2040 Transportation Master Plan

January 2022

City of Kelowna

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NOTE TO THE READER: This is a web-first document. In other words, the 2040 Transportation Master Plan is a website, rather than a pdf document. The 2040 TMP has also been formatted as a pdf, but the writing style and formatting are designed for the web (e.g., bullets are drop down accordions, etc.). This is intentional and means the look and feel of this document may differ from other plans you have seen.

Endorsement and Schedule of Amendments

The 2040 Transportation Master Plan (TMP) was endorsed on January 24th, 2022. The plan may be updated and amended as necessary to ensure on-going coordination with the 2040 Official Community Plan (OCP) and other related plans (e.g., urban centre plans, neighborhood plans, corridor plans, and other related plans and studies). The schedule of major updates and text amendments below will be filled in as changes are made. Updates on the web version of the 2040 TMP will be identified with the latest date stamp.

Table 1: Schedule of Amendments

Date	Purpose

syilx/Okanagan Territorial Acknowledgement

The City of Kelowna is located in the beautiful Okanagan Valley of British Columbia, which is the traditional, ancestral, unceded territory of the syilx/Okanagan people.

We thank the Indigenous partners who participated in the 2040 OCP and TMP engagement sessions and for enriching its content.

Executive Summary

The 2040 Transportation Master Plan (TMP) sets the direction for a vibrant city where people and places are conveniently connected by diverse transportation options. It is a long-term, citywide plan for transportation improvements that will help keep Kelowna moving, now and into the future.

The 2040 TMP is designed to integrate with the 2040 Official Community Plan (OCP) and will put the Imagine Kelowna community vision into action. Imagine Kelowna is a vision for the community, created by the community, that envisions a Kelowna that is connected, smarter, responsible, and collaborative.

The 2040 TMP will help us all work together toward a smarter and more responsible approach to transportation. It recognizes that Kelowna is growing, our climate is changing, and our economy and transportation needs are evolving.

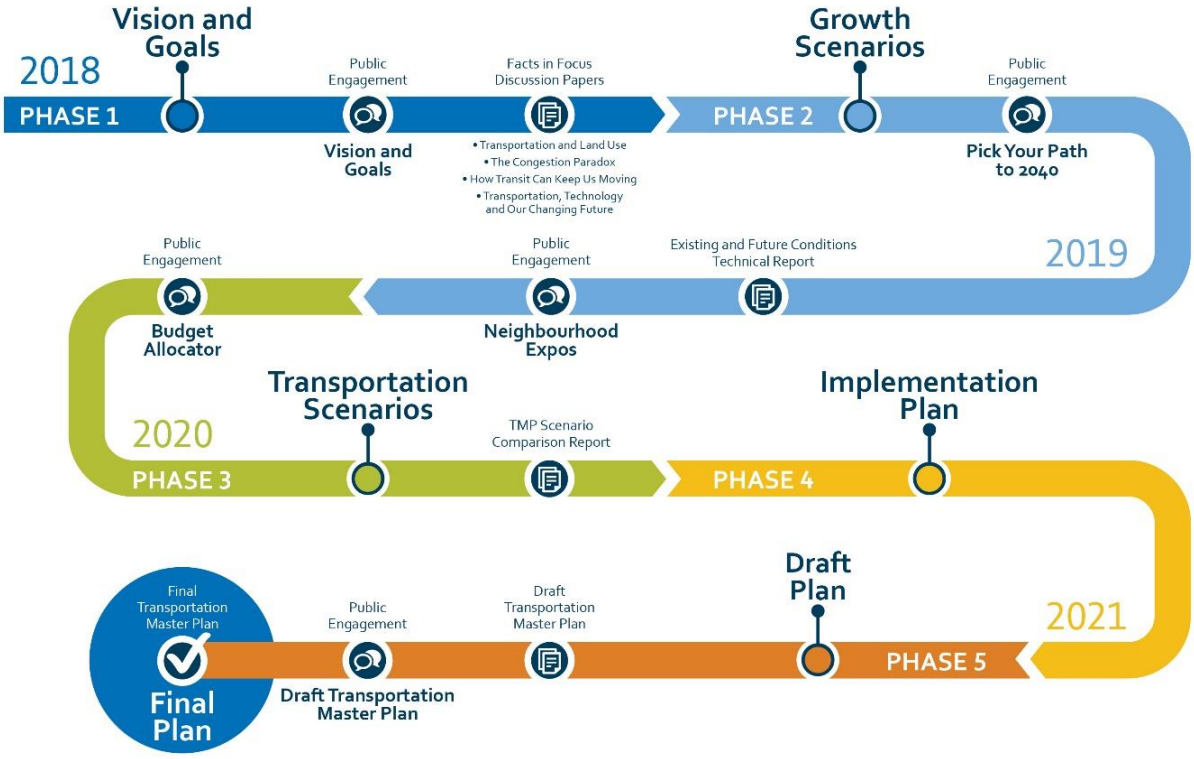
The plan will help us cut carbon emissions that contribute to extreme heat, fires, and floods, accommodate more trips while reducing our car-dependence, and maintain and protect the Kelowna lifestyle we all value.

The plan sets ambitious, yet achievable targets for 2040 that we can all work together to achieve, including:

- doubling transit ridership,
- quadrupling the number of trips made by bicycle, and
- reducing the average distance driven per person by 20 per cent.

In addition, the 2040 TMP will help Kelowna achieve the following twelve goals:

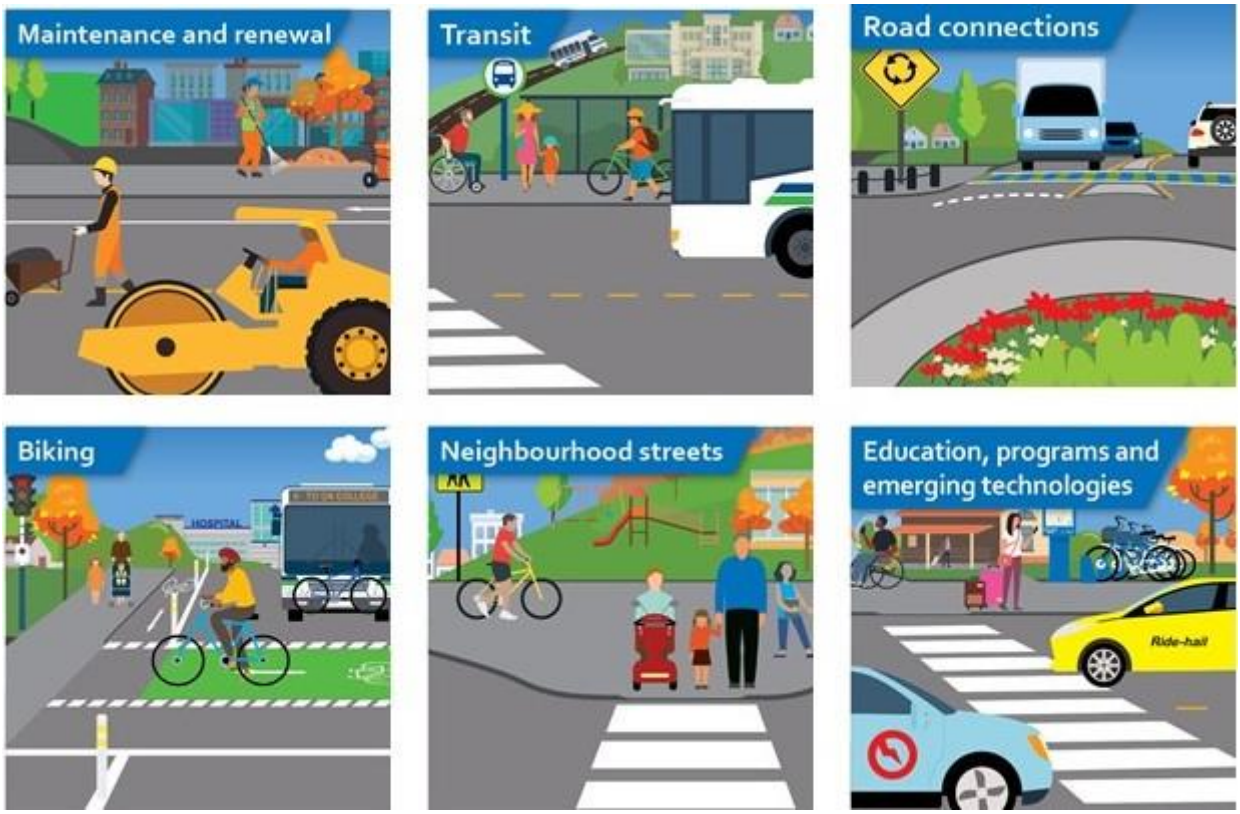
The 2040 TMP was developed through an intensive five-phase, multi-year technical and community engagement process. Since early 2018, there have been 16 presentations to Council, five major public and stakeholder engagement processes, over 4,600 survey responses and more than 12,000 interactions with community members. All of these have helped shape the plan content and recommendations.



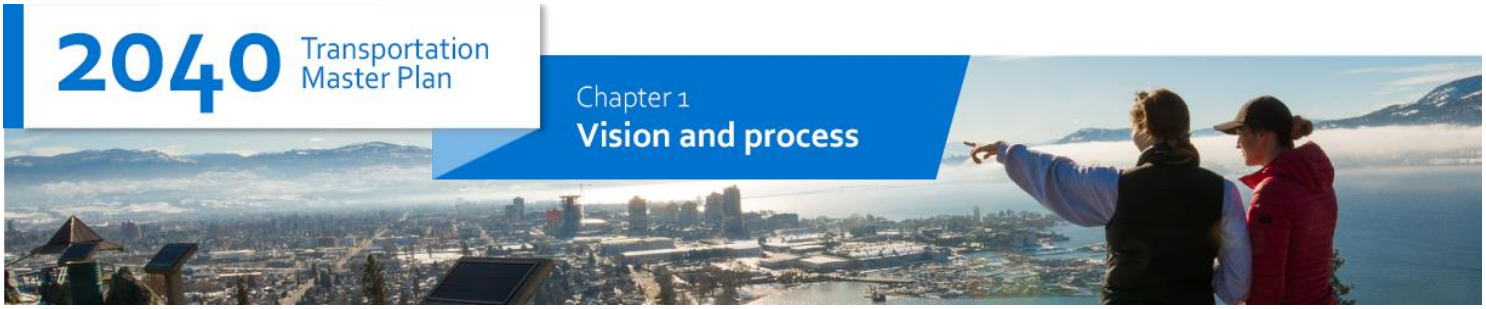
The plan was also developed in coordination with the 2040 OCP, 20 Year Servicing Plan, Regional Transportation Plan, and Community Climate Action Plan, among others.

The 2040 TMP is designed to guide our actions over the next 20 years. It was developed using a financial lens to ensure it is realistic, as well as with input from the public to ensure we are balancing the community's desire for improved service levels, with the need to manage costs responsibly. The plan recommendations were carefully selected to maximize benefits to our residents, businesses and community, at the best price possible.

The 2040 TMP includes over 100 recommended actions across six categories. The plan recommendations will help us maintain and renew our existing infrastructure, create fast and reliable transit, improve road connections, develop comfortable bicycle routes, create walkable neighbourhoods, and help people use and enjoy new ways of getting around.



Together, the actions in the 2040 TMP will help reduce the growth of traffic congestion and greenhouse gas emissions, help people of all ages and abilities get around, make it easier for more people to walk, bike and take transit, and help create a future where everyone has the opportunity to participate in the city's prosperity.



Imagine Kelowna

The result of almost 4,000 resident contributions, Imagine Kelowna is a vision created by our community, for our community. Imagine Kelowna was endorsed by Council in July 2018 and the vision guided the 2040 Transportation Master Plan's (TMP) development. Here is how the TMP embraces Imagine Kelowna's four guiding principles:

- **Connected**
  Kelowna residents want a transportation system that connects people to places and does not "get in the way" as we go about our daily lives. People should be able to find a convenient option for getting where they need to go, even when things are busy. Things may slow down but are never truly stuck. A key part of making Kelowna a connected community is providing diverse transportation options that connect our Urban Centres.

- **Smarter**
  Kelowna residents want a growing, diversifying, and inclusive economy. To do this, we need to find ways to grow without creating gridlock. Individuals need transportation options that enable them to fully participate in the economy and share in the city's prosperity. Companies need a transportation system that facilitates deliveries, helps them attract talent and expand their business, and that does not constrain their growth because of traffic congestion.

- **Responsible**
  It is important to Kelowna residents that we protect our environment and respond to climate change. A well-designed transportation system will help us do that while ensuring people can get where they need to go, when they need to get there. Being responsible means providing value for public investment, keeping up with infrastructure maintenance, and making sure we are not leaving debt behind for future generations. It means making travel more affordable, because after housing, transportation is often peoples' next largest expense.

- **Collaborative**
  We cannot do it alone. We need to partner with other levels of government, collaborate with businesses, and embrace resident-led initiatives. We all need to work together to keep Kelowna moving.

Vision statement

The TMP Vision is that "Kelowna will be a city with vibrant urban centres where people and places are conveniently connected by diverse transportation options that help us transition from our car-centric culture."

- **Where this vision comes from**
  The vision for the TMP builds on Imagine Kelowna and was developed and refined with input from the public.

- **Changing from a car-centric culture**
  Shifting away from our car-centric culture does not mean banning cars. Cars and trucks will continue to have an important role in daily life in Kelowna because for some kinds of trips, driving will always be the most practical option. Goods movement is also key to the economy and an important part of our future plans.

  Much of Kelowna was designed around the car. As a result, it remains the default way most residents get around. Collectively, we drive the equivalent of going to the moon and back three times every weekday. We also use more space for parking than for housing.

  Accommodating all our future travel by cars and trucks is not wise or realistic. Our ability to expand roadways and parking is hemmed in by limited land, steep hillsides, Okanagan Lake and protected agricultural areas. Widening roads in urban areas is expensive and impacts existing neighbourhoods and businesses. And where we can expand, the roads often quickly fill back up as the new space encourages more driving. This phenomenon is known as induced demand.

- **More transportation options**
  Traditionally, transportation has focused on moving *vehicles*. This TMP focuses on moving more *people*. Investing in transportation options that can move more people in the space we have available will be critical to managing both congestion and emissions as our population grows. Transitioning from our car-centric culture means giving more choices to people so that driving does not always have to be the default option.

  Fortunately, most individual trips Kelowna residents make are less than 5 kilometres – short enough to walk or bike. For longer trips, transit can be a viable alternative to driving, depending on routes and schedules. And not everyone has to make the switch for the whole community to benefit from less congestion and emissions. By shifting those trips that can easily be made by other means, we free up space for moving goods and people that need to drive.

Goals

Transportation impacts many aspects of life in Kelowna. This is why we have set out 12 goals that align with the four principles of Imagine Kelowna. These goals were used to develop the recommendations of the TMP and will help us measure our progress. Performance measures for these goals are in the Implementation Chapter.

- **Improve travel choices**
  Ensure residents and visitors have access to multiple options for getting around, so that for any given trip, they can choose the option that best meets their needs.
- **Optimize travel times**
  Ensure predictable and convenient travel times for all modes of transportation including driving, walking, biking, and transit.
- **Enhance travel affordability**
  Reduce the cost of travel by ensuring a wide range of affordable transportation options are available in Kelowna.

