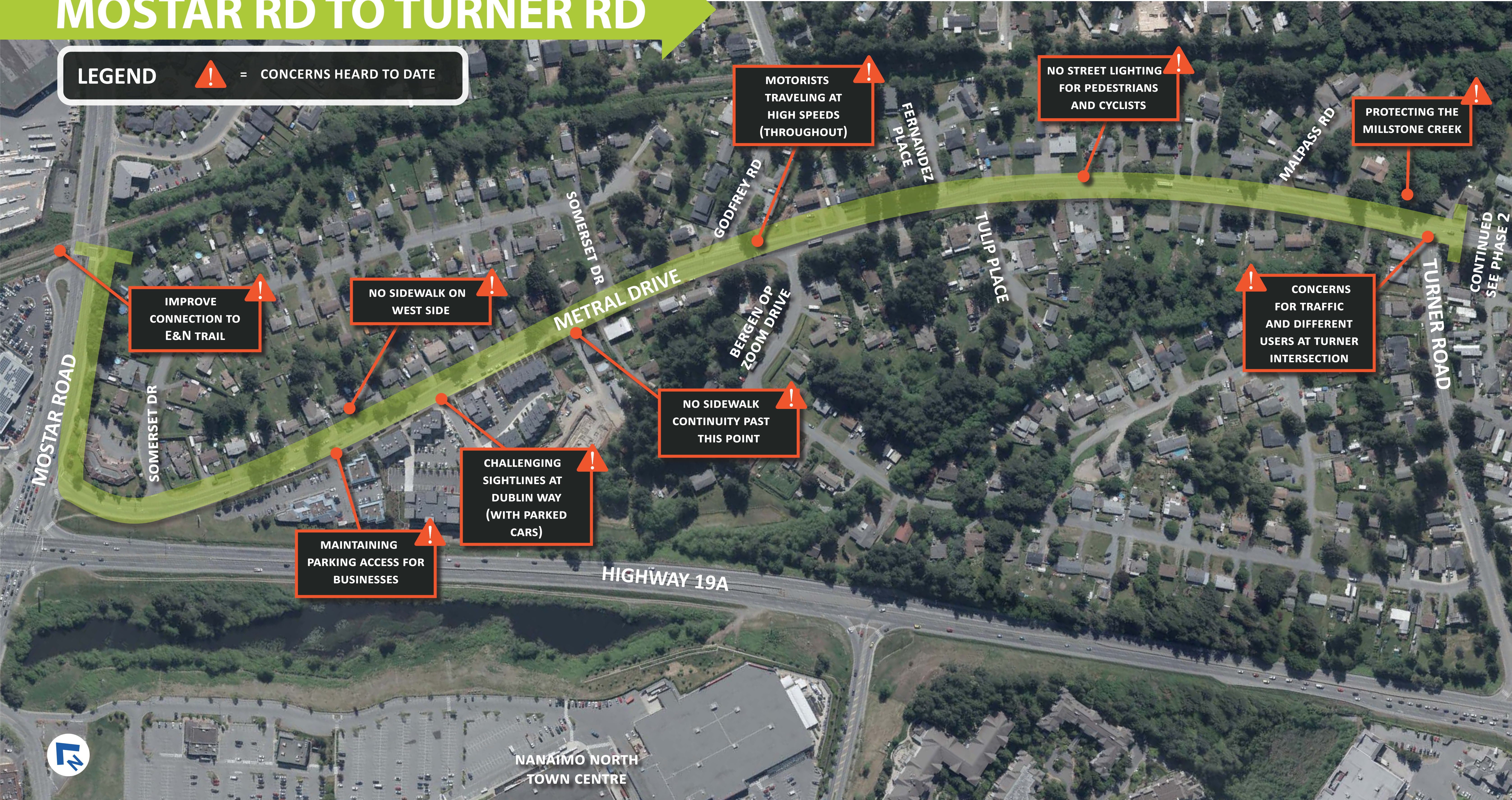


# EXISTING CONDITIONS



## MOSTAR RD TO TURNER RD

**LEGEND** = CONCERNS HEARD TO DATE



# EXISTING CONDITIONS

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## TURNER RD TO AULDS RD.

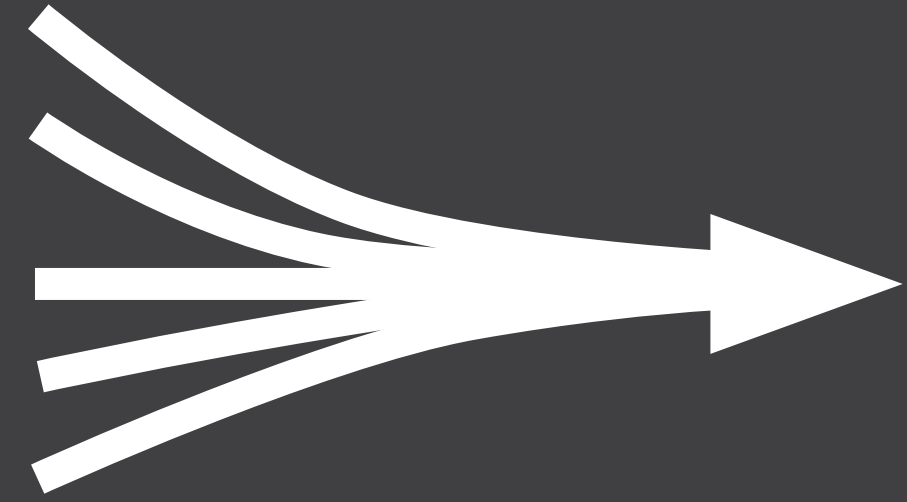


# FREQUENTLY ASKED QUESTIONS

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➤ COMMON QUESTIONS/CONCERNS WE HAVE HEARD SO FAR...



## COMPLETE STREETS? WHAT ARE 'COMPLETE STREETS'?

- ▶ "Complete Streets" is an international initiative and design approach that requires streets to be planned and operated to enable safe and comfortable use for all ages and abilities.
- ▶ Complete Streets move people, not just cars.
- ▶ The initiative recognizes that streets have different roles, functions, and characteristics depending on their context.
- ▶ A Complete Street aims to provide balanced mobility for a range of users including pedestrians, bicyclists, vehicles and transit in a shared roadway experience.

## WHY CHANGE? WHY ARE THE ROAD UPGRADES ALONG METRAL DRIVE REQUIRED?

- ▶ Metral Drive is identified for pavement renewal, water distribution system replacement, stormwater management, street-lighting, and accessibility improvements.
- ▶ This project combines all of the planned needs into one comprehensive project.
- ▶ The Metral Drive Complete Street project is a step towards the City's goals for providing a greener, more sustainable, multi-modal network that accommodates all user groups safely and efficiently.

## SIDEWALKS? WILL THERE BE SIDEWALKS ON BOTH SIDES OF METRAL DRIVE?

- ▶ Yes!
- ▶ The Metral Drive Complete Street design proposes continuous sidewalks on both sides of the road.
- ▶ The sidewalks, along with adjacent cycle tracks (protected bike lanes), are proposed to be separated from the traveled road lanes by landscape boulevards.
- ▶ The aim is to provide a comfortable and functional environment that is universally accessible for pedestrians of all ages and abilities.

## BICYCLISTS? ARE THERE GOING TO BE DESIGNATED ROUTES FOR BICYCLISTS ON METRAL DRIVE?

- ▶ Yes!
- ▶ This project proposes continuous routes for cyclists on both sides of the road.
- ▶ Based on public feedback, the preference was for 'cycle tracks' which are physically separated from the road.
- ▶ The physical separation between cyclists and the road encourages comfort for users of all ages and abilities.
- ▶ The Metral cycle tracks are designed to strengthen connections to existing cycle routes such as the E&N and Parkway multi-use trails.

## PARKING? WILL EXISTING PARKING ALONG METRAL DRIVE BE REMOVED?

- ▶ Parking needs have been assessed based on adjacent land-use development.
- ▶ On-street parking is being maintained at the south end of Metral Drive around Pacific Station.
- ▶ Parking layout has been adjusted around Pacific Station and Dublin Way for safety and clear sightlines.
- ▶ Feedback received did not favour on-street parking along residential portions of Metral Drive.

# FREQUENTLY ASKED QUESTIONS

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## COMMON QUESTIONS/CONCERNS WE HAVE HEARD SO FAR...



### BUDGET?

HOW MUCH WILL THE IMPROVEMENTS COST?

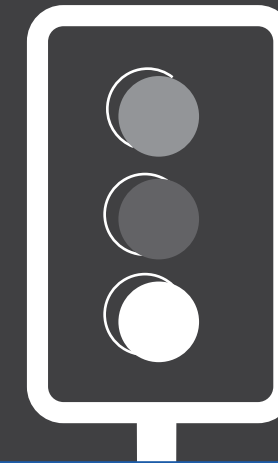
- ▶ The overall budget allocated for improvements for 3.0 km Metral Drive = \$12.5 Million
- ▶ Cost estimating will continue to be refined as the project progresses.
- ▶ Actual costs will be affected by several factors through tender and construction.



### ENCROACHMENTS?

WILL THE IMPROVEMENTS BE UTILIZING THE CITY RIGHT-OF-WAY UP TO THE PROPERTY LINE?

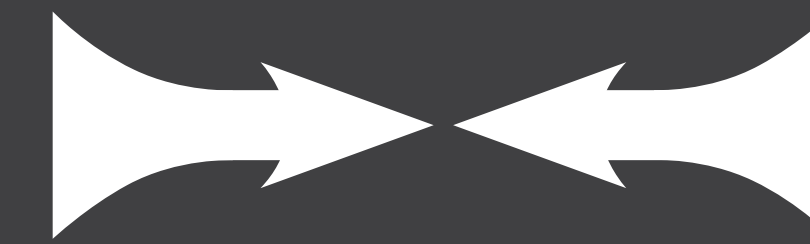
- ▶ The proposed design uses the full road right-of-way to provide the corridor improvements.
- ▶ The right-of-way varies between 20-23m wide.
- ▶ Current encroachments of private landscaping or use (e.g. parking) on City property will need to be addressed as part of the corridor development.



### NEW TRAFFIC LIGHTS?

CAN THE CITY PUT LIGHTS AT THE DOUMONT, DUNBAR OR TURNER INTERSECTIONS?

- ▶ Current evaluation of the Doumont, Turner, and Dunbar intersections and proposed improvements does not warrant signalization (traffic lights) at this time.
- ▶ Ducting may be installed to allow for intersections to be upgraded or adapted in future as required.



### NARROWING?

WILL METRAL DRIVE BE NARROWED?

- ▶ The design maintains a 3-lane cross-section (one lane in each direction and a centre turn lane) that exists for most of Metral Dr.
- ▶ Traffic volume studies indicated that the 5-lane cross-section north of Enterprise Way is not warranted.
- ▶ The proposed design north of Enterprise Way is a 3-lane cross-section (one lane in each direction and a centre turn-lane).



### MAINTENANCE?

HOW WILL SIDEWALKS AND BOULEVARDS BE MAINTAINED?

- ▶ As per the City's current bylaw, snow clearing of sidewalks is the responsibility of the adjacent property owner.
- ▶ Feedback gathered in spring 2019 indicated a priority for boulevards and greenspace.
- ▶ Planning for boulevard maintenance will be part of detailed design.



### WHEN?

WHEN WILL THIS BE BUILT?

- ▶ Construction of Phase 1 (Mostar to Turner) is targeted to begin in 2020.
- ▶ Construction of Phase 2 (Turner to Aulds) is targeted to begin in 2021.



### TRAFFIC?

WILL THESE IMPROVEMENTS ENCOURAGE MORE VEHICLES?

- ▶ It is anticipated that the use of the Metral Drive corridor will continue to grow over the coming years.
- ▶ The project is designed to meet projected traffic volumes for the corridor.
- ▶ To accommodate this capacity safely, the proposed Complete Street design aims to provide improved intersections and road calming measures to better manage traffic speeds and different road users.



### ENVIRONMENT?

WILL THE IMPROVEMENTS HAVE ENVIRONMENTAL IMPACTS?

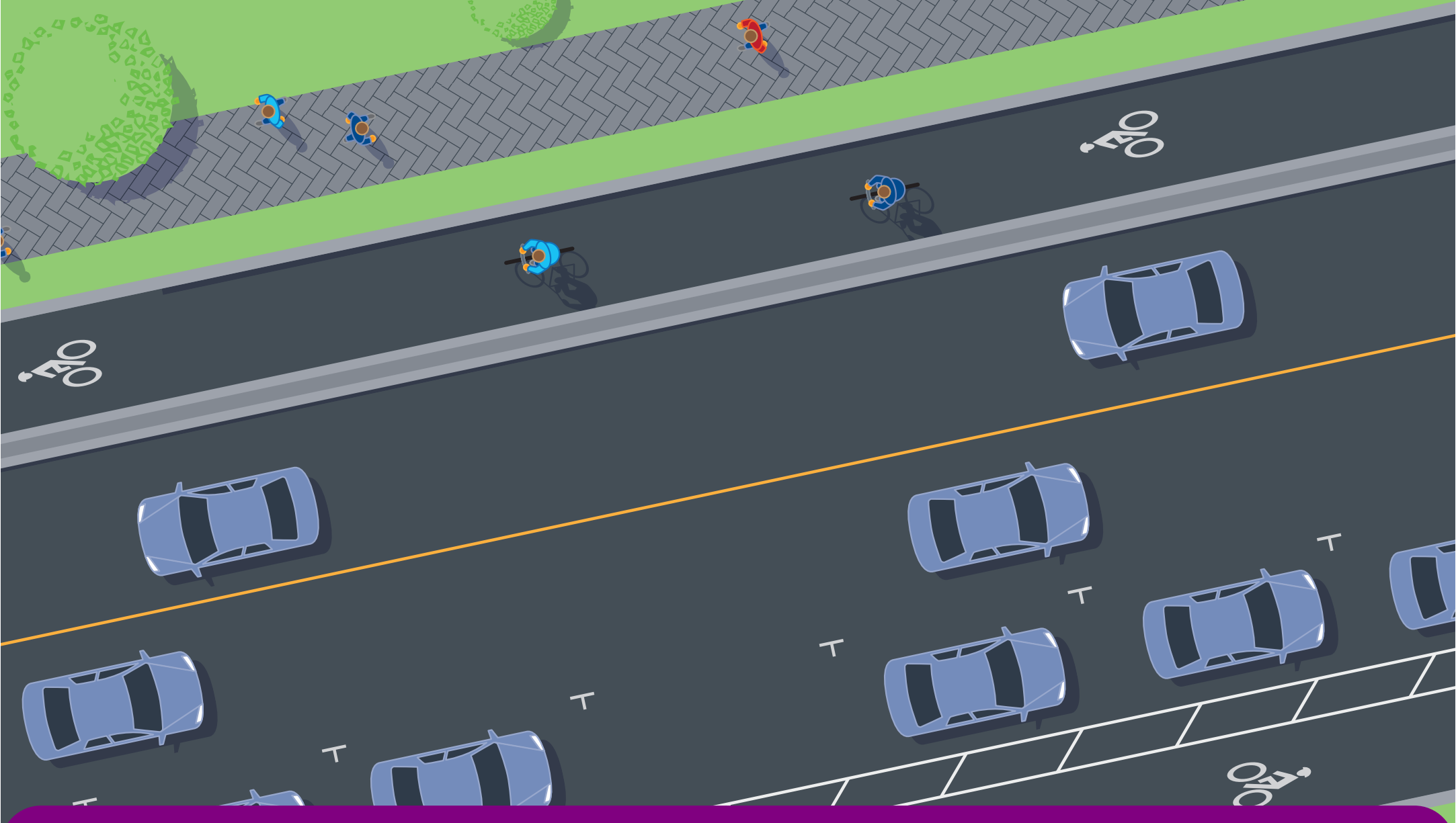
- ▶ Environmental and geotechnical review and reporting has been prepared for the project by ISL Engineering.
- ▶ Environmental impacts during construction will be mitigated through preparation and use of an environmental protection plan.
- ▶ Environmental best practices, such as working within required construction windows and implementing sediment and erosion control measures, will be project requirements.

# DESIGN FEATURES



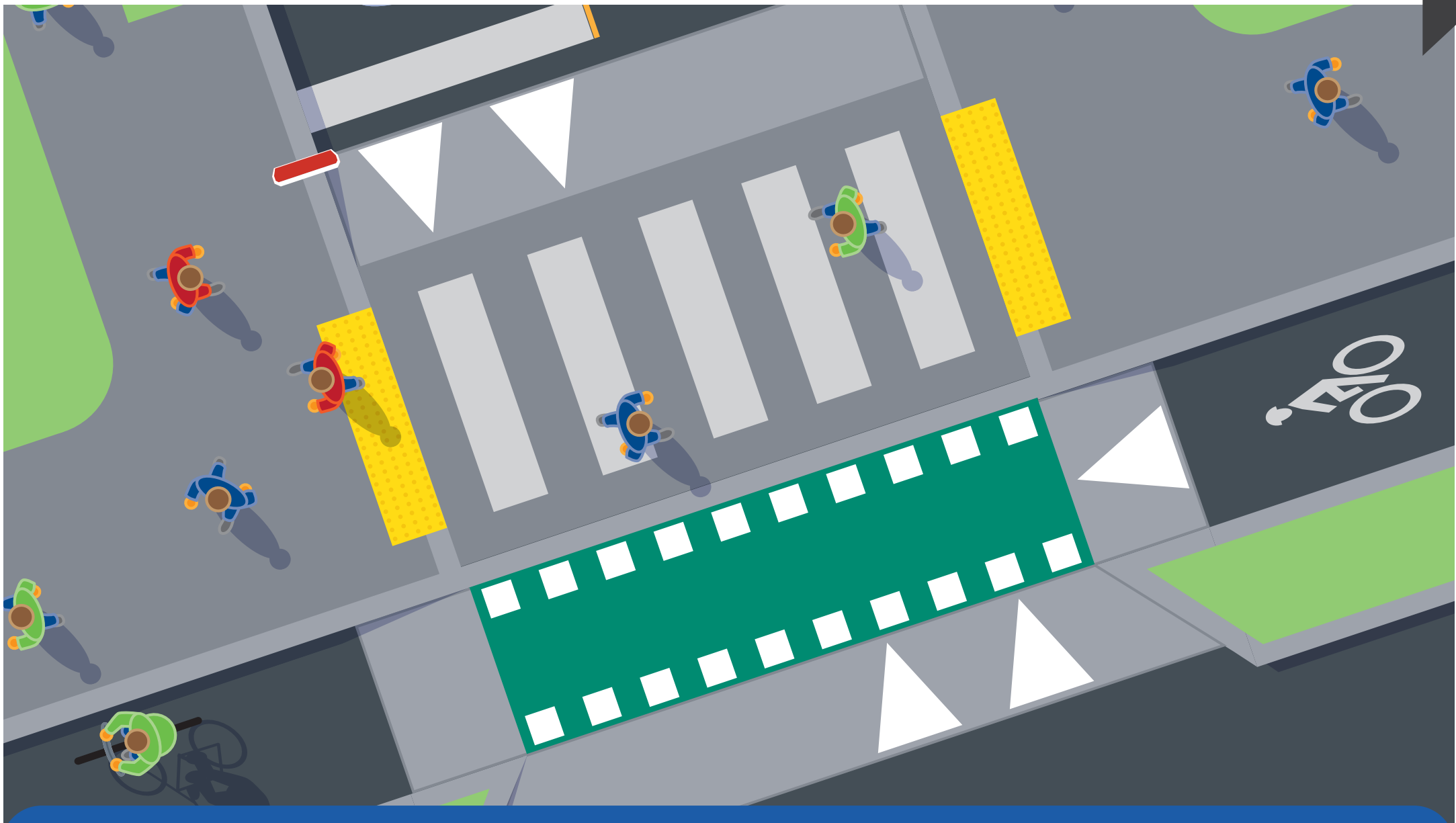
## SAFETY FOCUSED

\* Adapted from the Government of British Columbia's B.C. Community Road Safety Toolkit



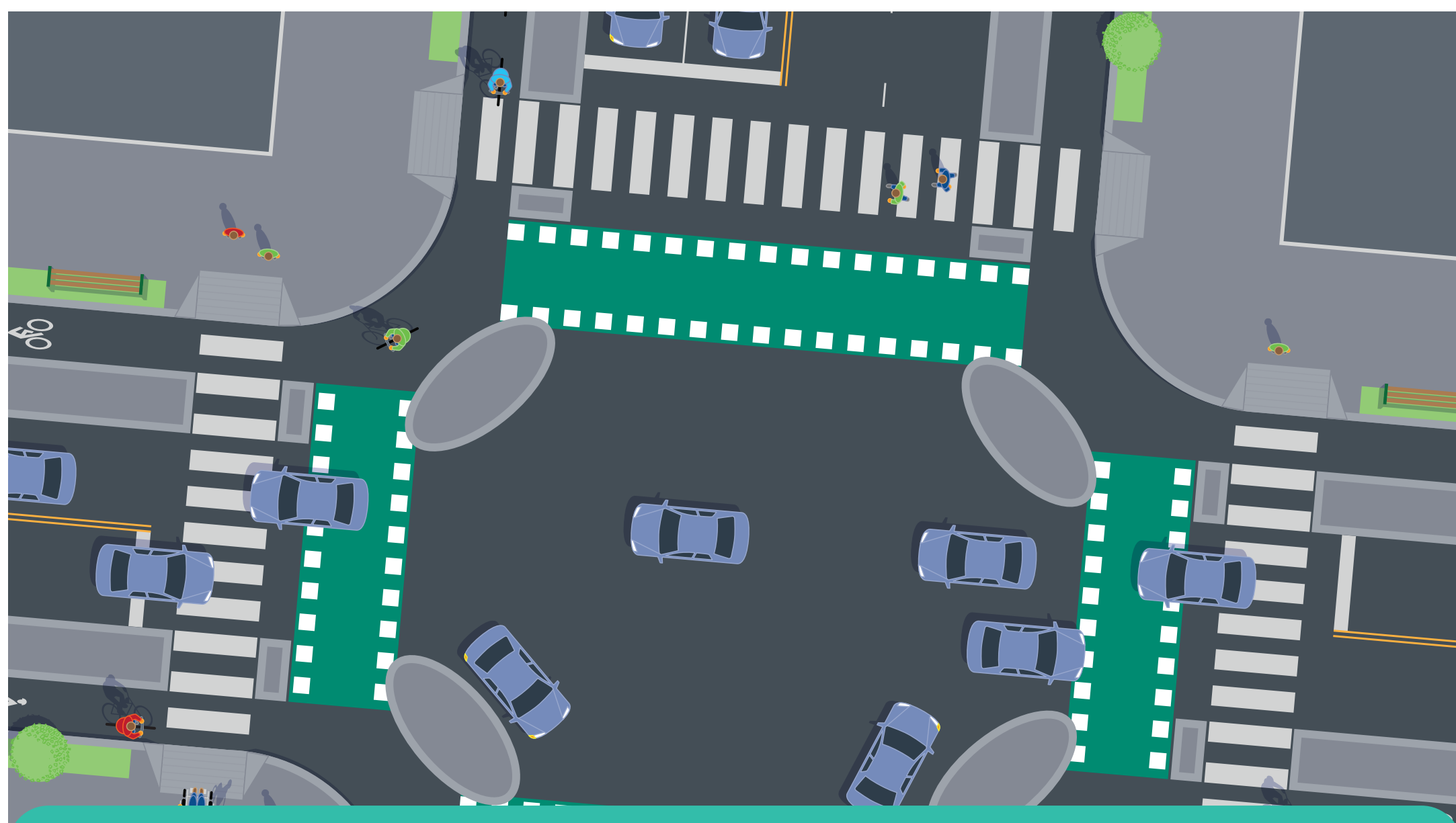
### PROTECTED BICYCLE LANES

A protected bicycle lane (also known as a cycle track or separated bicycle lane) runs alongside a street, but is physically separated from motor vehicle traffic and is distinct from the sidewalk. Protected bicycle lanes can be one- or two-way. The bicycle lane can be at street level, higher up at the sidewalk level, or at a level in-between the two.