- **Foster a growing economy**
  Support the city's growing economy by ensuring the transportation system connects people to jobs and facilitates the efficient movement of goods.

- **Enhance urban centres**
  Ensure the transportation system supports and encourages sustainable and efficient growth in our urban areas.

- **Be innovative and flexible**
  Adapt to emerging technologies and a changing climate by creating a resilient and responsive transportation system.

- **Improve safety**
  Reduce the frequency and severity of injuries on our transportation network.

- **Protect the environment**
  Reduce the impact of transportation on our climate, water, air quality, agricultural land, and sensitive ecosystems.

- **Ensure value for public investment**
  Make efficient use of public funding by maximizing the benefits of transportation infrastructure and return on investment.

- **Improve health**
  Improve our community's health by making it easier for people to be physically active (e.g., by biking or walking) and reducing exposure to vehicle exhaust.

- **Promote inclusive transportation**
  Ensure the transportation network serves everyone, including people of all ages, incomes, and abilities.

- **Support livable communities**
  Ensure the transportation system helps make our neighbourhoods more livable, enhances our sense of community, and improves our city's quality of life.

Coordination with other plans

While this is Kelowna's first comprehensive transportation plan in 25 years, we did not start from scratch. We built on the existing plans described below and coordinated with other important work going on in the city and beyond.

Following endorsement of the TMP, additional policies and studies will be developed. As the plan is implemented, it may also be updated from time to time to coordinate and align with any new relevant plans and studies.

- **Imagine Kelowna (2018)**
  The result of almost 4,000 resident contributions, Imagine Kelowna is a vision for the community, created by the community, that envisions a Kelowna that is connected, smarter, responsible, and collaborative. Imagine Kelowna was endorsed by Council in July 2018 and the vision guided the 2040 TMP's development.

- **2040 Official Community Plan (in development)**
  The 2040 Official Community Plan (OCP) is an extensive update of Kelowna's planning and land-use policies to reflect the Imagine Kelowna community vision. The 2040 OCP guides decisions about where in the city different kinds of development should happen. To better coordinate land use and transportation planning, the 2040 TMP has been developed in tandem with the 2040 OCP.

- **Regional Transportation Plan (2020)**
  The Central Okanagan's first Regional Transportation Plan identifies projects and priorities that will help ensure a healthy, thriving, and connected future for the region. The 2040 TMP includes many of the Kelowna-based projects recommended in the Regional Transportation Plan.

- **20-Year Servicing Plan (in development)**
  The 20-Year Servicing Plan is a detailed analysis of the major infrastructure required to service growth in the 2040 OCP. The plan identifies development cost charge (DCC) projects and rates. The recommended projects in the 2040 TMP are coordinated with the 20-Year Servicing Plan.

- **Kelowna's Community Climate Action Plan (2018)**
  As identified in Kelowna's Community Climate Action Plan, transportation accounts for over half the greenhouse gas emissions in Kelowna. The plan includes several actions to reduce emissions from the transportation sector, which have been incorporated into the 2040 TMP.

- **CleanBC Roadmap (2021)**
  The provincial CleanBC Roadmap was released in October, 2021 and sets province-wide targets for transportation emissions, including vehicle kilometres travelled (VKT), sustainable mode share, and goods movement. The 2040 TMP includes interim mode share targets that will help keep Kelowna on track to 2030, but further work is needed to meet some of the more aggressive CleanBC Roadmap targets. The 2040 TMP will be coordinated with future climate modeling and resiliency planning underway to ensure investments in transportation continue to support our climate objectives.

- **Central Okanagan Transit Future Plan (2012) / Transit Future Action Plan (2018)**
  The Transit Future Plan is a regional plan for transit development until 2030. It introduced the concept of the frequent transit network and laid the foundation for Rapid Bus on Highway 97. The 2018 Transit Future Action Plan updated this vision and the 2040 TMP builds on this foundation, including a recommendation for dedicated transit lanes on the highway, in alignment with the Regional Transportation Plan.

- **Regional Bicycling and Trails Master Plan (2020)**
  The Regional Bicycling and Trails Master Plan is a component of the Regional Transportation Plan focused on connecting the region for biking and walking. The plan proposes a network of pathways and trails across the Central Okanagan. The 2040 TMP includes many of the Kelowna based projects recommended by the plan.

- **Pedestrian and Bicycle Master Plan (2016)**
  The Pedestrian and Bicycle Master Plan is a long-term plan that lays out a comprehensive network of bicycle and walking routes in Kelowna. The 2040 TMP proposes updates to the network and reprioritizes some of the plan's projects over the next 20 years. The full network proposed in the Pedestrian and Bicycle Master Plan will take more than 20 years to complete.

- **Regional Disruptive Mobility Strategy (2020)**
  The Regional Disruptive Mobility Strategy is a component of the Regional Transportation Plan. It is designed as a toolkit for local governments in the Central Okanagan to help prepare for technological change in transportation. Several of the tactics and actions described in the strategy have been incorporated into the 2040 TMP.

- **Okanagan Gateway Transportation Study (2020)**
  The Okanagan Gateway Transportation Study is a component of the Regional Transportation Plan focused on the Gateway area around UBC Okanagan and Kelowna International Airport. The study

proposes the construction of infrastructure to make it easier to reach this area and move around by car, transit, bike, and walking. The 2040 TMP includes many of the projects recommended by the study.

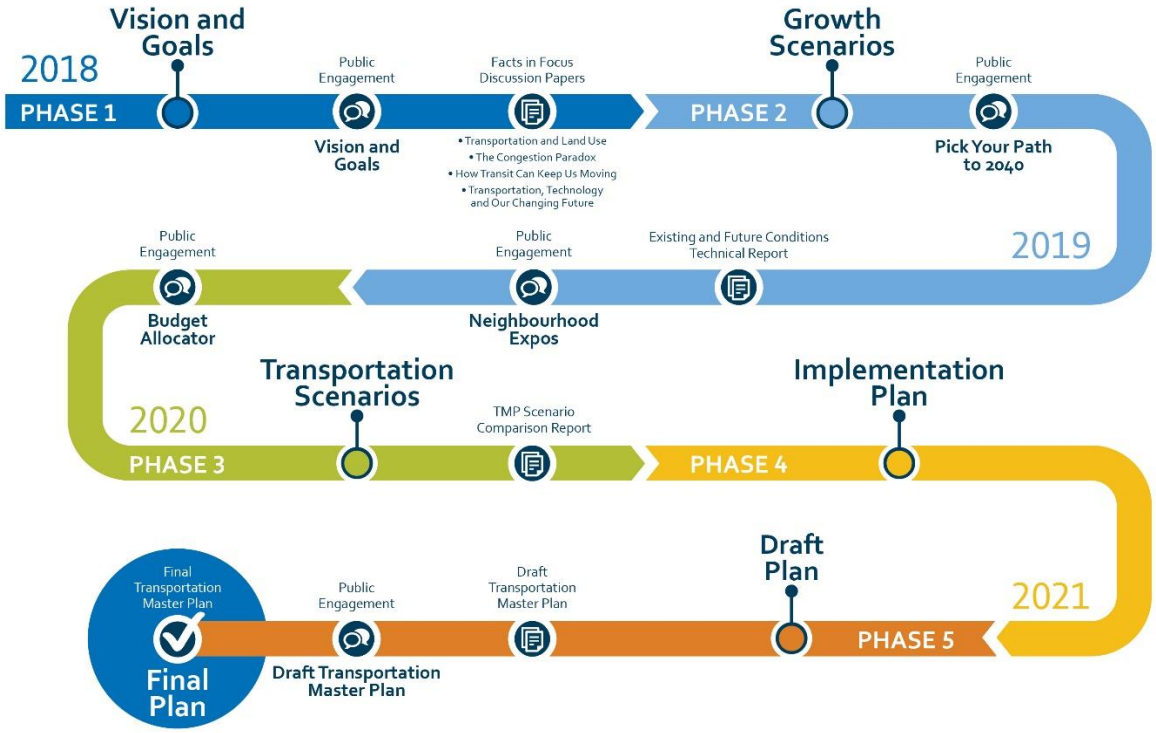
- **Capri-Landmark Urban Centre Plan (2019)**
  The Capri-Landmark Urban Centre Plan is a vision for the area bordered by Harvey Avenue, Springfield Road, Gordon Drive and Spall Road. The plan includes proposals to make it easier to bike between key destinations, improve walkability, and improve the flow of traffic. The 2040 TMP includes recommended projects from this plan, most notably the Sutherland Complete Street project.

- **Community for All: Kelowna's All Ages & Abilities Action Plan (2016)**
  The Community for All Action Plan lays out a vision for "a city that is healthy, safe, active and inclusive for seniors, children and those with diverse abilities." The 2040 TMP will help achieve this vision with its many recommendations for healthy, inclusive, and active transportation.

- **Central Okanagan Clean Air Strategy (2015)**
  The Clean Air Strategy sets a vision for "clean and healthy air for current and future generations" that aims to reduce emissions from transportation by increasing the number of people walking, biking, using public transit and using clean vehicles for their trips. The 2040 TMP is aligned with the strategies proposed in this plan to reduce emissions from vehicles and encourage sustainable modes of transportation.

Plan development process

The 2040 TMP was developed through an intensive five-phase, multi-year technical and community engagement process. Since early 2018, there have been 16 presentations to Council, five major public and stakeholder engagement processes, over 4,600 survey responses and more than 12,000 interactions with community members. All of these have helped shape the plan content and recommendations.



- **Phase 1: Vision and goals**

  The first phase began with the development of a vision and goals for the plan that built on the foundation laid by Imagine Kelowna. During this phase we asked people how they wanted their transportation system to look in 2040. A summary of public engagement on the TMP Vision and Goals is available here.

  We also completed four discussion papers to help answer common questions from the public:

  - Transportation and Land Use
  - The Congestion Paradox
  - How Transit can keep us Moving
  - Transportation, Technology, and our Changing Future

- **Phase 2: Growth scenarios**

  Phase 2 of the TMP was coordinated with the 2040 OCP and tested how different ways of growing the city impact transportation. The public weighed in as part of Pick Your Path to 2040.

  We completed the Existing and Future Conditions Report, which is a comprehensive look at transportation in Kelowna.

The public was also invited to share transportation challenges and generate ideas for solutions on an interactive map during a series of Neighbourhood Expos.

- **Phase 3: Transportation scenarios**

  The third phase launched with an opportunity for the public to weigh in on the size of the City's transportation budget and how it should be allocated. The results are summarized in the Phase 3 Engagement Summary.

  We worked on evaluating over 400 potential actions, weighing benefits and costs, and crafting three scenarios to demonstrate what could be achieved at different levels of funding. More information on the evaluation process is available in the TMP Scenarios Report.

  This phase concluded with Council selecting a draft list of actions and an associated funding level for transportation (known as "Scenario 2"), for incorporation into the final plan.

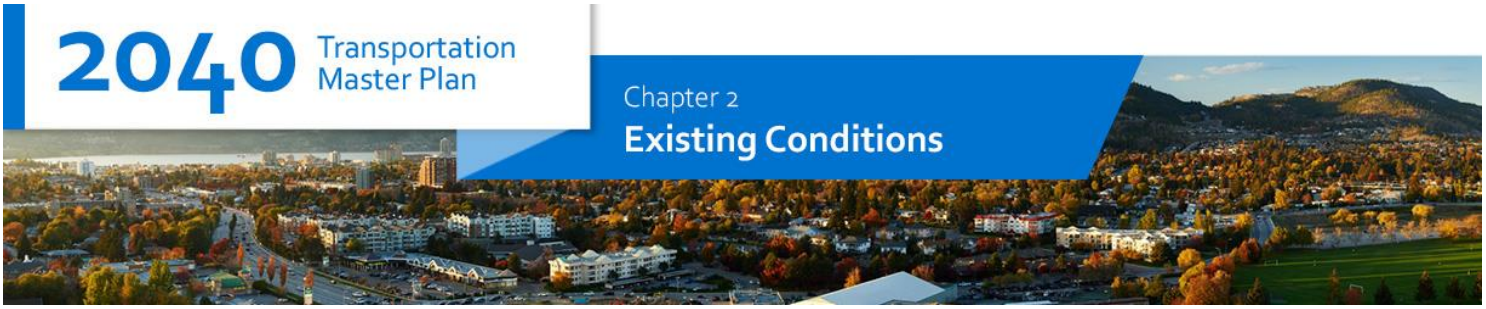
- **Phase 4: Implementation plan**

  In Phase 4, we worked on refining project cost estimates and developing a phasing plan for our recommended actions by considering the priority of different projects, the amount of project planning and design work required, and our available resources. The plan recommendations were phased to ramp investment up over time.

  This phase included developing performance measures to monitor our progress, updating the City's functional classification system to better align with the 2040 OCP, and coordinating with the updated 20-Year Servicing Plan.

- **Phase 5: Plan development**

  The fifth phase involved pulling all the pieces together and circulating the draft plan for public and stakeholder engagement. The results are summarized in the Phase 5 Engagement Summary. The final version of the plan was endorsed by Council in January 2022.



Kelowna is the largest city in the BC Interior. Our geography, climate, economy, and lifestyle opportunities make it a desirable place to live. As one of the fastest growing cities in Canada, Kelowna is quickly transforming from a "big town" into a "small city".

Like many places in North America, Kelowna built up around the automobile, and as a result driving remains the default way most residents get around. Roughly four out of five trips within the city are made in a personal vehicle. At the same time, Kelowna's relatively small size, hospitable climate, and flat terrain in the central parts of the city mean that walking and biking are much more popular here than other parts of Canada.

A complete summary is available in our TMP Existing and Future Conditions Technical Report.

Geographic differences

Kelowna is a geographically diverse city. Within its boundaries, Kelowna has everything from populated urban areas dotted with high rises, to agricultural areas filled with farms, orchards, and vineyards. The 2040 OCP includes five Growth Strategy Districts, each with their own unique transportation options, challenges, and opportunities:

- **Urban Centres**
  Kelowna's five Urban Centres (Downtown, Pandosy, Capri Landmark, Midtown, and Rutland) are its economic hubs. They are the busiest areas of the city where competition for street space is highest. The concentration of activity in Urban Centres means there is not enough space for everyone to drive all the time.

  People from all over the region make trips into the Urban Centres. Approximately 40 per cent of Kelowna's jobs are in the Urban Centres but only about 15 per cent of its residents live in these areas. This imbalance contributes to traffic and parking challenges as large numbers of people try to enter and leave at the same time.

  Trips within the Urban Centres tend to be short, which means walking and biking can be convenient ways for people to move around.

- **Core Area**
  The Core Area generally refers to the flat parts of the city on the valley floor and neighbourhoods near the Urban Centres. Most homes in these areas are detached housing with some multifamily development and commercial land located along major corridors.

Many places in the Core Area have streets arranged in cul-de-sacs rather than a grid pattern. This makes it much longer to walk or bike if cul-de-sacs are not connected by pathways, and it concentrates traffic on a few major streets.

Most of the Core Area was designed around driving but has the potential to shift to other modes. The gentle terrain and shorter distances between destinations means walking and biking can be convenient. Public transit can be a competitive option, particularly along corridors between major destinations.