### RAISED CROSSINGS

People on foot or on bicycle crossing a road often have the right-of-way, but this is not intuitive in typical North American road design. Raised crossings are crosswalks that are flush with the sidewalk, rather than the road, and help to make people crossing more apparent to drivers.



### PROTECTED INTERSECTIONS

Protected intersections involve the implementation of a number of design features that minimize conflict between drivers and vulnerable road users by separating their intersection movements through space, and also through time.

WHY?	<ul style="list-style-type: none"><li>To reduce up to 90% of vehicle-bicycle incidents resulting in injuries</li><li>To reduce cyclist to cyclist conflicts by utilizing one-way directional bicycle lanes</li></ul>
HOW?	<ul style="list-style-type: none"><li>Protected physical barrier between vehicle lanes and bicycle lanes</li><li>Painted directional indications for cycling</li><li>Placement of bicycle lanes positioned outside of potential intersections and vehicle parking conflict areas</li></ul>
WHERE?	<ul style="list-style-type: none"><li>Throughout the proposed Metral Drive complete street design</li></ul>

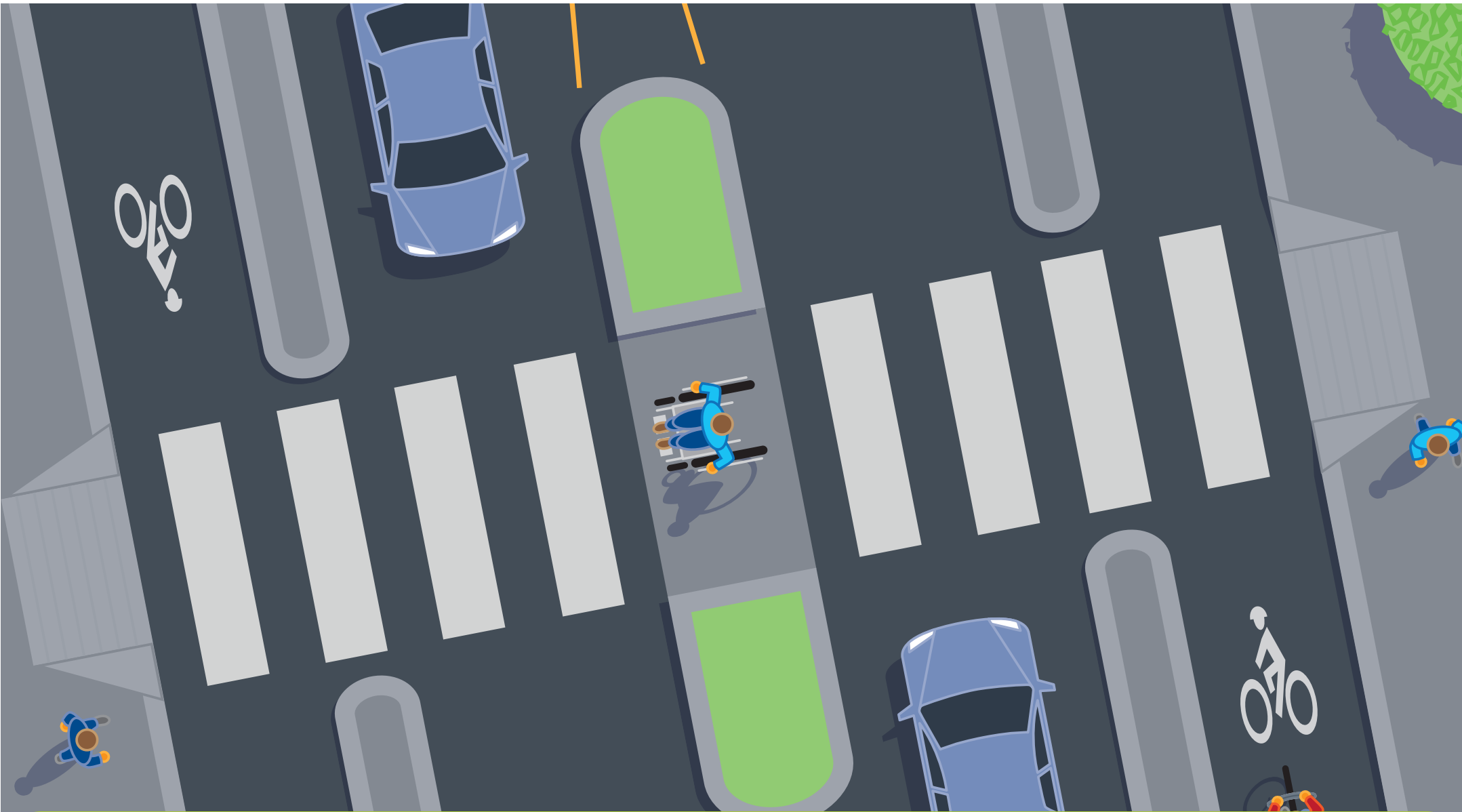
WHY?	<ul style="list-style-type: none"><li>To prioritize the right-of-way for pedestrians and cyclists</li><li>Reduce vehicle-pedestrian injuries by up to 46%</li><li>Reduce vehicle-bicycle injuries by as much as 51%</li></ul>
HOW?	<ul style="list-style-type: none"><li>Raised crossings</li><li>Sidewalk and cycle track material is continuous</li><li>Tactile warning strips</li></ul>
WHERE?	<div><ul style="list-style-type: none"><li>Somerset Drive (x2)</li><li>Bergen Op Zoom Dr</li><li>Fernandez Place</li><li>Tulip Place</li></ul><ul style="list-style-type: none"><li>Malpass Road</li><li>Dorren Place</li><li>Pine Park Place</li><li>Spartan Road</li></ul></div>

WHY?	<ul style="list-style-type: none"><li>Crashes involving pedestrians and cyclists with motor vehicles frequently occur at intersections (drivers turning).</li></ul>
HOW?	<ul style="list-style-type: none"><li>Raised corner islands</li><li>Adjusted vehicle stopline</li><li>Pedestrian crossing setbacks</li></ul>
WHERE?	<ul style="list-style-type: none"><li>Turner Road and Metral Drive intersection</li><li>Enterprise Way and Metral Drive intersection</li></ul>



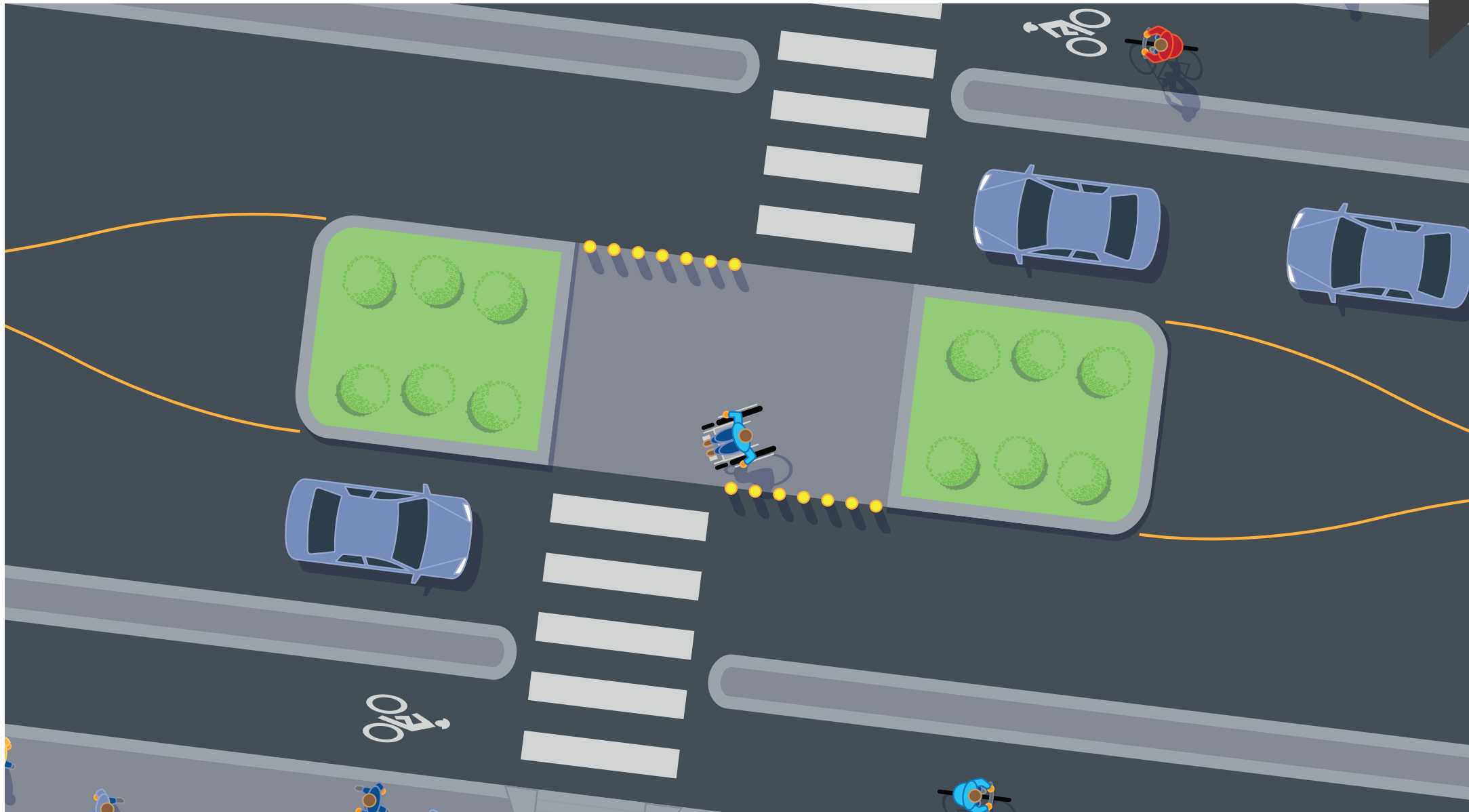
## SAFETY FOCUSED

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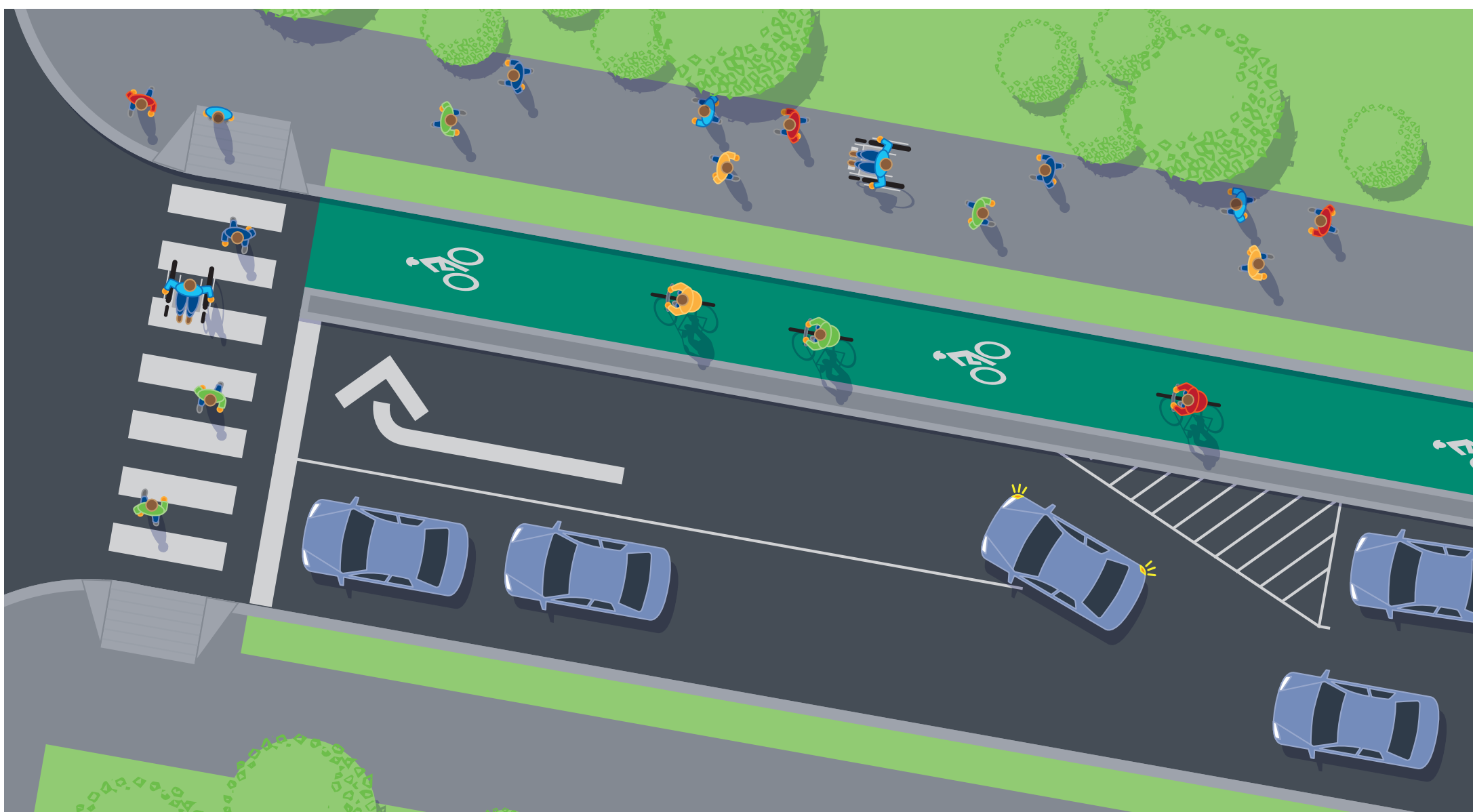
### PEDESTRIAN REFUGE ISLANDS

Pedestrian refuge islands work to reduce roadway crossing distances for people, allowing them to safely and more quickly reach the opposite side. These safety designs are low-cost, increasing the opportunity for widespread implementation.



### OFF-SET CROSSWALK

An Off-set Crosswalk is a raised refuge island which has been cut out in a zigzag pattern. This roadcrossing design is also known as a Danish offset, a Z-crossing, a corral crossing, or a two-stage crossing. The zigzag pattern of the refuge island directs pedestrians to face motor vehicle traffic before completing the second stage of their crossing.



### ROAD DIETS AND COMPLETE STREETS

"Road diets" are changes to a street's design where one or more motor vehicle travel lanes are removed. Commonly, this occurs when a 4-lane street is reduced to a 2-lane street and pedestrian and cycling facilities are added to make it a "complete street." A complete street is one that accommodates and protects all road users in proportion to their risk.

WHY?	<ul style="list-style-type: none"><li>To reduce vehicle-pedestrian incidents by 46% at marked crosswalks and 39% at unmarked crosswalks</li><li>To encourage drivers to yield to pedestrians</li></ul>
HOW?	<ul style="list-style-type: none"><li>Curb letdowns</li><li>Pedestrian island midway across road</li><li>Raised protected buffers on either side of island</li></ul>
WHERE?	<ul style="list-style-type: none"><li>Godfrey Road</li><li>Doumont Road</li></ul>

WHY?	<ul style="list-style-type: none"><li>To encourage drivers to yield to pedestrians</li><li>To guide pedestrians to safer crossings, discouraging attempts at unmarked dangerous locations</li><li>To reduce pedestrians from being stuck mid-crossing</li></ul>
HOW?	<ul style="list-style-type: none"><li>Curb letdowns</li><li>Pedestrian island midway across road</li><li>Zigzag crosswalk pattern from one side to the other</li><li>Raised protected buffers on either side of island</li></ul>
WHERE?	<ul style="list-style-type: none"><li>North end of Metral Drive by Real Canadian Superstore parking lot</li></ul>

WHY?	<ul style="list-style-type: none"><li>To encourage slower and more attentive driving</li><li>To encourage the use of more active modes of transportation</li><li>To reduce motor vehicle incidents by between 19 and 47%</li></ul>
HOW?	<ul style="list-style-type: none"><li>Reduction in the number of motorized lanes along a roadway</li><li>Building infrastructure for pedestrians and bicyclists</li><li>Implementation of best practices for public roadway design such as off-street pathways, refuge islands and raised crossings</li></ul>
WHERE?	<ul style="list-style-type: none"><li>Metral Drive between Mostar Road and Aulds Road</li></ul>

# DESIGN CROSS-SECTIONS

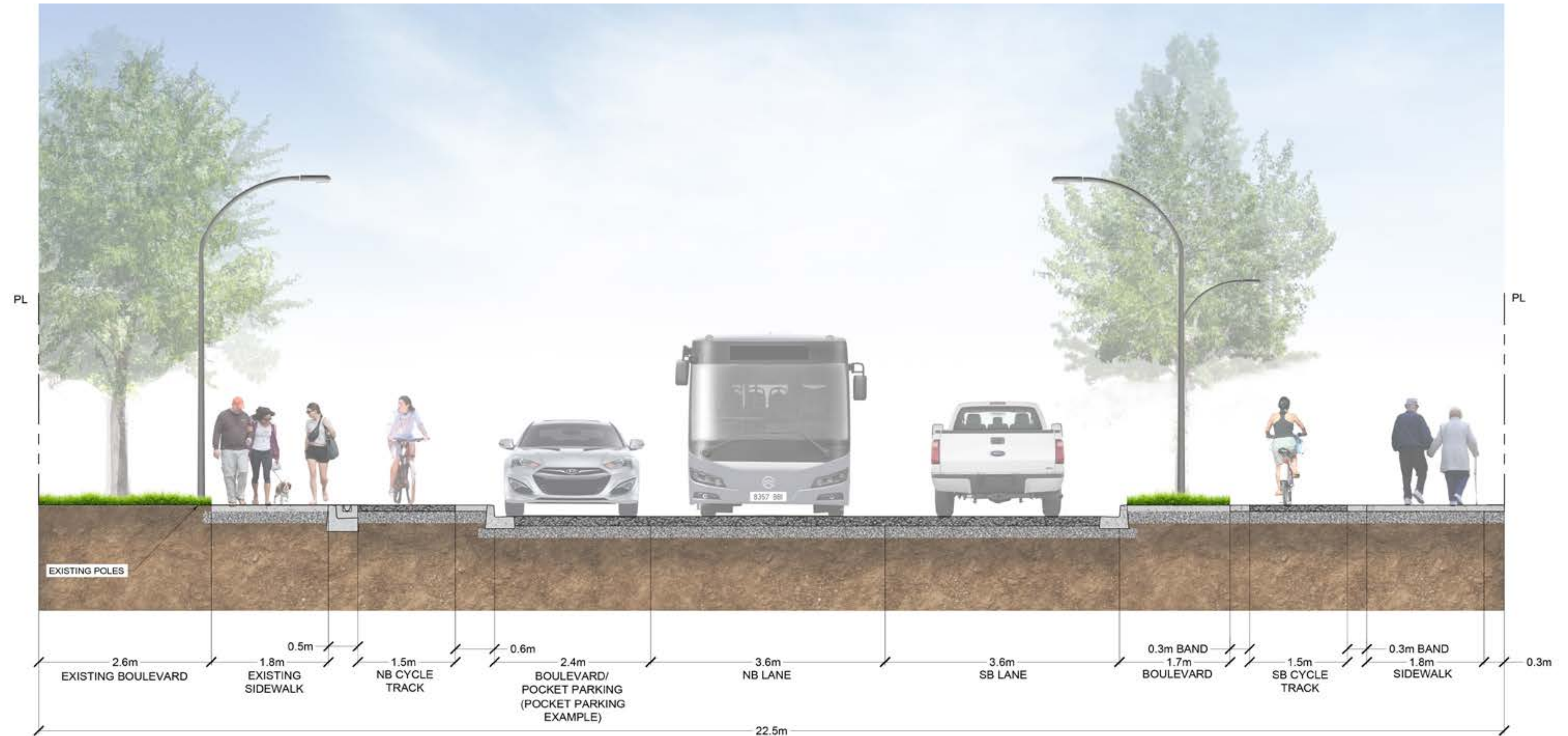
10



## MOSTAR ROAD TO GODFREY ROAD

- ▶ Raised and continuous sidewalk (1.8m width)
- ▶ Raised and separated cycle track (bike route)
- ▶ Road travel lanes suitable for buses and trucks
- ▶ New curb and gutter added
- ▶ Street trees and landscape median added to improve aesthetics and provide separation