- **Suburban Neighbourhoods**

  Suburban neighbourhoods are home to roughly a quarter of Kelowna's population but only about five per cent of its jobs. This imbalance leads to a surge of commuters travelling to work or school in the morning and returning in the evening.

  Steep hillsides often lead to branching street networks with many long cul-de-sacs. The roads connecting these neighbourhoods often resemble a network of streams joining to form a river. An entire neighbourhood may have a single point of access, which creates challenges for emergency response and evacuation.

  Driving is often the only option for getting around hillside areas. They are typically too hilly and far away from destinations to make walking or biking feasible options. Their low density makes it very expensive to provide the level of transit service needed to compete with driving. Snow removal is also more expensive to provide.

- **The Gateway**

  The Gateway includes UBC Okanagan, Kelowna International Airport, and the surrounding industrial lands. It is expected that roughly one in five new jobs over the next twenty years will be located here. The number of students at UBC Okanagan is expected to significantly increase.

  Transit ridership is high among people living on the UBC Okanagan campus and its adjacent neighbourhoods. The Kelowna International Airport also provides an opportunity to improve access by transit. Other industrial parts of the Gateway are more difficult to reach using an option besides driving. Transit service that is frequent enough to compete with driving is challenging to provide in lower density industrial areas.

  Many destinations are close to the Okanagan Rail Trail, which provides the potential for some trips to the Gateway area to be made by bicycle. Electric bikes may help facilitate longer trips to the area.

- **Rural Lands**

  These areas consist primarily of agricultural lands, with some pockets of residential properties. Roughly four per cent of Kelowna's residents and 12 per cent of its jobs are on rural lands.

  The roads in these areas are often narrow, with tight corners and intersections at irregular angles. Sidewalks and bike lanes are rare. This is not an issue when roads are quiet, but challenges have emerged when rural roads get busier.

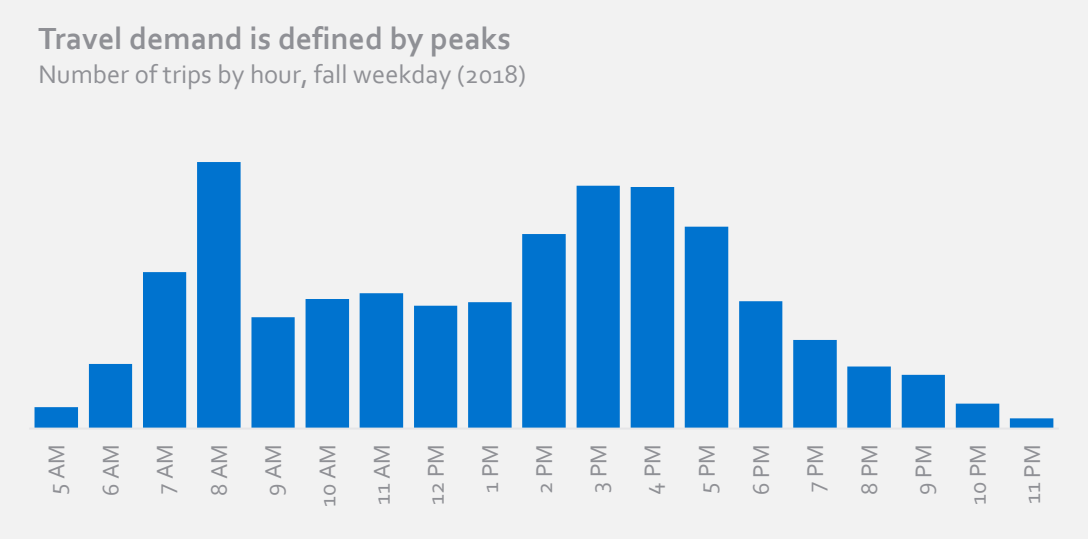
  Personal vehicles are the primary way rural residents get around. Low densities in rural areas make them inefficient to serve with public transit. Distances are often too far to walk or bike, though some rural roads will have people walking and biking on them (often for recreation).

A typical day in Kelowna

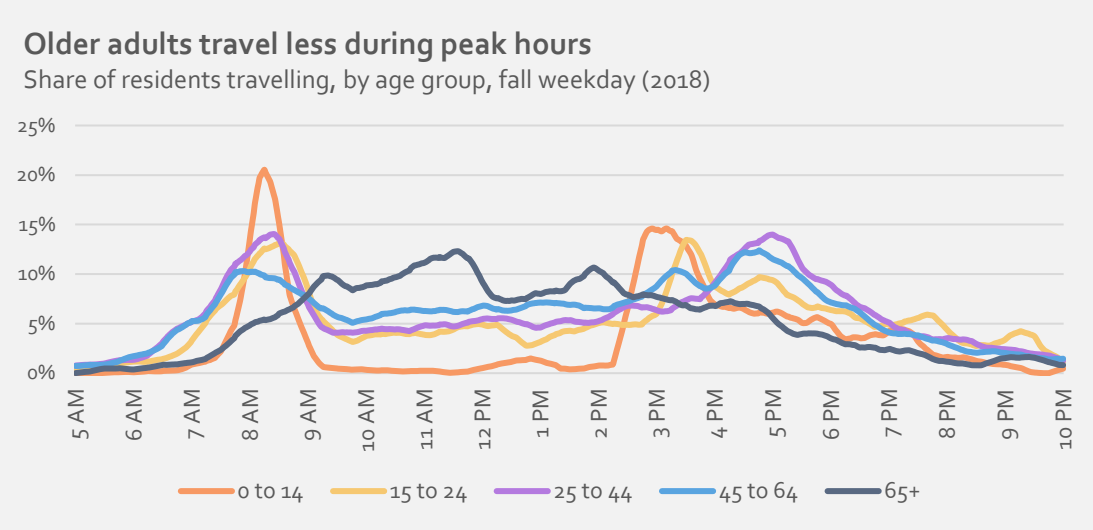
On a typical weekday, Kelowna residents travel about 2.6 million kilometres, or the equivalent of going to the moon and back three times.

- **When people travel**

  Travel demand is defined by peaks that follow the rhythm of daily life in Kelowna. The weekday morning peak is a sharp spike that is dominated by commuters going to work and school. The afternoon peak is more of a gradual wave, with different groups of people travelling for different reasons at overlapping times. There is a midday peak just before noon. Interestingly, even at the peak of rush hour, only one in seven residents are travelling at a time.



Travel behaviour varies by age. People under 25 make the fewest number of trips and travel mostly in the morning peak and early afternoon around school bell times. People between 25 and 60 travel the most, which is likely related to commuting to work and transporting children. Older adults tend to avoid peak hours, travel more in the midday, and make fewer trips than working adults.



Children under the age of 14 make two-thirds of their trips as vehicle passengers. Public transit is most popular among young adults 15- to 24-years-old. Driving peaks in middle age, then begins to decline for older adults who tend to work less and make fewer trips to pick up and drop off children.

- **Where people go**

  The most common destinations during the weekday morning peak are workplaces and schools. Just over one-third of travellers are heading to destinations downtown, near the Kelowna General Hospital, or in the Capri-Landmark or Pandosy areas. About 10 per cent of travellers are heading towards the Gateway.

  Commuting to work and school is the most common reason people travel during peak hours. The average commute time in Kelowna is about 18 minutes, which is comparable to other Canadian cities of a similar size.

  Trips to and from work and school only represent one-third of travel throughout the day. During the midday, more trips are being made for shopping and services. The Midtown area, including Orchard Park, accounts for nearly one in five trips during this period. About two-thirds of residents are away from home at midday.

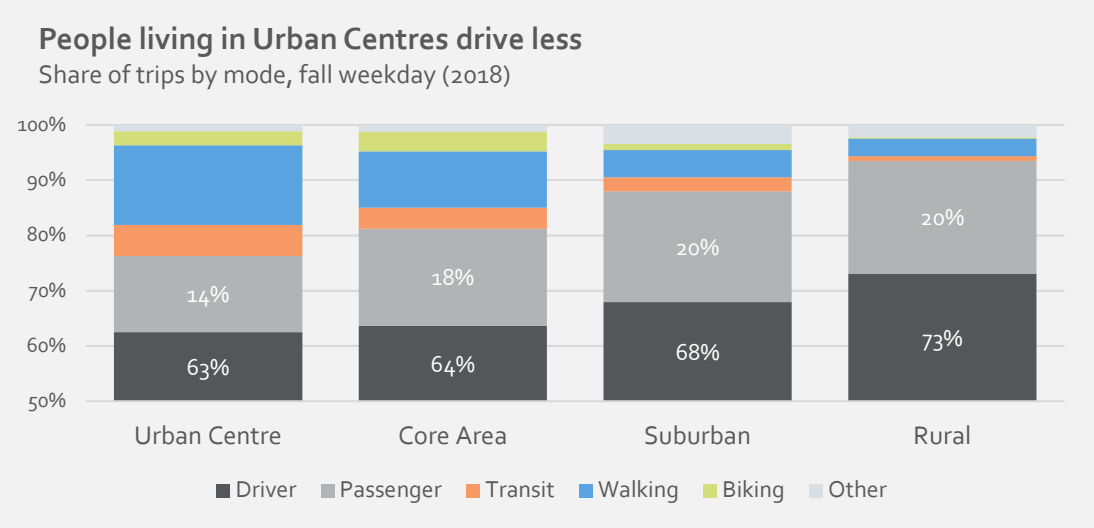
  Destinations are more dispersed during the afternoon peak. Many people are returning home, while others are making recreational or shopping trips on the way.

- **How they get there**

  The distance of people's trips strongly influences how they choose to travel. Walking is most common for trips under a kilometre, or a 10- to 15-minute walk. Nearly all bike trips are shorter than 5 kilometres, or a 20-minute ride. Higher speeds (e.g., by car or transit) are needed to travel longer distances in a reasonable amount of time.

  Driving is the most common way people in Kelowna get around. On average, four out of five trips are made by personal vehicle (either as a driver or a passenger).

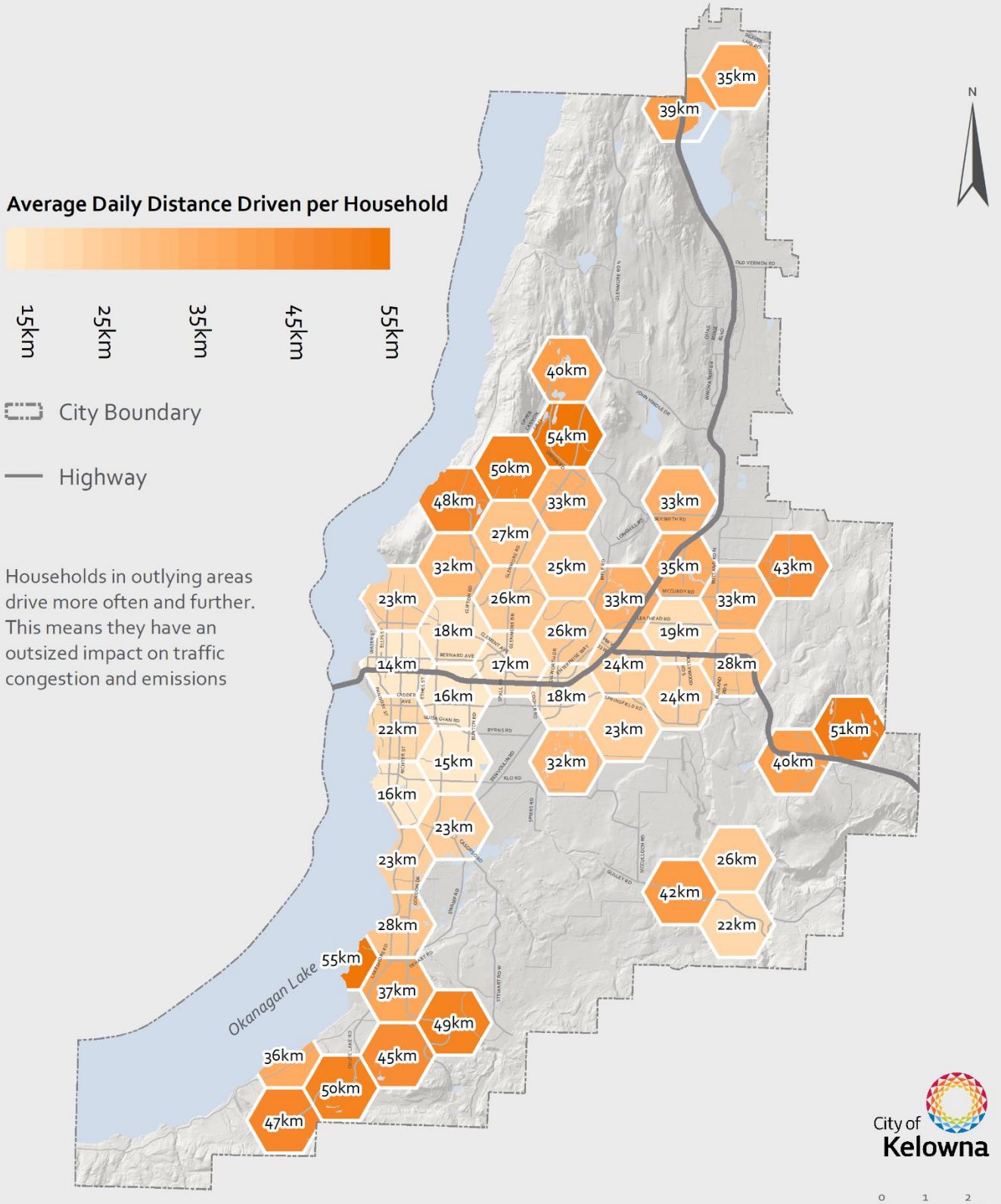
  How people choose to get around varies substantially based on where they live. Since households in outlying and hillside areas must travel longer distances to meet their daily needs, over 90 per cent of these residents travel by car and drive two to six times farther compared to those living in Core Area neighbourhoods (as shown in Map 2.1). This contributes disproportionately more to traffic congestion and emissions. Conversely, trips by walking, biking and transit are much higher for households located in the Core Area, and when residents drive, they drive shorter distances.



People are more likely to walk, bike, or take transit for routine trips, like commuting to work or school. They become familiar with the requirements and time needed to make these repeat trips. It can be hard to make spontaneous trips by transit unless the next bus is coming soon. Shopping trips are more likely to require carrying cargo, which can make driving more convenient.