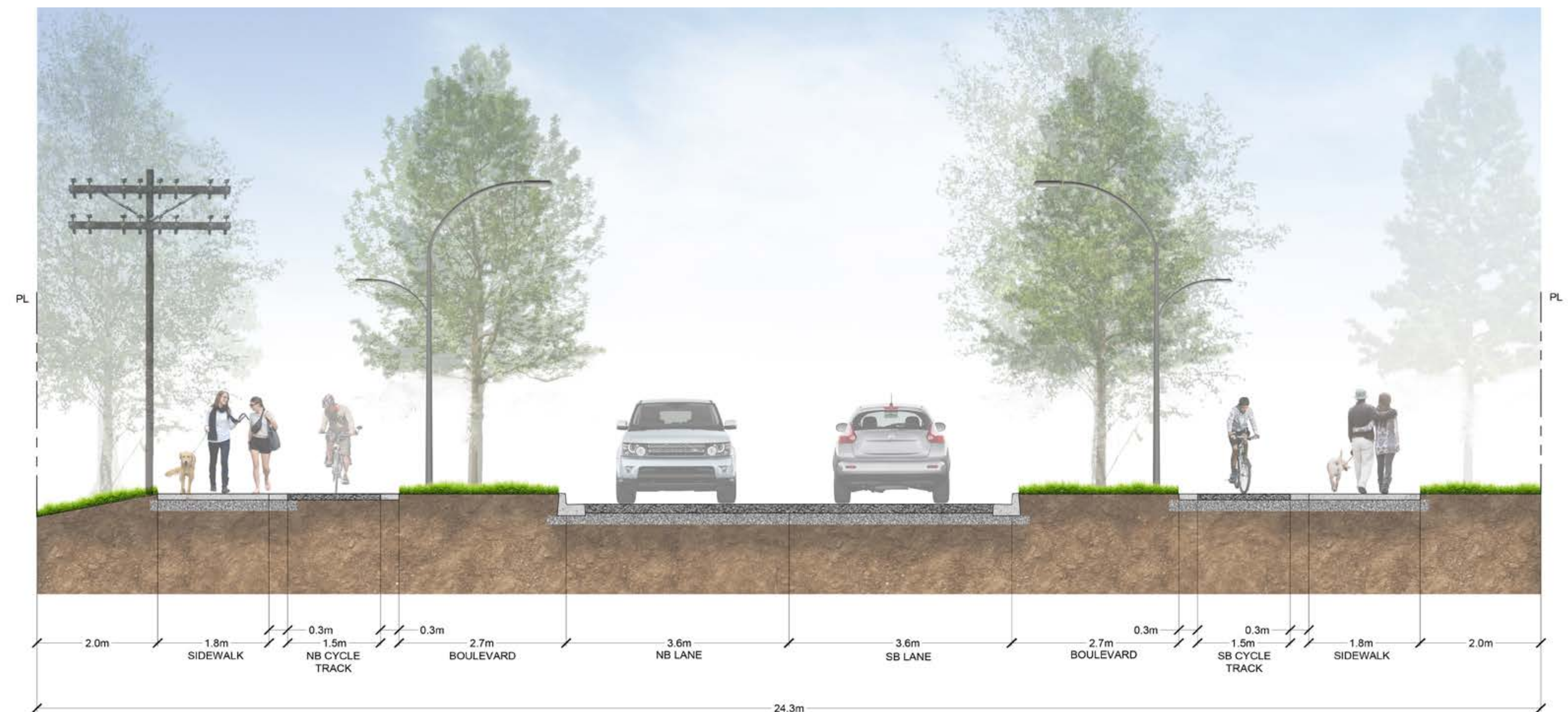
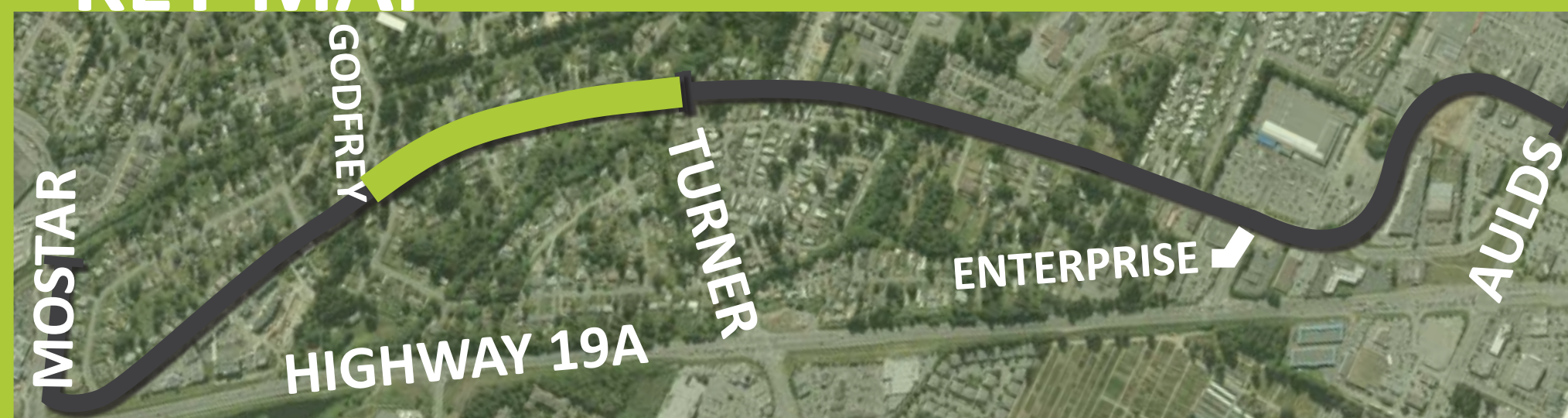
### KEY MAP



## GODFREY ROAD TO TURNER ROAD

- ▶ Raised and continuous sidewalk (1.8m)
- ▶ Raised and separated cycle track (bike route)
- ▶ Road travel lanes suitable for buses and trucks
- ▶ New curb and gutter added to form boulevard
- ▶ Street trees and landscape median added to improve aesthetics and provide separation

### KEY MAP



# DESIGN CROSS-SECTIONS

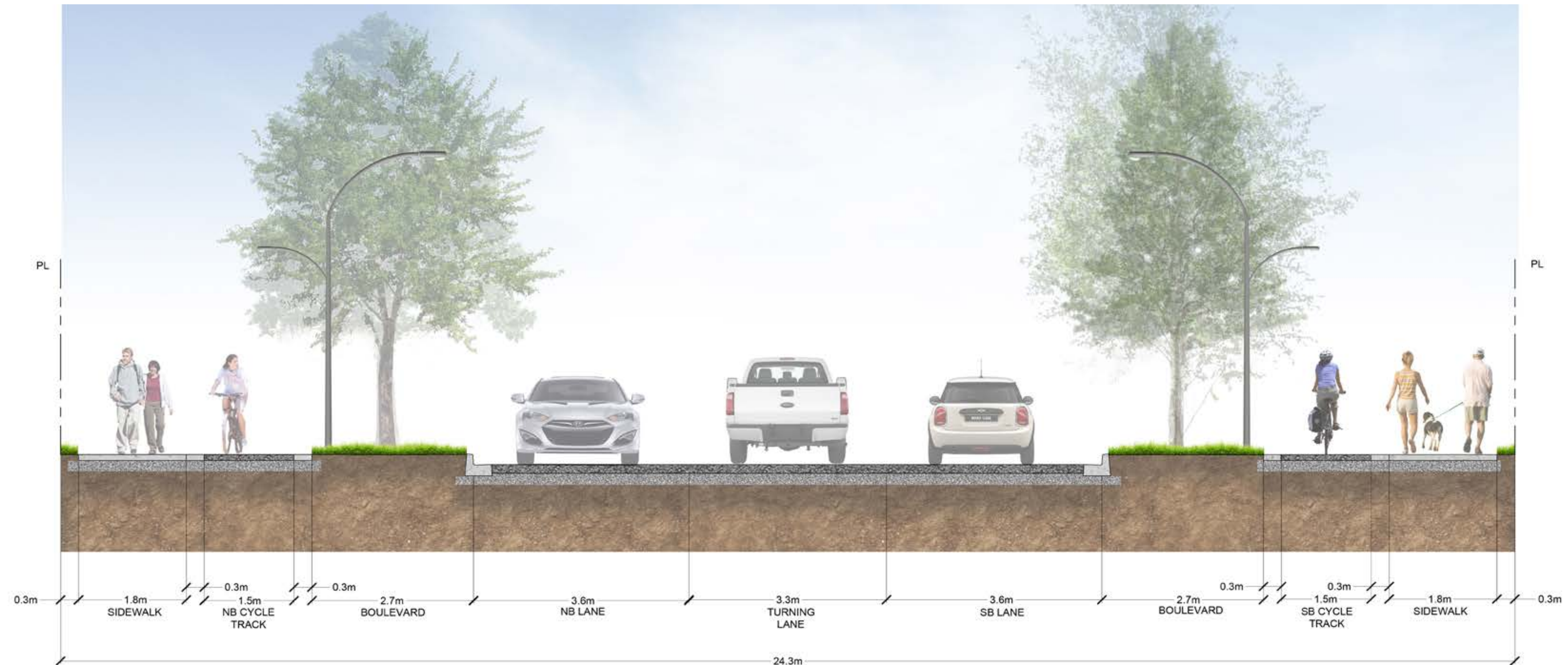
11



## TURNER ROAD TO ENTERPRISE WAY

- ▶ Raised and continuous sidewalk (1.8m width)
- ▶ Raised and separated cycle track (bike route)
- ▶ Road travel lanes suitable for buses and trucks
- ▶ New curb and gutter added to form boulevard
- ▶ Street trees and landscape median added to improve aesthetics and provide separation

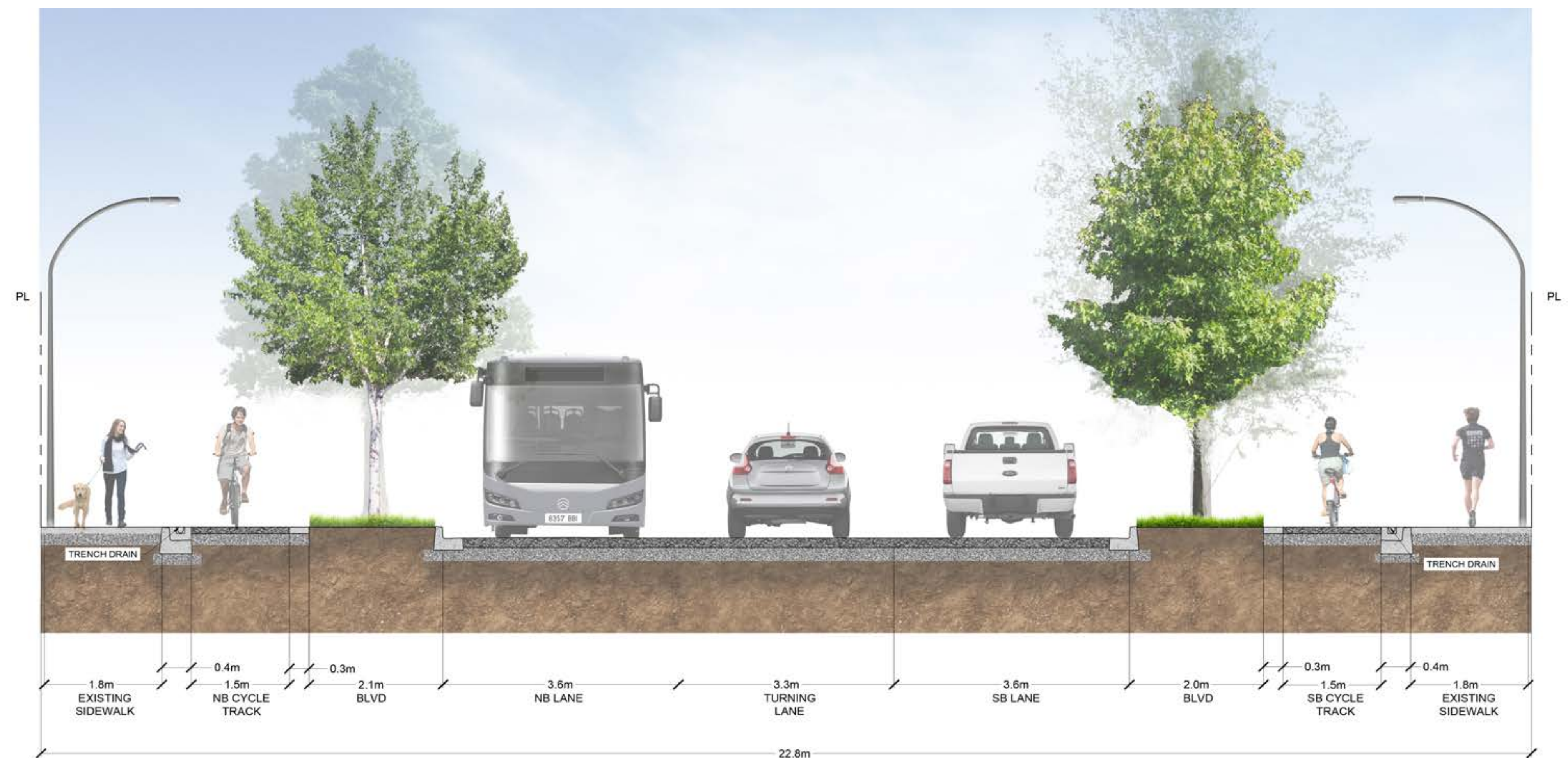
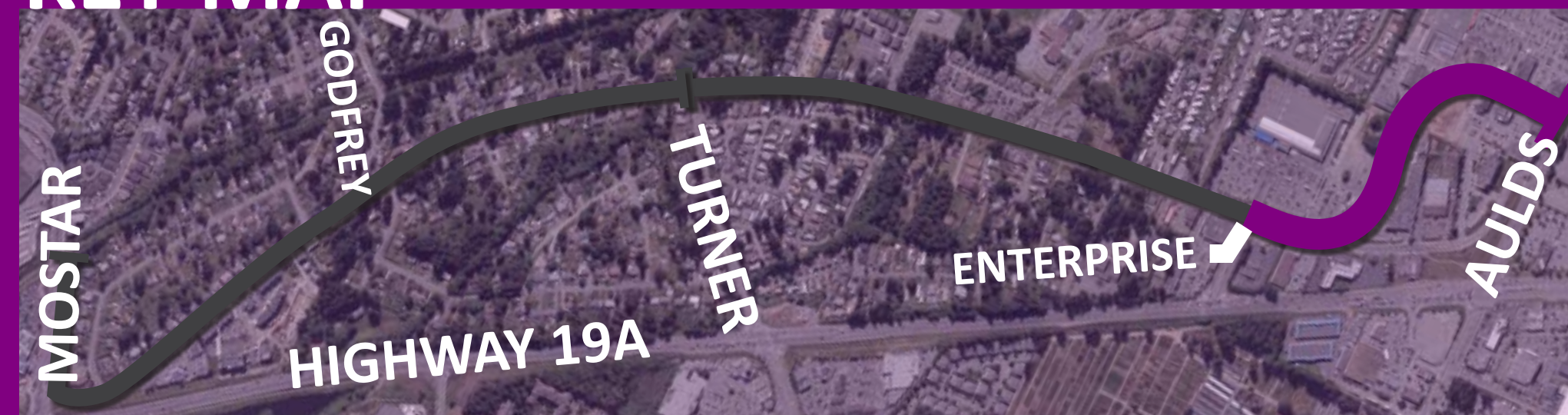
### KEY MAP



## ENTERPRISE WAY TO AULDS ROAD

- ▶ Existing continuous sidewalk (1.8m width)
- ▶ Raised and separated cycle track (bike route)
- ▶ Road travel lanes suitable for buses and trucks (truck route)
- ▶ New curb and gutter added to form boulevard
- ▶ Street trees and landscape median added to improve aesthetics and provide separation

### KEY MAP



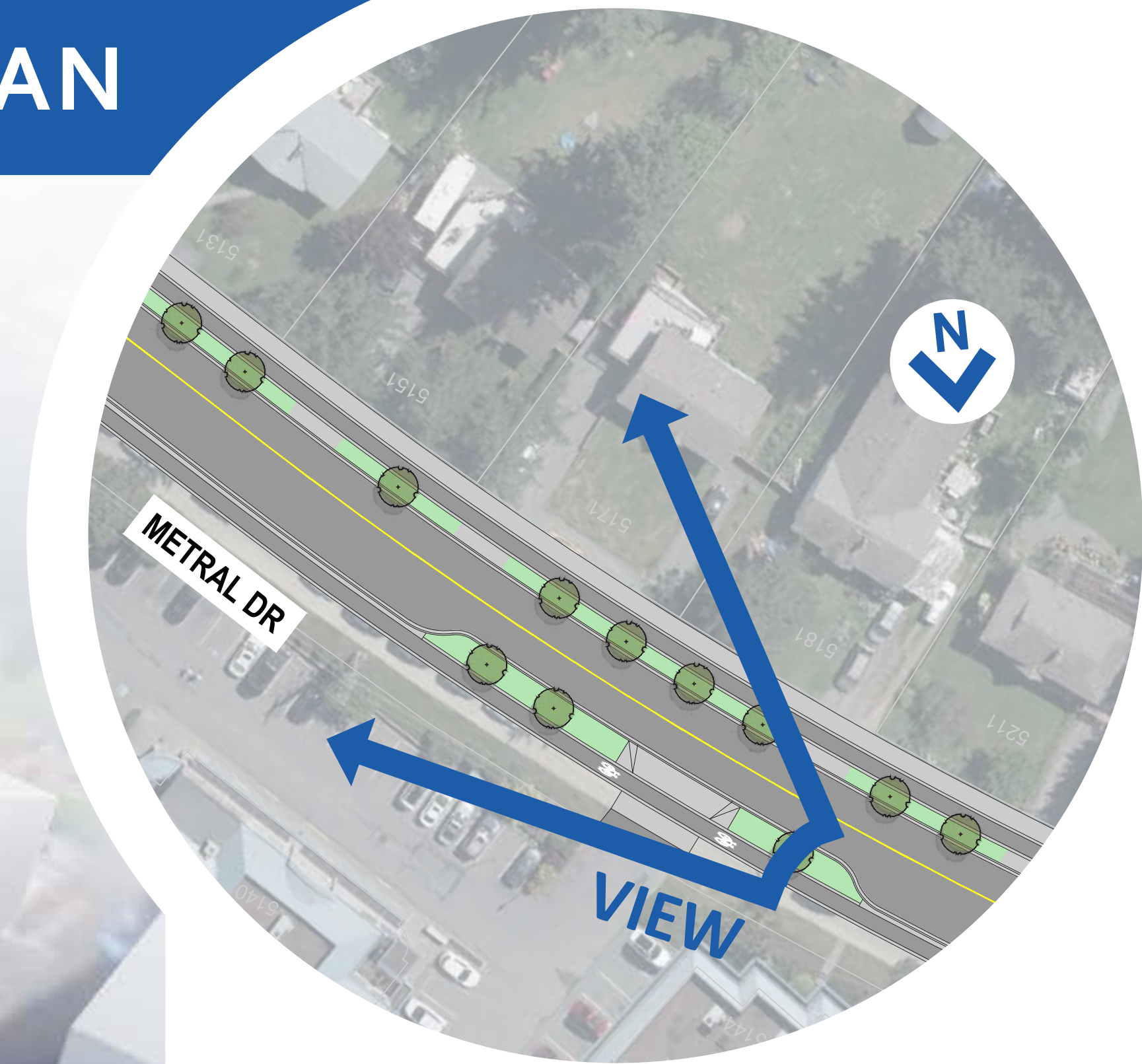
# SCENE 1: On-Street Parking

## Metral Drive at Dublin Way

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### KEYPLAN



### KEY FEATURES

- ▶ Raised and continuous sidewalks (1.8m) on both sides of the road
- ▶ Continuous cycle track (protected bike lane) both sides of the road, raised at local roads
- ▶ On-street parking lanes (2.4m) between curb extensions
- ▶ Travel lanes suitable for buses and trucks (3.6m to face of curb)
- ▶ New curb and gutter added to form boulevard and street trees added to improve aesthetics and provide separation
- ▶ Improved sight-lines at Dublin Way raised local intersection

# SCENE 2: Transit Stop

## Metral Drive at Bergen Op Zoom

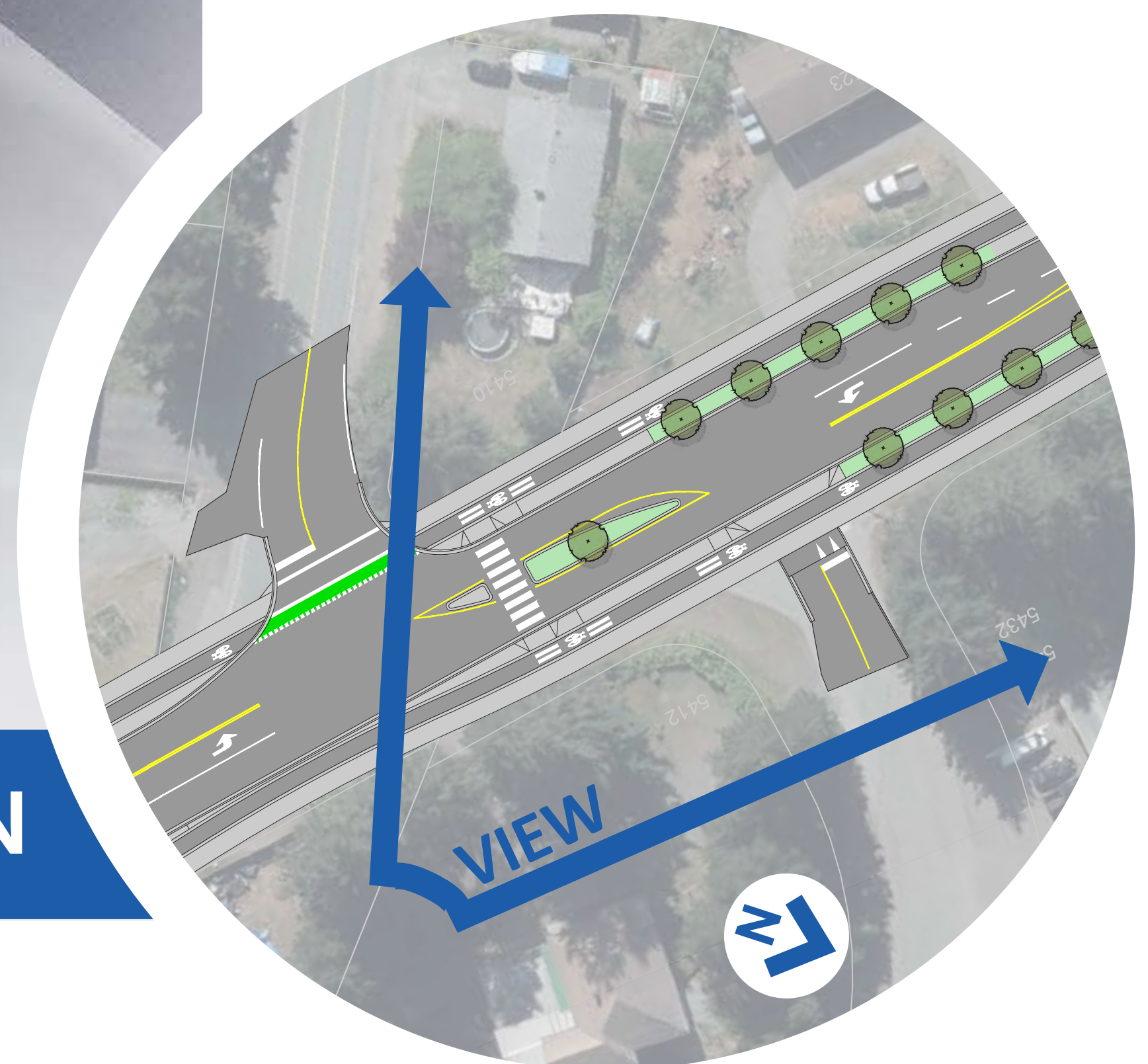
13



### KEY FEATURES

- ▶ Raised and continuous sidewalks (1.8m) on both sides of the road
- ▶ Continuous cycle track (protected bike lane) on both sides of the road, raised at local road intersections
- ▶ Road travel lanes suitable for buses and trucks (3.6m to face of curb)
- ▶ Transit stop island (clear of sidewalk and cycle track)
- ▶ Centre median and two-stage protected crosswalk
- ▶ New curb and gutter added to form boulevard and street trees added to improve aesthetics and provide separation