2040 Transportation Master Plan

Map 2.1 Existing Conditions
Daily Distance Driven per Household

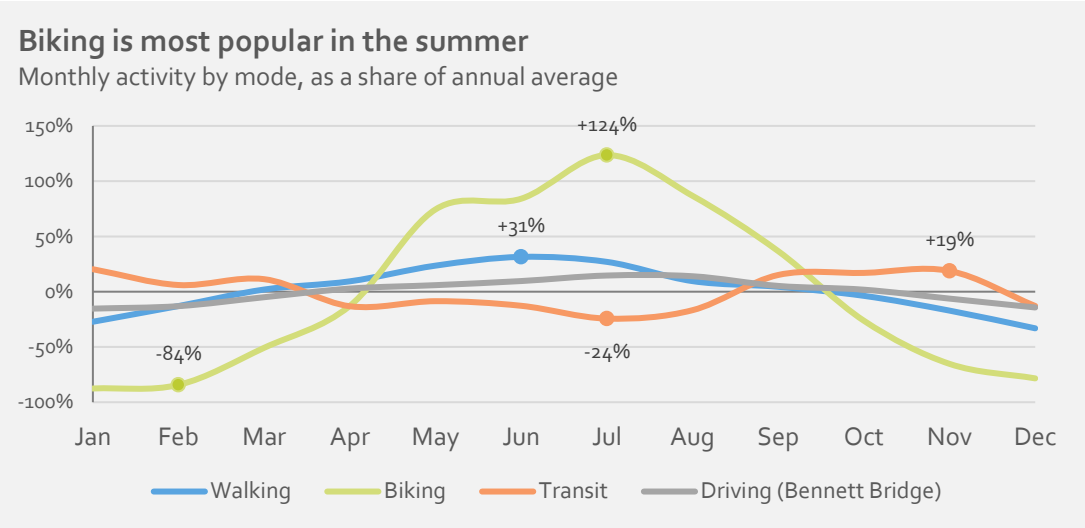


- **Seasonal changes**
  Travel patterns in Kelowna change with the seasons. Our population grows in the summer with visitors and part-time residents.

  Car travel is relatively stable, varying by 25 to 30 per cent over the year and peaking in the summer. Daily traffic volumes on the WR Bennett Bridge are about 30 per cent higher in summer than in winter. Most of this extra volume is during the midday peak.

  Transit ridership varies by 40 to 50 per cent over the year, peaking in the fall and falling over the summer (a trend influenced by the school calendar).

  Compared to other means of travel, trips by bicycle fluctuate the most throughout the year (by over ten times between summer and winter). In winter, inclement weather, less daylight and limited snow clearing make bicycling less attractive. In summer, bicycling trips peak, making it a valuable relief valve when traffic pressure on the roads is highest.



  More information on existing conditions is available in our TMP Existing and Future Conditions Technical Report.

Kelowna's street network

Kelowna has roughly 800 kilometres of streets, from major arterials to small residential streets. Some are designed to move people and goods across the city. Others are intended to support local businesses or provide attractive places to live. Defining the role of a street can help clarify expectations and inform design choices.

Kelowna's road types and land use contexts are described below. These are used to inform Kelowna's Functional Classification System, shown in Appendix B.

- **Road types**
  The role of a street is influenced by its location in the hierarchy of the street network. Some streets prioritize mobility (moving quickly) while others prioritize access to businesses and residences. For example, a highway moves people and goods over long distances by limiting crossings, driveways, and places for drivers to get on or off. On the other hand, a laneway provides direct access to homes or businesses, and services such as garbage collection, but does not allow people to move quickly. Most

streets fall somewhere in between. We can divide streets into two groups along this continuum: the Major Road Network and Neighborhood Street Network.

Major Road Network:

The major road network includes the following road types:

- **Highways** are major arterial roads that connect Kelowna to other places. Highway 97 provides connections across Okanagan Lake and north to Lake Country. Highway 33 provides connections east to Big White and beyond. While highways are under provincial jurisdiction, they support a large amount of mobility within Kelowna, influence our intersections, and are close to many important destinations and services.
- **Major arterials** are designed to move people and goods over longer distances across the city. Traffic speeds and volumes mean that people walking and biking need to be separated from vehicles to feel safe. Parking is rare on major arterials and driveways are discouraged. Many, but not all, major arterials have multiple travel lanes.
- **Minor arterials** are designed to move people and goods over medium to long distances connecting neighbourhoods. Parking is generally limited on minor arterials and driveways are discouraged. Minor arterials typically have two or three lanes. Traffic speeds and volumes often mean separate facilities for people walking and biking are preferred. All arterials are expected to carry a diverse mix of traffic, including large trucks, public transit and people walking and biking.

Neighbourhood Street Network:

The neighbourhood street network includes the following street types:

- **Collectors** are designed to facilitate travel over shorter distances. They connect local streets to arterial roads and provide access to homes and businesses. Some on-street parking and driveways are present, and vehicle speeds are lower than on the major road network. Sidewalks, pathways, or bike lanes for people walking and cycling are often provided.
- **Local** streets are primarily intended to provide direct access to homes and businesses. They are often quieter, and vehicles are expected to drive slower and mix with people walking and biking. On-street parking and driveways are typical.
- **Laneways** provide access to residences and businesses, often in higher density areas. They typically consist of one shared travel lane, accommodating either one-way or two-way traffic depending on the context, with very low traffic volumes and speeds. Vehicles share the space with people walking and biking. Businesses often use laneways for loading and unloading goods. In residential areas, laneways are sometimes used for social activities.

- **Land use context**

The role and function of a street is also heavily influenced by how the surrounding land is used. Travel patterns, types of vehicles using the street, and levels of walking, bicycle, and transit activity, can vary substantially. For example, a major arterial in a rural area will be used differently and have different design requirements than a major arterial in an urban area.

- **Urban Centre** streets have the highest levels of activity happening in the same space (e.g., people walking or biking, transit, deliveries, parking, pick-ups/drop-offs, outdoor dining, public plazas). This means vehicle speeds need to be slower. Businesses benefit from wider

sidewalks and parking. Trees add shade and make a street more walkable and attractive. Streets in Urban Centres are more complex, and greater care is required to design and manage them.

- **Core Area** streets may support residential or commercial land uses and typically have more pedestrian, biking, and transit activity than streets in suburban areas. Core Area streets accommodate both vehicle travel and people biking and walking, with an emphasis on separating people walking and biking from motor vehicle traffic, where feasible.
- **Industrial** areas share characteristics with suburban areas but typically have higher truck volumes, which need to be considered in their design and operation.
- **Suburban** streets typically support lower density, residential neighbourhoods. Motor vehicles dominate travel, with fewer people walking and biking. Suburban neighbourhood streets (locals and collectors) are meant to be attractive places to live, where people can stroll, walk their dogs and where children can play. Meanwhile, major roads in suburban areas need to safely accommodate vehicles moving at higher speeds with separate facilities for people walking and biking. Some Village Centres within suburban areas may have more people walking or biking, similar to streets in the core and urban areas.
- **Hillside** streets are similar to suburban streets, but the steep terrain requires adjusting the street design. Hillside streets are predominantly designed to serve motor vehicles, with fewer people walking and biking than suburban streets, due to the combination of few walkable destinations, longer distances and steeper grades.
- **Rural** areas are typically very low density and support agricultural land uses. Streets are used primarily by motor vehicles, including slower-moving agricultural vehicles like tractors. There is a lack of on-street parking and sidewalks, so people walking or biking must use the shoulder.

- **Functional classification**

The street types and land uses described in the section above combine to form the City's Functional Classification System, shown below and described further in Appendix B. These classifications help determine priorities for activities like snow clearing or street sweeping and the requirements for new developments.

		Street Type			
		Neighbourhood Streets		Major Roads	
Land Use	Urban Centre	Urban Centre Local	Urban Centre Collector	Urban Centre Minor Arterial	Urban Centre Major Arterial
	Core Area	Core Area Local	Core Area Collector	Core Area Minor Arterial	Core Area Major Arterial
	Industrial	Industrial Local	Industrial Collector		
	Suburban	Suburban Local	Suburban Collector	Suburban Minor Arterial	Suburban Major Arterial
	Hillside	Hillside Local	Hillside Collector		
	Rural	Rural Local	Rural Collector	Rural Minor Arterial	Rural Major Arterial

The Functional Classification System is a part of both the 2040 OCP and 2040 TMP. Typical cross-sections associated with each functional class are part of the Subdivision, Development & Servicing Bylaw (Bylaw 7900). Updates to align Bylaw 7900 with the 2040 OCP and 2040 TMP are currently

underway and will follow endorsement of the 2040 TMP. The Functional Classification System and Bylaw 7900 work together within a larger system of policies to guide the development of new transportation infrastructure.

While predicting the future of cities has never been easy, there are good reasons to believe we are in a period of rapid change. Population growth, technology innovations, shifting demographics, and a changing climate will all continue to influence how people get around. While we are making the best use of available forecasting methods to guide our decisions, we will need to remain nimble and adapt to changing circumstances.

A complete summary is available in our TMP Existing and Future Conditions Technical Report.

Trends shaping how we get around

The following global and national trends will impact transportation here in Kelowna. Many of these trends present both opportunities and challenges. If we are proactive, our responses to these trends could speed up progress toward our shared vision.

- ### Changing climate

  The heat waves, forest fires, and floods of recent years demonstrate that climate change is already affecting life in Kelowna. Scientists warn that greenhouse gas emissions (GHG) from the burning of fuels need to be cut in half over the next decade to avoid more catastrophic impacts.

  As identified in Kelowna's Community Climate Action Plan, transportation accounts for just over half the GHG emissions in Kelowna. While electric vehicles will help, they are only part of the solution as it will take decades until most vehicles on the road are electric. Working to increase the share of trips made in Kelowna by walking, biking and transit will be critical.

  As our climate changes, our infrastructure will have to be more resilient to withstand wetter, milder winters, and hotter, drier summers. For example, we have had to revise the design of bridges in Kelowna to allow for higher flood levels as our recent years have advanced our understanding of extreme weather events.

- ### Aging population

  Like many places in Canada, Kelowna's population is growing older. Soon, one in four Kelowna residents will be over the age of 65. These residents will need improved transit and other mobility services to remain independent when they can no longer drive.

  Retirees tend to travel less often and avoid peak hours compared to younger adults. As a result, we may see less pressure during the morning commute, but a filling-in of the midday as the population grows.

- **Changing economy**
  Changing economic trends impact travel patterns. As people access more goods and services online or get them delivered, they are making fewer in-person shopping trips. However, this trend is increasing the number of delivery vehicles and other commercial traffic on our roadways throughout the day.

- **Infrastructure deficit**
  Rapidly growing cities, such as Kelowna, face the challenge of funding infrastructure for new development while also maintaining existing, aging infrastructure. About two-thirds of our current spending on roads is for maintenance, and this share is expected to rise as our infrastructure continues to age. At the same time, major transportation system upgrades are becoming warranted due to growth.

  To help address the infrastructure deficit it will be important to increase our focus on maintaining our existing infrastructure. It will also be important to balance the amount of infrastructure we build in different areas of the city with our financial capacity to maintain it over the long-term.

- **Equity and affordability**
  Increasing income inequality and the rising cost of living are becoming concerns for many residents. Transportation is often a household's second biggest expense.

  Neighbourhoods that offer more affordable transportation options, such as those in the Core Area, allow households to get by with one vehicle, or no vehicle, which can help offset increasing housing costs. For example, the savings from giving up one vehicle could increase the size of a mortgage that a household qualifies for by well over $100,000 or more.

  For lower-income residents, not needing to own and maintain a car to get to work, can mean the difference between affording groceries and having to use the food bank. More affordable transportation options, such as public transit or biking, can give residents access to employment and opportunities in the larger economy. To help address the rising cost of living it will be important to focus housing close to jobs and in areas with access to affordable travel options, such as the Core Area.

- **New technology**
  The current level of transformative travel innovation is more significant than it has been in over a century. Electric vehicles are here; they are growing in popularity and are a critical part of our efforts to reduce greenhouse gas emissions. In addition, emerging technologies and shared mobility services, such as carshare, ride-hailing, bikeshare, and shared e-scooters offer the on-demand flexibility of vehicle ownership at a lower cost.

  It is possible that by 2040, many of the vehicles on our roads will be driverless. Some of these new driverless vehicles will likely belong to ride-hailing services, while others may belong to transport and delivery services. Benefits of these changes could include more convenient travel options and independence for youth, the elderly, and people unable to drive. However, driverless vehicles could also lead to increased traffic congestion as more people travel and empty vehicles circulate.

  More information is available in our discussion paper on Transportation, Technology, and our Changing Future.

- **Pandemic**
  The COVID-19 pandemic has greatly increased the number of people working from home. It is unclear how long this will last, though it is likely to continue in some form. Fewer people commuting each day could reduce the strain on the transportation network during peak hours. The pandemic has increased

the number of people biking and walking and reduced transit ridership, although transit ridership has begun to rebound. So far, ridership is rebounding the most in the afternoon and PM peak.

Kelowna is growing

As one of the fastest growing cities in Canada, Kelowna is rapidly evolving. Its economy is diversifying and many of its neighbourhoods are transforming. Kelowna is becoming a more urban and dynamic city, and the pace of urban change is unlikely to let up.

- **Growing population**
  Based on projections from BC Stats, and in coordination with the 2040 OCP, Kelowna's population is expected to reach 180,000 by 2040. This makes us one of the fastest-growing regions in Canada, and is roughly in line with our growth rate over the past two decades. We anticipate continued steady growth and need to plan for it.

  The 2040 OCP creates a strategy to accommodate this anticipated growth in alignment with the Imagine Kelowna community vision. The OCP focuses roughly three-quarters of future residential growth in Kelowna's Core Area and five Urban Centres. These are areas where walking, biking, and transit are increasingly viable alternatives to driving. The remaining quarter of residential growth will occur in outlying Suburban Neighbourhoods that are mostly car dependent.

- **Growing economy**
  Job creation in Kelowna is expected to keep up with population growth, resulting in roughly one-third (25,000) more jobs in 2040. Many of these jobs will be in our Urban Centres or at major institutions like Kelowna General Hospital or UBC Okanagan. We also expect to see significant job creation in our industrial areas, like the Gateway.

- **Regional context**
  Kelowna is the Okanagan's economic centre, and roughly one-quarter of jobs in Kelowna are filled by workers who commute from other places. Fifteen per cent come from the Westside and the South Okanagan, while 10 per cent come from Lake Country and the North Okanagan. This trend is expected to continue.

  Relatively few trips involve people passing through Kelowna. About 90 per cent of the traffic crossing over the WR Bennett Bridge into Kelowna is heading toward a destination within the city, while only 10 per cent is passing through. While Highway 97 is the transportation "spine" of the Okanagan, and critical for our region's access to provincial and international markets, it is not a primary route for inter-provincial trade.

Future analysis

Kelowna will be home to another 45,000 residents by 2040. These residents will need to travel to get to work, school, shopping, visit friends and meet their other daily needs. Traffic congestion and emissions will get worse if all the city's future residents drive as much as we do today.

- **Projecting the future**
  To prepare the 2040 Transportation Master Plan (TMP), we started by modelling future transportation conditions across the city. The analysis looked at population growth in combination with the 2040 OCP Growth Strategy and the existing transportation network and travel behaviours to estimate what the future would look like in 2040 without a transportation plan to guide our investments.

Citywide outcomes provide one part of the picture, but it is important to recognize that future travel demand and traffic patterns will vary in different parts of the city. Some future trips will depend on driving, while others will be easier to accommodate with biking, walking and transit.