KEYPLAN



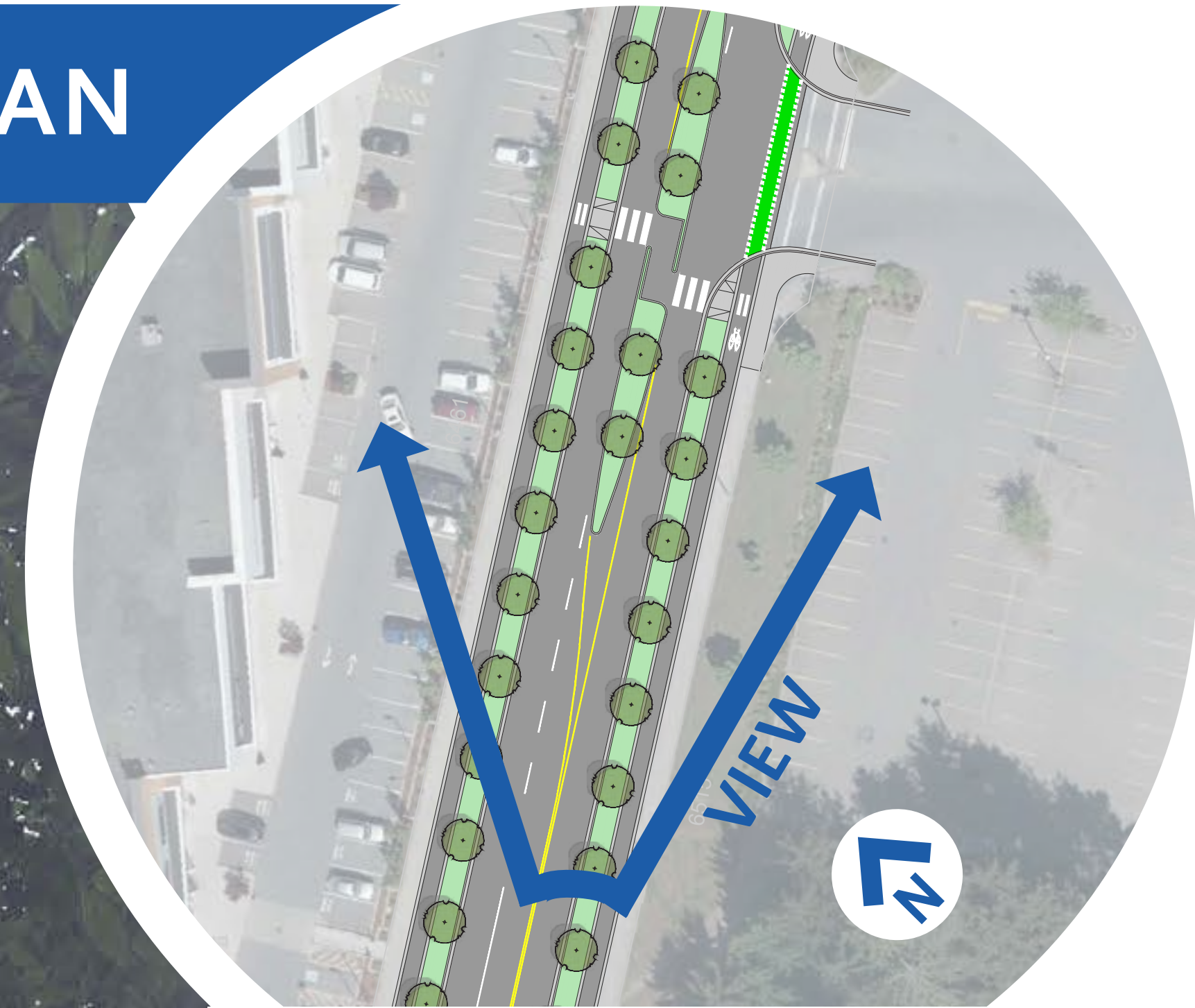
# SCENE 3: Driver's Perspective

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## Metral Drive North (at Cobs Bakery)

### KEYPLAN



### KEY FEATURES

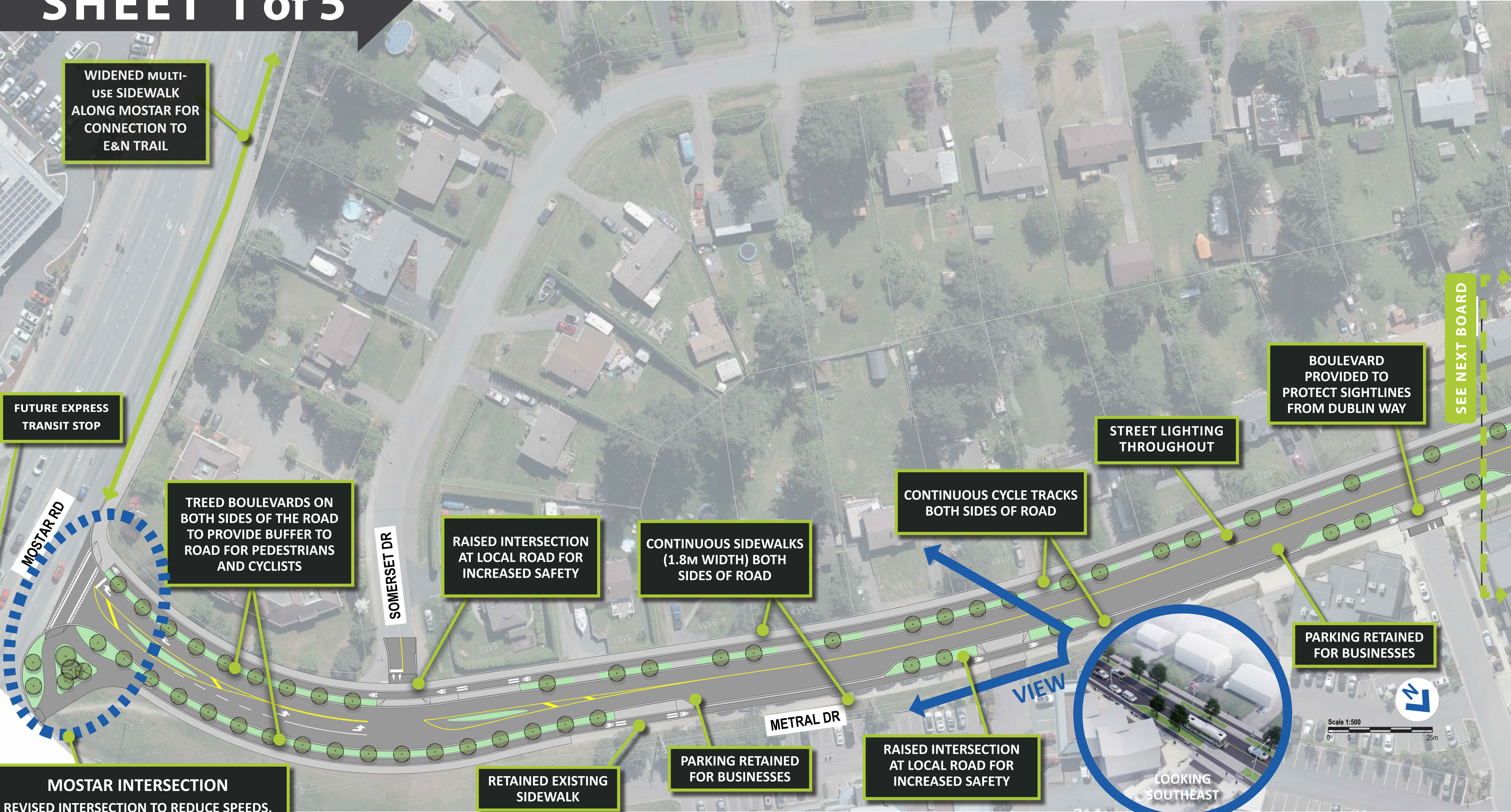
- Lane reduction from five to three, providing one vehicle travel lane in each direction and a centre turn lane.
- Offset pedestrian crossing including median island to reduce crossing distance.
- Existing 1.8m sidewalk is retained, all changes made between the existing curbs.
- Cycle tracks with buffer (protected bike lanes) adjacent to existing sidewalks.
- Minimum width travel lanes suitable for buses and trucks (3.6m to face of curb).
- New curb and gutter added to form boulevard and street trees added to improve aesthetics and provide separation.



# DESIGN PLAN | PHASE 1



## SHEET 1 of 5

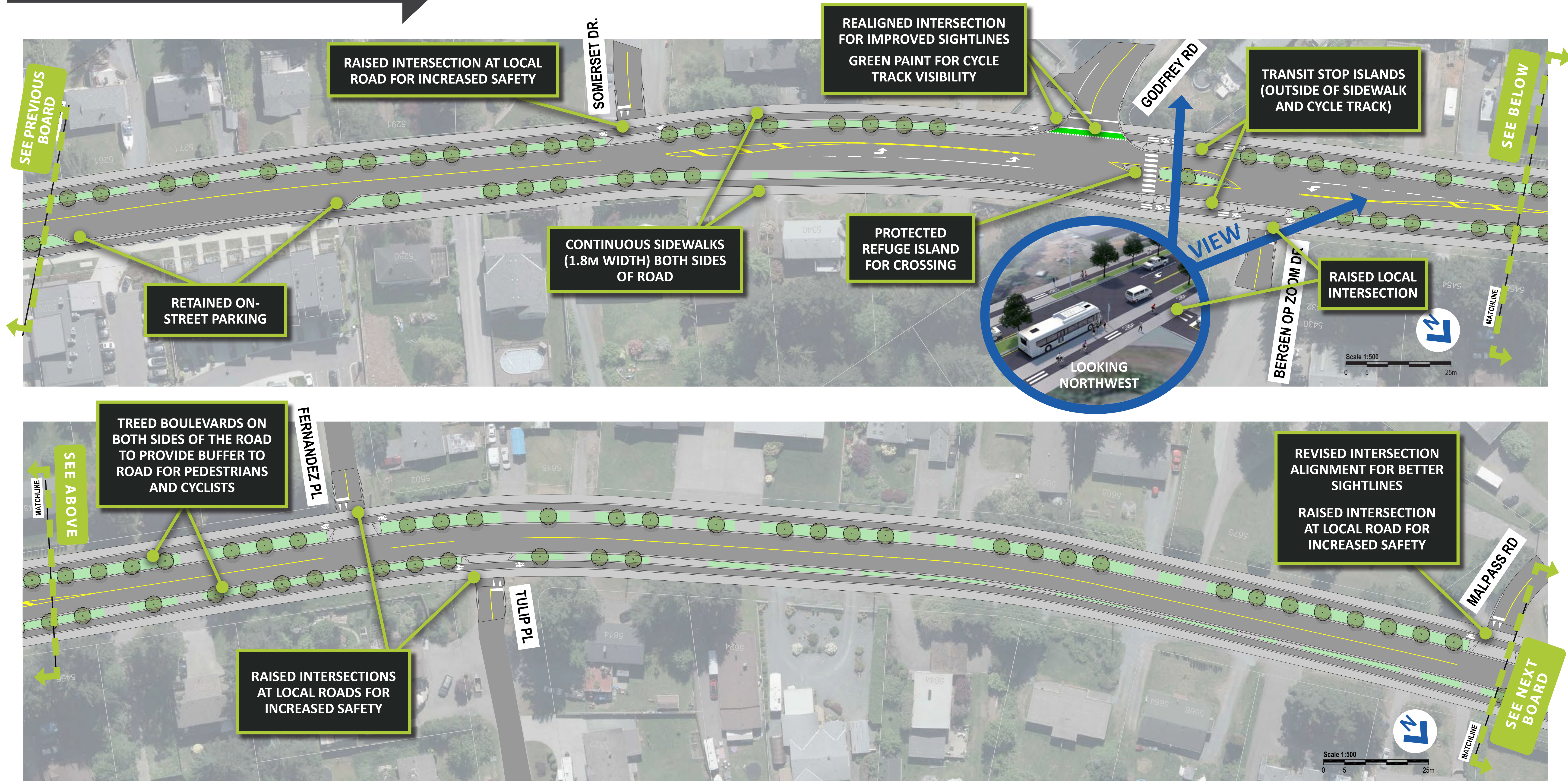


# DESIGN PLAN | PHASE 1

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## SHEET 2 of 5

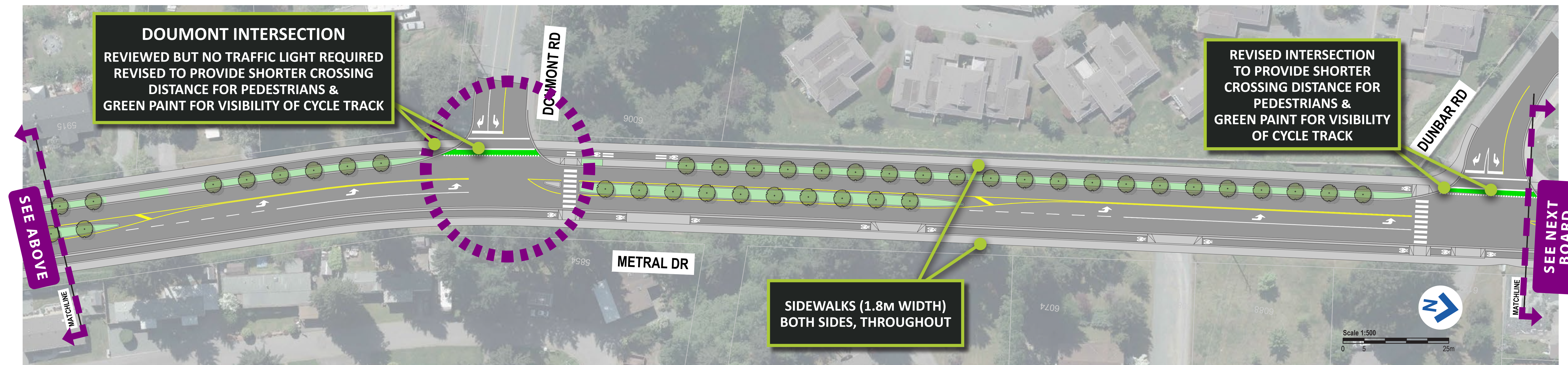
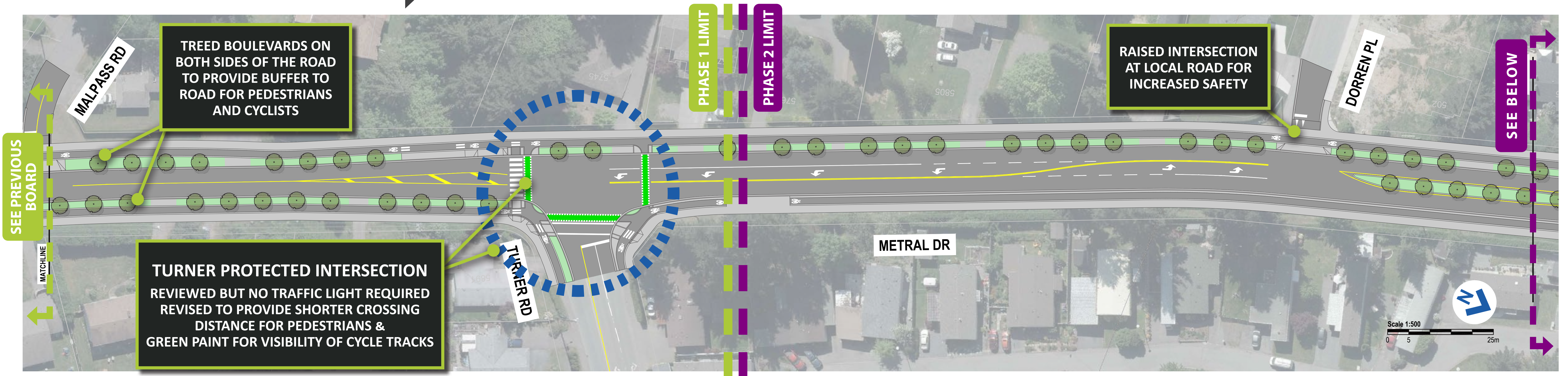


# DESIGN PLAN | PHASE 2

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## SHEET 3 of 5

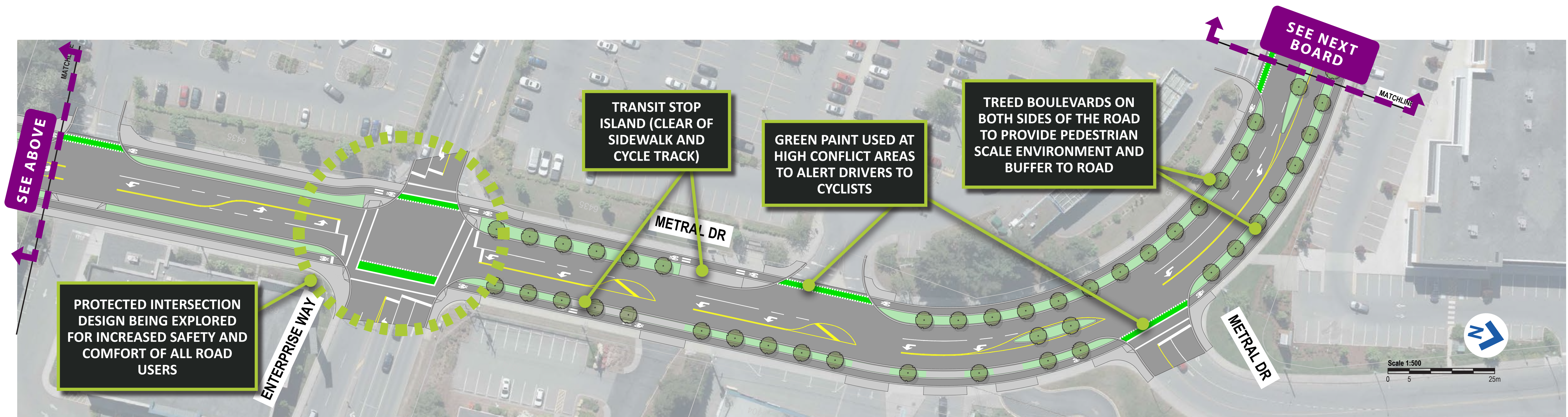
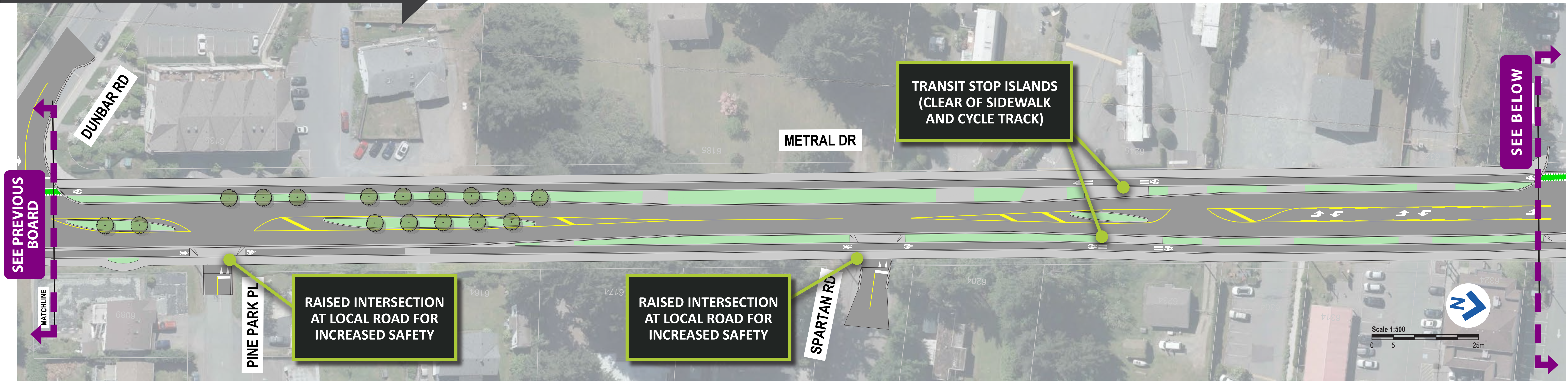


# DESIGN PLAN | PHASE 2

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## SHEET 4 of 5



# DESIGN PLAN | PHASE 2

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## SHEET 5 of 5

TREED BOULEVARDS ON BOTH SIDES OF THE ROAD TO PROVIDE PEDESTRIAN SCALE ENVIRONMENT AND BUFFER TO ROAD

CONSULTATION WITH BUSINESSES TO PROVIDE FOR LARGE TRUCK DELIVERIES

TRANSIT ISLANDS ALLOW FOR CLEAR SIDEWALKS WHILE TRANSIT USERS WAIT FOR THE BUS

GREEN PAINT USED AT HIGH CONFLICT AREAS TO ALERT DRIVERS TO CYCLISTS

NO BOULEVARDS IN THIS SECTION TO MAINTAIN CAPACITY AND TURNING LANES AT INTERSECTION

OFFSET 2-STAGE CROSSWALK WITH CENTRE MEDIAN FOR INCREASED PEDESTRIAN SAFETY AND COMFORT



SEE PREVIOUS BOARD

PROJECT LIMIT

Scale 1:500  
0 5 25m