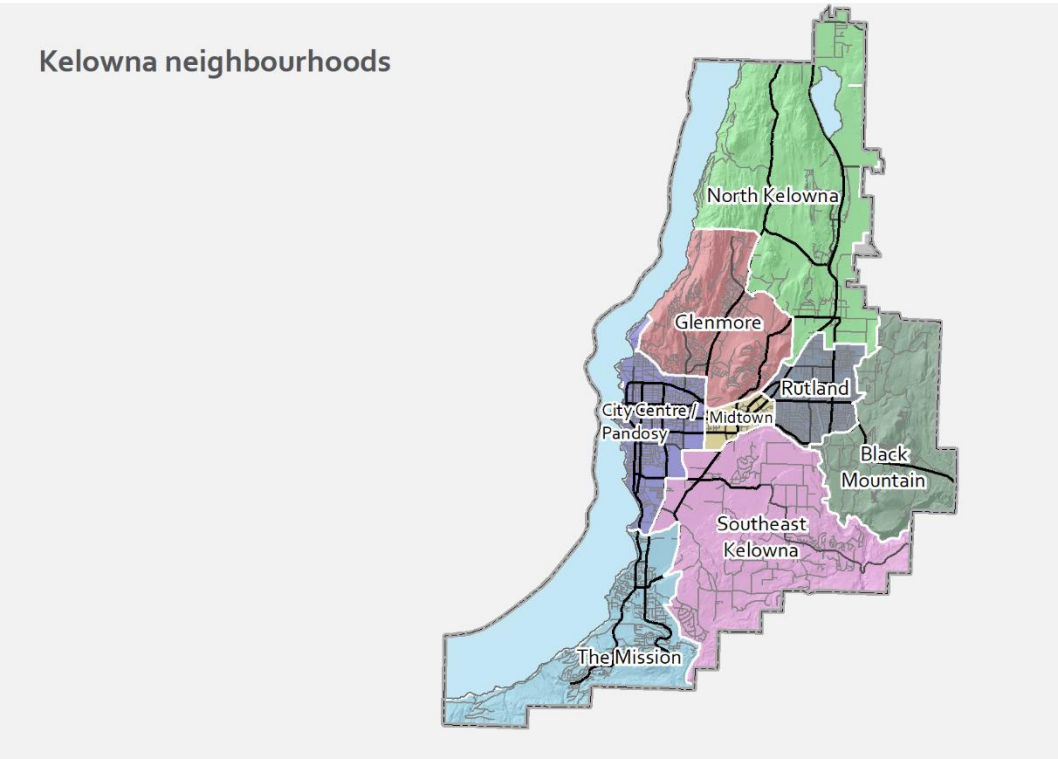
Projections of future travel patterns citywide, as well as for different parts of the city are summarized below.

- **Citywide**

  If we do nothing, by 2040 we estimate that the distance driven in Kelowna will grow by approximately 25 per cent. The 2040 OCP and TMP are designed to work together to mitigate this increase and keep it to 10 per cent (as described in the Targets section).

  While population growth alone will require substantial future transportation investment to maintain Kelowna's quality of life, the 2040 OCP and 2040 TMP will help mitigate future costs by focusing growth in the Core Area and investing in sustainable transportation modes. As travel distances shorten, more people living and working in the Core Area and Urban Centres will be able to walk, bike or take transit more easily, and when they do drive, they will not have to drive as far as residents living in the outer areas of the city. While the total amount of driving and congestion levels are still projected to increase citywide, it can be much less than if we continued to grow predominantly outwards.

  Overall, traffic is expected to become busier and more complex within the Core Area, where residents commuting in and out of hillside neighbourhoods will compete for limited road space.



- **City Centre / Pandosy**

  The triangular area between Downtown, Pandosy, and Capri-Landmark is a hub of activity for the Central Okanagan. Half of the city's future growth is planned here. As a result, the number of trips in and out of this area is expected to grow 40 per cent by 2040. As well, the number of trips between destinations within this area could double.

It will not be possible or desirable to accommodate all this increased travel by driving. Existing road rights of way are limited, and adjacent land is in high demand. The challenge will be to shift as many short trips as possible to walking, biking and transit. Shifting short trips will free up road space for commercial vehicles and people who need to drive.

- **Midtown**

  Midtown is the geographic centre of Kelowna, which means that many trips must pass through the area. It is a major destination that is home to one-third of the city's retail space. The amount of travel to and from Midtown is expected to grow 25 per cent by 2040.

  Currently, the area's long blocks funnel vehicle traffic onto only three east-west streets. Large distances between safe places to cross streets make walking feel less safe and inconvenient, while a lack of protected bike lanes makes biking uncomfortable. This means that nearly all travel within Midtown happens by driving, even for short distances.

  Creating safer biking and walking facilities in this area would allow nearby residents to access Midtown destinations without having to drive.

- **The Mission/Southeast Kelowna**

  This area already experiences some of the worst traffic congestion in the city. In the morning, most of the traffic consists of commuters leaving for work and school. In the afternoon, the traffic flow reverses as those commuters return home. The amount of travel in and out of the area is expected to increase 20 per cent by 2040.

  The area's low-density nature, distance from employment centres, and the layout of its streets mean it is challenging for walking, biking, and transit to compete with driving. While we can invest in some projects to increase vehicle capacity, they are limited, and the reality is that traffic in this area will continue to grow.

  While adding more services nearby could avoid some trips out of the area, most residents will still need to travel for work at peak times. On-demand transit, ride-hailing, and e-bikes may also help provide additional travel options. The best approach for managing peak-hour traffic congestion in this area will be to encourage residents to work from home, share rides, or drive during off-peak times.

- **Glenmore**

  By 2040, the amount of travel to and from Glenmore and the nearby hillside areas of Wilden and McKinley is expected to increase by 40 per cent. A lot more people live in Glenmore than work there (a trend that is expected to continue), which results in a flow of commuters out of the area in the morning. Today, most of these people head south. As the number of jobs in the Gateway grows, we may see more of an even split between traffic heading north and south.

  Glenmore's main artery, Glenmore Road, connects Lake Country and central Kelowna. Traffic volumes on Glenmore Road are anticipated to grow by 25 per cent. It is likely that residents in Wilden and McKinley will continue to drive for most of their trips and use Clifton Road more often than Glenmore Drive when heading south.

  Glenmore's central location means residents make many medium distance trips, which puts them potentially within biking range. While bike lanes exist on both Glenmore Road and Clifton Road, hills and a lack of separation from traffic can be a barrier to biking for many. Separated bicycle facilities and small electric vehicles (i.e., e-bikes, e-scooters) may help increase the attractiveness of biking.

Transit has moderate potential to shift trips in the Glenmore area due to its layout and location "on the way" between UBC Okanagan and Downtown.

- **Rutland/Black Mountain**

  The amount of travel to and from Rutland, including the hillside neighbourhoods of Black Mountain, Kirschner Mountain, and Tower Ranch, is expected to increase 35 per cent by 2040.

  As with other parts of the city with more residents than employment, Rutland will continue to see more traffic moving out of the area in the morning than in, and reversing in the afternoon.

  Trips within Rutland tend to be within biking range and relatively flat except for the bench. Trips between Rutland and other parts of the city tend to be longer, increasing the importance of transit. The hillside neighbourhoods will remain largely dependent on private vehicles for their travel needs.

- **Northern Kelowna and beyond**

  As Lake Country continues to grow, the amount of travel into Kelowna from our northern neighbors is expected to increase 60 per cent by 2040. Currently, most Lake Country residents live in places where driving is the only convenient option. There is growth in industrial employment along the northern boundary, which will result in more trips from Kelowna residents to access these jobs.

  As a result of growth at UBC Okanagan, the Kelowna International Airport and other businesses in the area, the amount of travel to and from the Gateway area is expected to increase 65 per cent by 2040. About two-thirds of this travel will come from Kelowna, and the other third is forecast to come from Lake Country and Vernon. A lot more people work in the Gateway area than live there. This means there is a surge of longer distance commuters flowing into the area in the morning, and then flowing out again in the afternoon.

  Completing the Okanagan Rail Trail will make it much more comfortable to bike between Kelowna and Lake Country, though the distance is longer than what is typically considered biking range. Transit can be an option for these longer trips – particularly to the university – depending on how much of Lake Country's growth happens in areas that can be easily serviced by transit. As a long-term strategy, the Regional Transportation Plan recommends extending frequent and/or RapidBus transit service to Lake Country when sufficient densities make this economically feasible.

- **The Westside and beyond**

  While the communities on the west side of Okanagan Lake will continue to grow, congestion at the bridge and entering Kelowna will limit traffic volumes from increasing in peak periods – but growth during mid-day is still projected.

  Due to existing constraints and long trip distances, the focus of the City will be to work with the Province to create a fast and reliable transit spine along the Highway 97 corridor. This will increase the **people-moving capacity** of the bridge and highway, make more efficient use of the existing road network, and prevent buses from being stuck in traffic.

  The Regional Transportation Plan recommends further study of accommodating an eastbound transit lane on the bridge during the morning rush hour to allow transit to bypass traffic and stay on schedule, as well as adding dedicated transit lanes along Harvey Avenue from the bridge towards UBC Okanagan. It is anticipated that these and other projects on the provincial highway system will be looked at further as part of the next phase of the Ministry of Transportation and Infrastructure's Central Okanagan Planning Study. The recommendations in the 2040 TMP have been coordinated with the Regional Transportation Plan.

Reducing car dependency

One of the most effective long-term congestion mitigation strategies is to reduce car dependency by providing more convenient and realistic alternatives for getting around. Accomplishing this change requires a coordinated approach to land use and transportation that shortens trip distances and creates complete, connected, and safe networks for bicycling, walking, and transit between key destinations.

- **Understanding traffic congestion**
  With traffic levels projected to increase, it is important to understand traffic congestion and options for managing it effectively. Increasing congestion levels are often a sign of a growing, vibrant, and economically productive city. Historically, traffic levels become heaviest when the economy is booming and notably decline during a recession.

  Even if traffic congestion is a sign of a booming economy, people still don't like being stuck in traffic. Often, the response to increasing traffic congestion is to increase roadway capacity by building new roads and widening existing ones. However, as discussed in The Congestion Paradox discussion paper, this approach can have negative impacts and is expensive and often ineffective over the long-term.

  In Kelowna, the construction of new roads is constrained by steep hillsides, Okanagan Lake and protected agricultural lands. In the Core Area, there is little room to widen roads without buying land, tearing down homes or disrupting local businesses. This would be expensive and physically divide existing, established neighbourhoods, making Kelowna a less attractive and less healthy place to live. On average, the cost to widen a major road in the Core Area is estimated at $26 million per kilometre, but could be much higher in places where nearby properties are significantly impacted. This means that substantial tax increases or new sources of revenue would be needed to try and build our way out of congestion.

  Even if the space and money were available, expanding roadways often reduces congestion to a smaller degree, and for less time, than initially expected. This is because when a new road opens -or an existing road is expanded- people typically respond by driving more until roadways fill back up. This rebound effect, called "induced demand", can reduce the long-term congestion mitigation effects of roadway expansion projects.

  While free-flow car travel during the rush hours may not be achievable in a rapidly growing, economically successful city like Kelowna, several strategies can help reduce the rate at which traffic congestion intensifies. These include taking a progressive approach to managing traffic congestion, developing a well-connected, complete street network, and working to maximize mode shift. Each of these is described further below.

- **A realistic approach to congestion**
  It is important to aim for congestion levels that are not too high and not unrealistically low to keep Kelowna moving while achieving the City's vision and goals for transportation. This approach will help minimize the unintended negative consequences of building too much road capacity, while maximizing the effectiveness of our infrastructure investments. The recommended actions in the 2040 TMP were identified keeping this balance in mind.

- **A well-connected, complete street network**
  Developing a well-connected, complete street network will also help manage the growth of traffic congestion. Within the busy Core Area, streets with high traffic volumes and speeds, long blocks and limited crossings make it challenging to accommodate growing numbers of people walking, biking, and taking transit. To maximize the people-moving capacity within the Core Area, we must re-think

our existing streets and develop a well-connected grid network that thoughtfully accommodates all modes of travel. While some streets will need additional right-of-way to better accommodate people walking, biking, and taking transit, it will be less than if we tried to accommodate all future trips by driving.

- **Mode shift**
  To keep Kelowna moving, it will be necessary to shift as many future trips as possible to more sustainable transportation modes that can move more people in the same amount of space, such as walking, biking, transit, and emerging modes. This will increase the number of people that can move through our transportation network while giving Kelowna residents more choices to get around. This will help reduce the growth of traffic congestion and prioritize road space for moving goods and other trips that must be made by driving.

  The best opportunities for mode shift are within the Urban Centres and Core Area, where trips are shorter, the terrain is relatively flat, and some supporting infrastructure for walking, biking and transit is already available. Increased densification will result in a larger share of shorter trips, thus removing the primary barrier to walking and biking. If the City ensures land use is mixed and dense and takes consistent and complementary action to provide safe, attractive, and convenient infrastructure for walking, biking and transit in these areas, the number of trips shifted from cars to these modes can be maximized.

  Performance measures and targets related to congestion, such as travel times, mode share, and distance driven are in Chapter 6 Implementation.

Increasing our transportation options

To keep Kelowna moving we need to make it possible for people to drive less. For most people in Kelowna, driving is the default way to get around. This makes sense, given how much of the city was built around driving and the convenience of personal vehicles. A car or truck leaves when we want, provides door-to-door service, and can carry lots of cargo. Making it easier for people to drive less will involve offering a range of new options for different types of trips.

By encouraging these options in the neighbourhoods where they make sense, we can make car-free or car-light living viable for more households.

- **Walking – for short trips**
  Walking is the simplest and most affordable way to travel. It improves our health and well-being, reduces congestion, and cuts noise and emissions. It is much cheaper to build and maintain sidewalks and pathways than it is to build roads.

  Trips need to be short for walking to be an option. This is why connecting land use and transportation planning is critical. About 25 per cent of trips in Kelowna are less than 1.5 kilometres, which is a twenty-minute walk. However even minor detours can become major barriers when walking. Connected street grids with short blocks and many safe places to cross busy roads allow people to feel safe walking and reach more destinations within a reasonable time.

- **Biking – for medium-length trips**
  Biking is a low-cost way to travel moderate distances that improves our health and well-being, reduces congestion, and cuts emissions.

Travel times by bike are often competitive with driving for trips under 3 kilometres, which is roughly a 10-minute bike ride. A little over half of the trips made by residents in Kelowna's Core Area (essentially the parts of the city that are flat and urbanized) fall into this category. Adequate parking for bikes at peoples' origin and destination is essential for making biking feasible. Bike parking is less expensive to provide than vehicle parking and takes up much less space.

Like with walking, a lack of bicycling facilities protected from vehicle traffic can discourage biking. Hills can make biking more challenging and less attractive. The increasing popularity of e-bikes could reduce the impact of this issue. Moving forward, e-bikes, e-scooters and other small electrically powered vehicles are going to become more common. These vehicles make it easier for more people to ride longer distances, get up and down hills, and carry cargo.

- **Transit - for longer trips**

  For Kelowna to keep growing without worsening gridlock, we need to find ways to move more people along roads that already exist. Transit moves large numbers of people but does not offer door-to-door service. For transit to be convenient, it needs to be direct, frequent and the start and end points need to be within walking distance to a bus stop.

  Higher capacity transit systems such as streetcar or light rail may be a long way off in Kelowna. Still, we must work incrementally toward them by adding new homes and jobs along corridors that will one day support higher capacity transit.

  The main challenge for transit will be making travel times competitive with driving. Adding more frequent service to a route means less time waiting for the bus. Streamlining stops and giving transit vehicles priority on our roads means buses move faster, saving people time. Over time, as the value of land in the Core Area increases, parking supply will naturally decrease. This will increase the cost of parking and make transit more attractive.

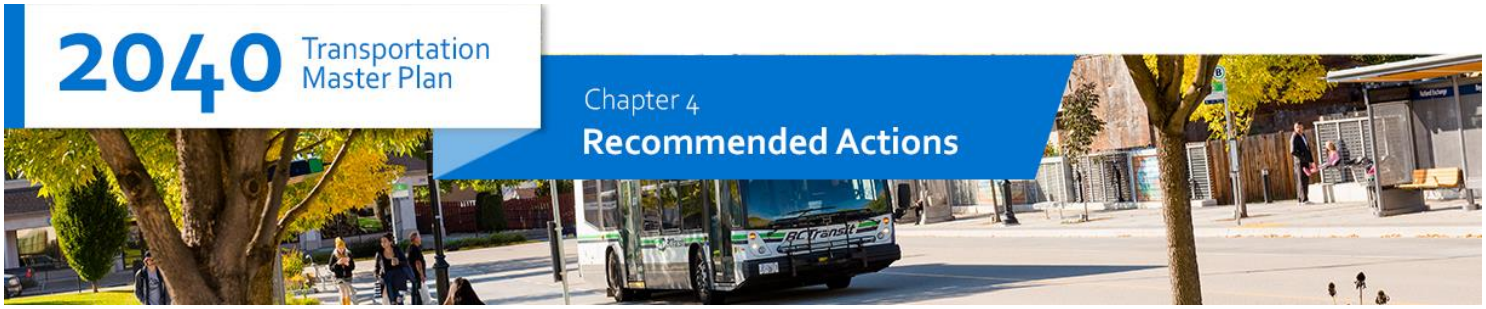
- **Emerging modes – to fill the gaps**

  While more future trips will be made on foot, by bike, or on transit, many will still be more practical by driving. Inclement weather, transporting passengers or cargo, physical ability and other factors mean people will continue to need a car or truck sometimes.

  To help reduce car dependency and facilitate car-light living, biking, walking and transit all need to be viable alternatives to driving a personal vehicle. In addition, emerging technologies and new transportation modes can help fill in some of the gaps. For example, carshare services can offer short-term car rentals and trucks or vans for moving large items. Ride-hailing can be used for late night or early morning trips that are difficult to serve by transit. Shared e-scooters and e-bikes can help people get to or from a bus stop when the trip is too far to walk. People may also use these small electric vehicles for their entire trip or to help cover longer distances and hilly terrain.

- **Putting it all together**

  For most people, living in Kelowna without a car or with fewer cars will require more than one of the options above. Residents in neighbourhoods that have good access to multiple transportation options will be able to choose the travel mode that works best for each trip. This will give them the best chance of going car-free or car-light as Kelowna grows. Providing more housing options in less car-dependent neighbourhoods is an integral part of Kelowna's long-term vision.



The 2040 Transportation Master Plan (TMP) includes over 100 recommended actions that will ensure Kelowna's transportation network keeps up with the growth anticipated in the 2040 Official Community Plan (OCP). The recommendations will help maintain and renew existing infrastructure, achieve fast and reliable transit, improve road connections, develop safe and connected bicycle routes, create walkable neighbourhoods, and invest in education and emerging technologies.

Below is a summary of the actions recommended in the TMP. The complete list of recommended actions, including maps, costs, timeframe and descriptions are available in Appendix A.

For the Functional Classification System and associated maps, please see Appendix B.

How these options were chosen

While this is Kelowna's first comprehensive transportation plan in 25 years, we did not start from scratch. We brought together existing plans, technical analyses, and ideas from residents to create a list of over 400 options. These were evaluated using several methods and the 12 TMP goals, described below.

The TMP recommendations were carefully selected to maximize benefits to our residents, businesses and community, at the best price tag possible. More information on the evaluation process is available in the TMP Scenarios Report.

- **Option generation**
  The TMP builds on the recommendations from several plans and strategies, including the Central Okanagan's new Regional Transportation Plan and the Transit Future Plan, as well as Kelowna's 2040 OCP and the Pedestrian and Bicycle Master Plan. More information on the previous work that informed the TMP is available in Chapter 1.

  In addition, options were identified based on the analysis in the Existing and Future Conditions Report, as well as the ideas generated from the public on an interactive map during the Neighbourhood Expos.

- **Technical evaluation**
  We evaluated approximately 400 options using multiple account evaluation, the Regional Travel Demand Model, and net-benefit analysis. The multiple account evaluation scored each option based on costs, benefits for different modes of travel, and alignment with policy (i.e. Imagine Kelowna, the 2040 OCP Pillars, and the TMP Goals).

  Many of the larger projects were tested using the Regional Travel Demand Model. The model considers where future jobs and residents are likely to be located to estimate future traffic volumes. The modelling results were used to estimate potential effects on emissions, safety, travel times, and

costs. The net-benefit analysis was used to weigh the benefits and costs over the next 20 years to identify the most cost-effective projects.

- **Public input**

  In Phase 3 we invited people to "sit in the planner's seat" and take part in a budgeting exercise. The goal was to help residents understand the costs and trade-offs associated with transportation investment. Residents were asked how much they would invest in different transportation categories compared to a business-as-usual budget. Basic, medium, and high investment options were offered for each category, along with corresponding estimates of the property tax impacts of each option.

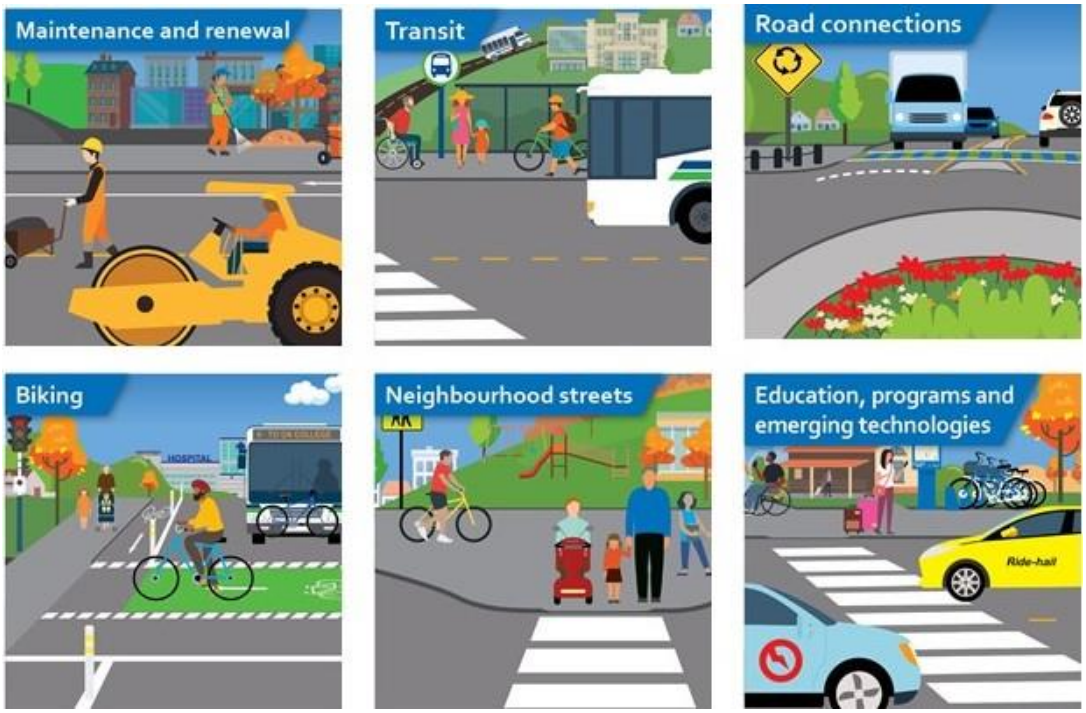
  Approximately 1,900 people participated online or in-person. The average budget submitted by members of the public was roughly 20 per cent above our business-as-usual forecast. The results of this exercise guided the TMP's proposed investments.

  To learn more, read the full Phase 3 Engagement Summary.

- **TMP Scenarios**

  The options evaluation process was used in combination with public input to build three transportation scenarios. The scenarios included bundles of recommended actions that demonstrated what could be achieved at different funding levels. The 2040 TMP is based on Scenario 2, which used the average budget submitted by the public during the Phase 3 Public Engagement.

  The recommended actions in the 2040 TMP are grouped into the six categories shown below and described further in the following sections.


Maintenance and renewal
Transit
Road connections
Biking
Neighbourhood streets
Education, programs and emerging technologies
Ride-hail

Maintenance and renewal

During public engagement, residents told us maintaining and renewing existing infrastructure is a high priority. The TMP recommends working to maintain and improve service levels by increasing investment in maintenance and renewal by approximately 30 per cent. This will help fund activities such as repaving roads, refreshing road markings, fixing potholes, repairing sidewalks, landscaping, street sweeping, and snow clearing.

Highlights of the maintenance and renewal recommendations are summarized below. A complete project list and descriptions are provided in Appendix A. Policies related to maintenance and renewal can be found in the Policy Framework chapter.

- ### Maintaining streets and pathways

  Before building new infrastructure, we need to make sure our existing infrastructure is well maintained. The TMP recommends increased service levels for the maintenance of roadways, sidewalks, pathways, and bike lanes. This includes activities such as repaving roads, fixing potholes, refreshing road markings, landscaping, street sweeping, and snow clearing, among others.

  In the winter, better clearing of snow and ice will make it safer for people to walk and bike. While we have been clearing off-street pathways and protected bike routes for several years, on-street bike lanes are typically used to store snow in the winter. This can lead to ice, sand, or other debris blocking bike lanes long after a snowfall. The TMP proposes a pilot project to explore ways to clear snow from our most popular bike lanes.

- ### Replacing and renewing our infrastructure

  Infrastructure renewal funds activities such as the replacement and repair of aging roads, bridges, sidewalks, and other infrastructure. To achieve higher service levels, the TMP proposes a funding increase of approximately 35 per cent for infrastructure renewal. However, even this level of investment will not fully address our infrastructure deficit. We are currently working to update our asset management systems to get a clearer picture of how much money we need to budget for the future.

  Together, the TMP and OCP will help reduce the growth of the infrastructure deficit by focusing development in areas that require less infrastructure per unit of new housing – these areas are generally in the Core Area and Urban Centres, where infrastructure costs can be shared among more residents and businesses.

Transit

Investing in transit is critical to supporting the 2040 OCP and keeping Kelowna moving as our population grows. The TMP aims to double transit ridership by 2040 and calls for increasing our investment in transit service and infrastructure to make transit faster and more reliable. Transit is the best option for shifting driving trips that are too long to walk or bike.

Kelowna's transit system is a partnership with BC Transit. The City and BC Transit split operating costs, and the City keeps the fare revenue. We are responsible for transit infrastructure such as bus stops and exchanges.

Highlights of the transit recommendations are summarized below. A complete project list, and descriptions are provided in Appendix A.

- **New transit operations centre**
  One of the highest priorities is a new Transit Operations Centre. Our existing facility is at capacity and limits our ability to add new transit service. We are working with BC Transit to plan for a new facility. The new facility will allow us to more than double our fleet's size and is being designed with electric buses in mind. There is the potential for significant federal and provincial funding to support this project due to its alignment with federal and provincial climate priorities.

- **Harvey Avenue dedicated transit lanes**
  Harvey Avenue is Kelowna's transportation spine. About half the jobs in Kelowna are within a 10-minute walk of this primary transportation corridor and three of our Urban Centres (Downtown, Capri-Landmark and Midtown) are directly adjacent to it. The current focus along Harvey Avenue is moving *vehicles*. Investing in fast and reliable transit will be key to moving more *people* along the corridor in the future.

  The TMP is aligned with the Regional Transportation Plan, which recommends adding dedicated transit lanes and enhanced transit service along Harvey Avenue. The project is part of a series of recommendations in the Regional Transportation Plan that work together to create a fast and reliable transit corridor along Highway 97 from across the bridge, along Harvey Avenue, and north to UBC Okanagan (along the future extension of Hollywood Road north to the university).

Dedicated transit lanes along Harvey Avenue will increase the **people-moving capacity** of the corridor, make more efficient use of the existing road network, and make transit faster and more reliable by allowing transit to bypass traffic congestion and stay on schedule.

Adding dedicated transit lanes to Harvey Avenue would protect space for possible future conversion to light rail or another type of **higher capacity transit**. This may be possible in the future as the population grows and technology brings costs down.

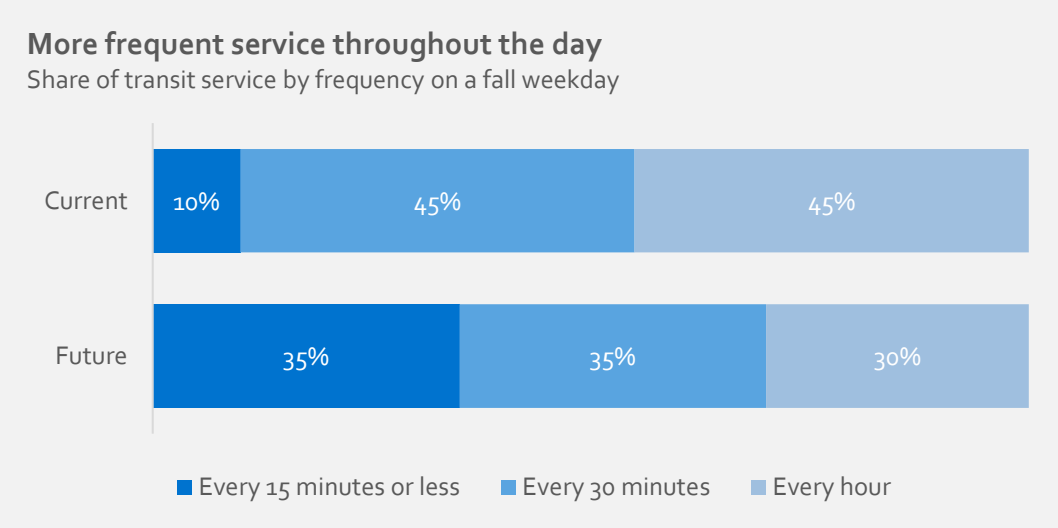
This project aims to achieve fast and reliable transit without reducing existing vehicle capacity. It is anticipated that the next phase of the Ministry of Transportation and Infrastructure's Central Okanagan Planning Study will include transit priority improvement projects along Harvey Avenue. Dedicated transit lanes on Harvey Avenue are recommended for consideration in conjunction with the Clement Avenue extension project.

- **More frequent transit service**

The TMP recommends more frequent transit service on our busiest routes, including the **Transit Supportive Corridors** identified in the 2040 OCP**.** Frequency of service is a key factor in attracting riders. When the next bus is 15 minutes or less from arriving, riders become less concerned with waiting for the bus.

We will focus transit service increases on routes that offer the highest ridership potential, congestion relief and emissions reductions. Several transit routes, such as those that run along Highway 97, Highway 33, Pandosy Street, Glenmore Road, Gordon Drive, Hollywood Road, and Rutland Road will see more frequent service (e.g., bus comes every 10 to 15 minutes during peak hours) and extended service hours (e.g., more buses on evenings and weekends).

In total, the recommended increases will mean a 65 per cent increase in transit service over the next 20 years. These increases will support new homes and businesses and make transit a viable option for people who live or work near transit corridors.



- **Transit priority infrastructure**

It is challenging for transit to compete with driving if buses are stuck in traffic. The TMP includes funds for transit priority infrastructure along key corridors such as Springfield Road, Glenmore Road, Gordon Drive, Hollywood Road, and Rutland Road. New infrastructure such as queue jump lanes and signal priority can make transit faster and more reliable with modest investment.

- **Transit exchange improvements**

  A successful transit network relies on connections, and transit exchanges are places where many routes come together. The key to successful transit exchanges is making sure they operate efficiently and are comfortable places to be with readily available information for riders.

  The TMP recommends leveraging senior government funding for transit infrastructure to pay for upgrades to several transit exchanges. The most significant project is replacing the Midtown exchange near Orchard Park, Kelowna's second busiest exchange after Queensway. Midtown is unique in that most routes pass through the exchange rather than end there, making it critical for buses to get in and out quickly. Delays of a single minute at a time can add up to tens of thousands of dollars in costs over a year.

  Other exchange projects include Okanagan College, an improved transit hub at the Kelowna International Airport, and Mission Recreation Centre. The Okanagan College exchange will be modified to improve operations and support future service level increases. Further into the future, the exchange may be relocated as part of expansion plans for the campus. The transit hub at Kelowna International Airport will be reconfigured to integrate with the airport's long-term expansion. The Mission Recreation Centre exchange will be improved to address conflicts and delays associated with buses operating in traffic and travelling slowly through the broader site.

- **Bus stop improvements**

  Bus stops should be recognizable, accessible, and comfortable places for people to wait for the bus. Upgrades to aging or substandard bus stops will continue, with a focus on high-activity locations. Improvements will focus on accessibility and capacity enhancements and providing amenities such as benches, lighting, signage, and shelters, where warranted. Amenities will be prioritized at bus stops near major destinations or where two or more transit routes meet. Just like transit exchanges, riders waiting at bus stops have access to real-time arrival information via the Transit App and Next Ride.

Recommendations related to transit passes and transit travel training can be found in the Education, programs and emerging technologies section. Transit-related policies, including on-demand transit and transit fares, can be found in the Policy Framework chapter.

Road connections

Road connections serve goods movement and necessary car travel. Road projects in the 2040 TMP were carefully selected to improve traffic safety, support economic growth, optimize travel times, and develop more complete streets - without harming our effort to shift toward more sustainable modes of travel.

Highlights of the recommended road connections are summarized below. Maps, a complete project list, and descriptions are provided in Appendix A.

- **The Gateway**

  The Gateway District is a key area for future employment growth that includes UBC Okanagan, the Kelowna International Airport, and surrounding lands. The number of trips in and out of the Gateway is expected to grow 65 per cent by 2040. Aside from trips to and from the UBC Okanagan campus, shifting trips away from driving will be challenging.

  UBC Okanagan, the Kelowna International Airport, the Ministry of Transportation and Infrastructure and the City of Kelowna recently partnered to complete the Okanagan Gateway Transportation Study. The study included a series of phased recommendations to support long-term growth and mobility in the Gateway area.

  Several recommendations from the Okanagan Gateway Transportation Study have been incorporated into this plan. These include the completion of Hollywood Road from McCurdy Road to John Hindle Drive and the first phase of extending Rutland Road from Old Vernon Road north to the airport. This extension will ultimately connect to an extension of John Hindle Drive using the existing highway overpass, in effect, creating an interchange at John Hindle.

  These new connections will add redundancy to the road network in the Gateway area and take pressure off Highway 97. They will also delay the need for an expensive interchange at Airport Way. As the Okanagan Gateway Transportation Study recommendations carry significant costs and benefit jurisdictions beyond the City, partnerships and senior government funding will be needed to complete all the recommendations in the Study.

- **Southwest Mission**

  The Southwest Mission is an existing residential area that will experience some additional growth as it is completed in alignment with the 2040 OCP Growth Strategy. As the areas has minimal

employment, residents work elsewhere. Due to long distances and steep terrain, the area is car-dependent and residents have few options to avoid traffic congestion.

To help improve the flow of vehicles, we are making significant investments to strengthen a third north-south corridor along South Perimeter Road. This includes downstream improvements along Stewart Road, at the Casorso roundabouts and along Benvoulin Road. These projects will help take pressure off Lakeshore Road and Gordon Drive and will help maximize the corridor's efficiency, while minimizing impacts to agricultural lands and sensitive ecosystems. In addition to this, the TMP includes the completion of Frost Road (between Killdeer Road and Chute Lake Road).

While these investments will help, the reality is the Southwest Mission will continue to experience traffic congestion, as the driving demand from the area exceeds what is feasible to provide in terms of roadway supply. Seeking to eliminate congestion would require cost-prohibitive road expansions that would negatively impact existing downstream neighbourhoods and encourage even more driving and emissions. In addition to the investments proposed, it will be important to encourage residents to work from home, share rides, or drive during off-peak times to help manage growing peak-hour traffic congestion in this area. On-demand transit, ride-hailing, and e-bikes may also help provide additional travel options. The multi-use pathway on Lakeshore is also recommended for extension further south into the area, as described further in the Biking Section.

- **Clement Avenue extension**

  The Clement Avenue Extension was previously called the Central Okanagan Bypass, or Multi-Modal Corridor, and was part of a long-term freeway replacement plan for Highway 97. Extending Clement Avenue from Spall to Highway 33 would help take pressure off Enterprise, Highway 97 and Springfield.

  In alignment with the Regional Transportation Plan, this project would extend Clement Avenue from Spall Road to Highway 33, with connections at Dilworth Drive and Highway 33. This project is recommended for consideration in conjunction with the dedicated transit lanes project along Harvey Avenue.

  No longer envisioned as a freeway, this project includes a two-lane, at grade arterial road initially developed to Highway 33 with the long-term vision to extend the road to McCurdy Road. The Okanagan Rail Trail would run adjacent to the new road, though realignment may be necessary along many segments.

  Further study, in partnership with the Ministry of Transportation and Infrastructure, is recommended prior to implementation.

- **Glenmore Road**

  Glenmore Road will continue to play an important role in our transportation network as the alternative north-south corridor to Highway 97 that provides access to UBC Okanagan and Lake Country.

  The TMP recommends widening Glenmore Road to four lanes and adding a multi-use pathway between Union Road and John Hindle Drive, as well as improvements at the intersection at John Hindle Drive.

  North of John Hindle Drive, safety improvements are recommended along Glenmore Road to the border with Lake Country. This would mean straightening corners, creating wider and consistent shoulders, and intersection improvements.

- **Sutherland Avenue**
  As identified in the Capri-Landmark Urban Centre Plan, the Sutherland Avenue extension will be a two-lane complete street from Burtch Road to Spall Road. The project will add an east-west connection through the Landmark area which will help build a more connected street network and take pressure off Harvey Avenue and Springfield Road. The project will also provide wide sidewalks, protected bike lanes, and better transit access for people living and working in the Capri-Landmark Urban Centre. As Midtown evolves, the extension of Sutherland Avenue beyond Spall Road will be explored.

- **Rutland Road**
  Rutland Road is one of the busiest parts of our transit network and an important part of the Rutland Urban Centre. The TMP recommends updating Rutland Road from Highway 33 to Leathead to better support the Urban Centre with improved facilities for people walking, biking, taking transit, and driving.

- **Major intersections**
  In urban areas, intersections play a critical role in determining a road's capacity. Intersections are also where most serious collisions happen. The TMP recommends annual funding for capacity and safety improvements to major intersections throughout Kelowna. The funds would pay for traffic signals, roundabouts, turning lanes and other key safety and capacity improvements at major intersections.

Recommendations to develop a Transportation Safety Strategy to reduce injuries and fatalities, as well as a Goods Movement Strategy are described in the Education, programs and emerging technologies section.

Policies related to major roads can be found in the Policy Framework chapter.

Biking

Bicycling is an affordable, healthy and sustainable way to keep Kelowna moving and help people get around without a car. For trips under five kilometres, bicycling can also offer travel times that are competitive with driving.

The TMP aims to quadruple the number of trips made by bicycle by 2040. The key to making biking an attractive option is building a network of comfortable routes protected from traffic. This is an important strategy for accommodating growth in our Urban Centres and Core Area.

Highlights of the recommended bicycling projects are summarized below. Maps, a complete project list, and descriptions are provided in Appendix A.

- **Midtown and Rutland**
  The creation of a comfortable bike route between the Okanagan Rail Trail and Mission Creek Greenway is a high priority. Dilworth Drive, Cooper Road, and Leckie Road have all been considered in the past. We are investigating the potential of all three to see which one can be delivered first. Currently, the City is exploring the Leckie connection in conjunction with nearby development.

  A lack of comfortable routes currently limits the potential for biking in Rutland. However, a route between Rutland and the Okanagan Rail Trail at Leathead Road will be built in 2022. This new route will tie into the existing Houghton pathway, which will continue to Rutland Road and the neighbourhood beyond. Hollywood Road will be the main north-south bike route in Rutland, going from Mission Creek to the Rail Trail near Sexsmith Road. Rutland has many opportunities for new neighbourhood bikeways.

- **Downtown and Capri-Landmark**
  This part of town is where biking is most popular and has the greatest potential to grow. As more people and jobs are attracted to these areas, making biking the most convenient option for short trips will be critical to keeping people and goods moving.

  As we continue to build our growing network of pathways, the TMP recommends an active transportation corridor (ATC) on Lawrence Avenue to connect the waterfront to the Ethel ATC, as well as continuing to extend the Sutherland Avenue ATC east to Capri-Landmark.

The northeast part of Downtown is expected to grow significantly in the coming years as UBC Okanagan's downtown campus develops. The TMP recommends a protected bicycle route along Bertram Street to tie into the new Central Green overpass across Harvey Avenue and provide a continuous north-south route through Downtown connecting to the Cawston Avenue ATC. The TMP also recommends extending the Ethel ATC north from Cawston Avenue to connect to the Okanagan Rail Trail.

- **Pandosy and The Mission**

  Abbott Street is an important north-south bicycle route that links many of Kelowna's most popular lakefront parks. A quick-build project using low-cost and interim materials to extend the pathway from Kelowna General Hospital (KGH) to Gyro Beach is planned for 2022. The TMP recommends making the section from KGH to the Pandosy Urban Centre, near Cedar Avenue, permanent by 2040. The final section from Cedar Avenue to Gyro Beach would be completed after 2040. Additionally, a new east-west protected bicycle route will be constructed through the Pandosy Urban Centre near Raymer Avenue to connect the Abbott Street and Ethel Street ATCs.

  The TMP includes extending the Ethel Street bike route south, past Okanagan College, along Casorso Road to the lakefront at Barrera Road. Along Lakeshore Road, it is recommended to connect the short gap in the pathway in front of Rotary Beach Park. South of Mission Creek, the TMP includes filling the gap in the Lakeshore Road multi-use pathway from Lexington Road to DeHart Road. This will result in a continuous multi-use pathway on Lakeshore south to Vintage Terrace.

- **Glenmore and Gateway**

  To make it easier to get to the Gateway area, a multi-use pathway will be included in the four-laning of Glenmore Road from Union Road to John Hindle Drive. This will fill a crucial gap for people biking to UBC Okanagan from Glenmore.

  The TMP also recommends exploring lower-cost connections to fill the gaps within the existing multi-use pathway network in the Glenmore Valley to create a continuous all ages and abilities bicycling route from just north of Kane Road to the Okanagan Rail Trail.

  Lighting and improved snow removal is recommended for the Okanagan Rail Trail to make it more attractive for a longer part of the year. A multi-use pathway connecting UBC Okanagan to Quail Ridge is also recommended to help reduce short-vehicle trips to campus.

Recommended actions related to bicycle education, programs, wayfinding and safe routes to school can be found in the education, programs and emerging technologies section.

Bicycle-related policies can be found in the Policy Framework chapter.

Neighbourhood streets

A cornerstone of the 2040 OCP is creating walkable neighborhoods in our Urban Centres and Core Area. The TMP recognizes that safe, walkable neighbourhood streets are critical to keeping Kelowna moving. The plan recommends expanding our sidewalk network, controlling speeding, and investing in safe places for people to cross the street.

Highlights of the recommendations are summarized below. A complete project list, and descriptions are provided in Appendix A.

- **More walkable neighbourhoods**

  The Pedestrian and Bicycle Master Plan identified gaps along collector and arterial roads where sidewalks are missing and flagged them as priorities. Filling these gaps is a long-term project. However, at current funding levels, these gaps will take many decades to be filled. To get us back on track, the TMP proposes doubling the funding for the Sidewalk Expansion Program.

  Controlling speeding makes local streets more livable and safer for all users. Every year the City receives hundreds of requests from residents who want traffic calming measures installed in their neighbourhoods. The TMP proposes roughly twice the funding for the Neighbourhood Traffic Calming Program. This program funds speed humps, traffic circles, curb extensions and other measures to help control speeding.

- **Safer crossings**

  A critical component of making Kelowna more walkable is adding safe places to cross busy roads. The TMP proposes roughly two and half times the funding for safer crossings. Increased funding will help install or reconfigure crosswalks, flashing beacons, or traffic signals where warranted. Crosswalks near schools, parks, and bus stops will be prioritized.

- **Local Street Urbanization Program**

  The Sidewalk Expansion Program mentioned above only covers collectors and arterials. For local streets, the City currently collects a deposit from developers for future improvements in front of their properties. However, it can take a long time to collect enough money to update an entire street, even on blocks with significant redevelopment. Updating local streets with sidewalks, boulevards, and trees one property at a time as they are redeveloped is ineffective and often leaves gaps.

The TMP recommends creating a new Local Street Urbanization Program to pool contributions from development, local residents and the City to build complete local urban streets, including sidewalks, more quickly.

Recommendations related to education, encouragement, open streets, and safe routes to school can be found in the Education, programs and emerging technologies section.

Policies related to neighborhood streets can be found in the Policy Framework chapter.

Education, programs and emerging technologies

Education and incentive programs are important investments that can help people learn how to use and enjoy new ways of getting around. Not all investments in transportation involve building new infrastructure. Emerging technologies such as ride-hailing, carshare, e-bikes and e-scooters can make it easier to get around without owning a car. Even small investments can have a big influence on people's travel choices and congestion.

Highlights of the education, programs, and emerging technology recommendations are summarized below. A complete project list, and descriptions are in Appendix A.

- **Reducing barriers to travel**

  The 2040 TMP recommends creating education, training, and incentive programs to help support people learning to bike and take transit.

  Funding for a Transit Travel Training program will help older adults and young people better navigate the transit system as new riders (expanding on the pilot program currently underway). To make it easier and more affordable to take transit, the 2040 TMP recommends expanding the transit pass program for post-secondary students, major employers, and low-income residents.

  The 2040 TMP also recommends expanding the Safe Routes to School Program and increasing safe bicycle skills training for Kelowna elementary students through the Bike Rodeo program. Training would not stop with children. Riding a bicycle in a city can be intimidating for adults who may not know the rules of the road. This is why the 2040 TMP also recommends bicycle skills training for adults.

  Learning to navigate Kelowna by bike or transit is not the only barrier people face. The 2040 TMP recommends the development of an Accessibility Transition Plan to help better understand and address the challenges faced by people with disabilities when navigating the transportation network.

  With our rapidly expanding bicycle network it will be important to keep our wayfinding signage and bicycle maps up to date, both digitally and in print. The 2040 TMP recommends funding these items to ensure both residents and visitors can find the best routes for their trips.

  As we build out our transportation network, it will be important to ensure people know how to use the new travel options available to them. The 2040 TMP recommends an individualized trip planning program to help residents and employees in different parts of the city try new ways of getting around.

- **Reducing peak hour travel demand**
  One of the most cost-effective ways to manage traffic congestion is to reduce the number of people traveling to work or school during the morning and afternoon rush hours. The estimated value of the time and emissions savings for the average Kelowna resident who works remotely is $25 a day.

  Employer Commute Trip Reduction programs work with employers to help identify incentives and options to help reduce the number of employees driving alone during peak travel times. The 2040 TMP includes funds to develop and test a pilot Employer Commute Trip Reduction Program tailored to our community.

- **Safer and more efficient road network**
  To reduce the number of injuries and fatalities on our transportation network and ensure everyone can get to their destination safely, the 2040 TMP recommends the development of a comprehensive Transportation Safety Strategy. This will help protect vulnerable road users, such as people walking and biking, and save lives across all modes.

  To help prepare for increased demand on curb space from ride-hailing, deliveries, and shared mobility, the 2040 TMP recommends the development of a Curb Space Management Strategy.

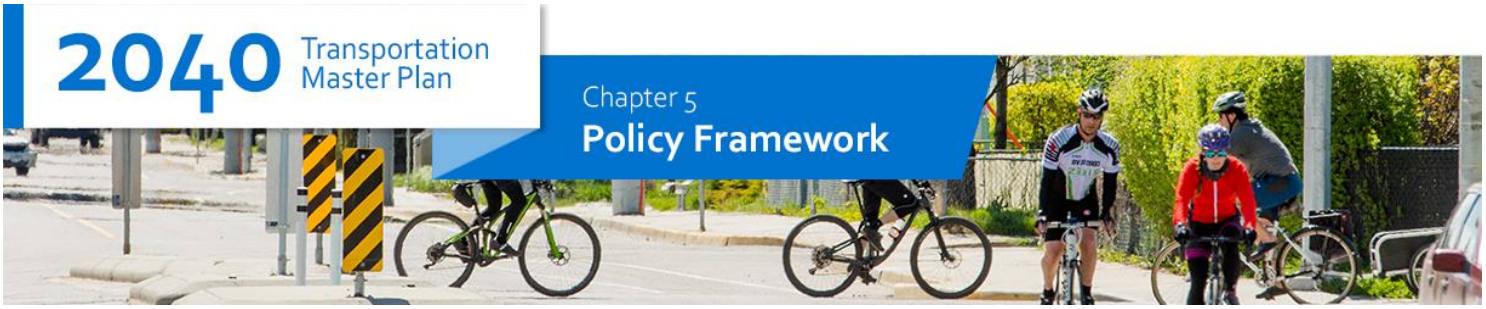
  To help goods move efficiently and foster a growing economy, the 2040 TMP recommends the development of a Regional Goods Movement Strategy. This was also a recommendation in the Regional Transportation Plan and is currently underway.

- **Leveraging emerging technologies to get around**
  The TMP recognizes that emerging technologies are creating new ways for people to get around. Often these emerging modes are "shared" which means they can be rented for a single trip with a smartphone. Emerging technologies such as ride-hailing, carshare, e-bikeshare and e-scooter-share will be important parts of how people get around in the future. The TMP recommends leveraging the benefits of emerging technologies and includes a program to help deliver these options successfully.

- **Quick build and Open Street pilot projects**
  Quick build infrastructure allows us to respond more quickly to community needs and try out new ways to make streets safer, livelier, and more inviting to people walking and biking. It means we can involve residents in testing out options and improving designs before making major capital investments.

  The temporary closure of Bernard Avenue started as a response to the pandemic and enable outdoor dining. Opening the street to people has proven to be popular with residents, businesses, and visitors. The TMP recommends establishing an annual budget for Open Street projects to pilot outdoor dining, festivals, and social events on other streets to test effectiveness.

Policies related to education, programs, and emerging technologies can be found in the Policy Framework chapter.



The 2040 Transportation Master Plan (TMP) is intended to guide our actions over the next twenty years. It is a comprehensive system-level plan, but there are still many details to fill in. When faced with trade-offs, these policies can help guide decision-making.

Land use policies

The layout of a city has a significant impact on travel behaviour. Where people live and where they need to go strongly influences the options they have to get there. The 2040 Official Community Plan (OCP) sets out ways for the city to grow that reduce our dependence on driving. This section describes how our transportation system can support this shift.

Growing in Urban Centres

Focusing growth in Urban Centres is the best way to address the infrastructure deficit, mitigate increasing congestion, and reduce emissions. It also presents a challenge. With more activity happening in the same space, streets in Urban Centres will have to 'do more' for these areas to function well.

The 2040 OCP outlines five Urban Centres: Downtown, Pandosy, Capri Landmark, Midtown, and Rutland. The policies below illustrate how transportation can help ensure these areas thrive.

- **Develop a well-connected grid network of streets to shorten walking distances and improve traffic circulation (*OCP Objective 4.16*)**

  To maximize the **people-moving capacity** within our Urban Centres, it will be necessary to re-think our streets. Developing a well-connected grid of streets will make it easier for people to bike, walk and take transit, take pressure off major arterials, and provide more access and public space for businesses (e.g., parking, deliveries, patios).

  TMP Policy 1.1 *– As development occurs in Urban Centres, fill in the grid with new streets, laneways and public pathways.*

  TMP Policy 1.2 – *Design the street network to consider the needs of people of all ages and abilities, including people with disabilities.*

  Intersections can cause delays for all travel modes using the street network. In Urban Centres this can have the greatest impact on people walking and biking. Recognizing the importance of making

walking and biking comfortable and convenient to accommodate growth in our Urban Centres, traffic signal operation should be optimized to prioritize these modes.

TMP Policy 1.3 *– Prioritize the movement of people walking and biking at traffic signals in Urban Centres.*

- **Create urban streets that are attractive to live, work and shop on** ***(OCP Objective 4.17)***

  In addition to moving people, streets in Urban Centres need to be comfortable places to live, work and shop. Urban Centres are busy places with lots of competing demands for street space for activities ranging from driving and parking, to walking, biking, or sitting at patios.

  The 2040 OCP introduces the concept of 'street character' that identifies the desired ground floor use (e.g., retail or residential) of buildings in Urban Centres. The design of the street itself will also be important and will need to consider many factors. For example, wider sidewalks and on-street parking are critical on retail streets, though sometimes restaurants can repurpose on-street parking as seating areas. High streets, such as Bernard Avenue, are the focal points of Urban Centres and each one will require careful consideration of their unique context.

  TMP Policy 1.4 – *Consider the character and ground floor uses when making changes to streets in Urban Centres, as outlined in OCP Maps 4.2, 4.4, 4.6, 4.8, and 4.10.*

  TMP Policy 1.5 – *Consider adding parking to multi-lane arterials during off-peak hours to increase parking availability and control speeding.*

- **Adapt and respond to emerging technologies and shifting demand for parking** ***(OCP Objectives 4.19 and 4.20)***

  As Urban Centres grow, the competition for space along the curb will increase. Sometimes, the most valuable use for curb space may be something other than parking cars. For example, during warmer months on-street parking can be converted to patios and seating areas which support businesses and add life to the street. Alternatively, parking for bikes, shared vehicles, or ride-hailing drop-off zones may provide improved access to local businesses.

  TMP Policy 1.6 – *Manage increasing competition for curb space in our Urban Centres by seeking to optimize the highest and best use of this public space.*

  On-street parking is often full in some places and relatively empty in others. Rather than charging a blanket rate, new technologies are making it easier to adapt pricing dynamically by location and time of day to meet demand.

  TMP Policy 1.7 *– Consider varying parking prices by time, location, and season to achieve desired turnover and good availability of parking (typically one free space per block).*

Creating walkable neighbourhoods in the Core Area

The Core Area generally refers to the flat part of the valley and neighbourhoods near our Urban Centres. The OCP anticipates about one-quarter of new housing will be in this area. Along Transit Supportive Corridors such as Glenmore Drive or Rutland Road, this may take the form of low-rise apartments. The rest of the Core Area will gradually fill in with secondary suites, carriage homes, four-plexes and row housing.

These neighbourhoods offer housing options that fall between apartment living and single detached homes. Destinations are within walking or biking distance, and high-quality transit links them to Urban Centres.

The streets in the Core Area are some of the oldest in Kelowna. These neighbourhoods have good bones, but we can take actions to prepare them for the next century.

- **Create neighbourhood streets that are safe and comfortable for people to walk, bike and play on *(OCP Objective 5.16)***

  Many streets in the Core Area have gravel shoulders instead of gutters for drainage, and no sidewalk. While these streets may have worked in the past, they will face challenges as neighbourhoods fill in and do not fulfill our current objectives. Core Area streets should be urbanized to include sidewalks and street trees. Street trees provide valuable shade reducing the need to water and air condition homes in the summer. They also improve the experience for people walking and biking and provide natural traffic calming.

  TMP Policy 1.8 – *Update Core Area streets with sidewalks, drainage, boulevards, and trees as neighbourhoods fill in. Explore implementation strategies and fair ways to share costs between developers, existing residents, and the City.*

- **Create major streets that are walkable, support local retail and connect neighbourhoods to Urban Centres by car, bike and transit *(OCP Objective 5.15)***

  In addition to needing neighbourhood streets that are better to walk on, Core Area residents will need safe places to cross busier streets to reach their destinations. Many major streets in the Core Area will also be Transit Supportive Corridors. People need to be able to safely walk along Transit Supportive Corridors and cross the street near bus stops for transit to work.

  TMP Policy 1.9 – *Ensure major streets in the Core Area include convenient and safe crossings for people walking, including near transit stops.*

  TMP Policy 1.10 – *Provide wider sidewalks with street trees along Transit Supportive Corridors in the Core Area to ensure they are attractive places to walk.*

  Highway 97 and Highway 33 are major streets in the Core Area that are under provincial jurisdiction. These two highways are the busiest corridors in the city and critical for the movement of goods. However, they can be challenging to cross on foot, by bike, or even by car. More than half of the trips made by Kelowna residents need to cross Highway 97 at some point.

  TMP Policy 1.11 – *Work with the Ministry of Transportation and Infrastructure to improve access across provincial highways for all modes.*

Support economic growth in the Gateway

The Gateway is a key regional employment centre. Institutions such as UBC Okanagan and Kelowna International Airport drive innovation and economic growth. Roughly one in five new jobs will be located here over the next 20 years. The number of students at UBC Okanagan could increase by 50 per cent.

- **Maintain access to goods movement and reduce dependence on the automobile where possible *(OCP Objective 6.11)***

  UBC Okanagan is a major regional employer and destination for students. Transit is currently well used for travel to and from campus, while walking is common from nearby neighbourhoods. Improved connections and transit service between campus and neighbourhoods where students and faculty live should be pursued. Extension of transit service from UBC Okanagan could improve access to Kelowna International Airport.

  Beyond the UBC Okanagan campus and surrounding area, the potential for transit in the Gateway is limited. It is challenging to provide lower-density industrial areas with transit service that can compete with driving.

  TMP Policy 1.12 – *Support the growth of UBC Okanagan by increasing transit service to the campus and nearby areas.*

  TMP Policy 1.13 *- Work with BC Transit to find cost-effective ways to provide transit to the airport and industrial areas of the Gateway.*

  TMP Policy 1.14 *– Improve active transportation connections within the Gateway and connect to the Okanagan Rail Trail and John Hindle Drive multi-use pathway.*

- **Develop a well-connected street network to facilitate travel by alternate modes and reduce reliance on Highway 97 *(OCP Objective 6.12)***

  Growth in the Gateway will lead to new jobs in aviation, manufacturing and other industries that are not suited for Urban Centres. Being near the edge of the city, most trips here will happen by private vehicle. These trips will increase traffic within the Gateway and through other parts of the city. Given the growth expected in the Gateway and limitations for walking, biking, and transit, we will need to find pragmatic ways to increase vehicle capacity. Significant investments in road infrastructure will be necessary to keep this area functioning well.

  TMP Policy 1.15 *– Support goods movement in the Gateway by working with the provincial government to find pragmatic ways to increase vehicle capacity and reduce reliance on Highway 97 in the Gateway.*

  TMP Policy 1.16 *– Develop partnerships to fund the recommendations in the Okanagan Gateway Transportation Study.*

  TMP Policy 1.17 *– Seek to balance the benefits of economic growth in the Gateway with the costs of new infrastructure required to support it.*

Completing planned Suburban Neighbourhoods

For the first time, the 2040 OCP does not signal new land for outward expansion beyond neighbourhoods that are already approved. This does not mean suburban growth will stop. Approximately one-quarter of new homes will be in suburban neighbourhoods.

Many suburban neighbourhoods, such as Wilden, The Ponds, or Black Mountain, have significant amounts of approved growth remaining. Older neighbourhoods will gradually fill in through lot splits, secondary suites, and carriage houses.

Most housing in suburban neighbourhoods is in the form of detached dwellings. Historically these kinds of houses have been called 'single-family dwellings' but roughly one-third of new homes in Kelowna now contain a basement suite. Several suburban neighbourhoods include Village Centres, which will include small retail hubs for day-to-day services and some low-rise apartments.

We are trying to complete these neighbourhoods in a way that mitigates their impact on the environment, traffic congestion, and the City's financial health, while maintaining residents' quality of life.

- **Create neighbourhood streets that are comfortable and safe for people to walk and play on** *(**OCP Objective 7.9**)*

  As suburban neighbourhoods grow and new connections are made, neighbourhood streets can become much busier than what they were designed for. Building on steep slopes often leads to a branching network of streets that concentrates traffic on the one route in and out of a neighbourhood (which leads to traffic and evacuation route concerns). Residents in these areas are concerned with the speed and volume of traffic on their previously quiet streets. Unfortunately, steep slopes and frequent driveways often limit our ability to add traffic calming.

  ***TMP Policy 1.18** - Ensure new neighbourhood streets are designed to be safe and attractive places to live.*

  ***TMP Policy 1.19** - Consider the impacts of traffic from new subdivisions on existing neighbourhoods. This might involve being more proactive with traffic calming during subdivision applications, adopting new road standards, or considering emergency accesses rather than public streets, where feasible.*

  ***TMP Policy 1.20** – Improve walking and bicycling connections to schools, parks, and Village Centres in suburban neighbourhoods.*

- **Mitigate the impact of suburban development**

  The impact of suburban development extends well beyond the neighbourhoods downstream. Continued outward growth negatively affects the environment, traffic congestion, and the City's financial health.

  Traffic congestion: Suburban neighbourhoods offer few options for getting around besides driving. The average suburban household drives two to six times further each day than a household in the Core Area. This means suburban neighbourhoods have a disproportionate impact on congestion and emissions in Kelowna. Electric vehicles will help reduce greenhouse gas emissions from suburban neighbourhoods in the future, but it will take many years for gas and diesel vehicles to be phased out, and the challenge with traffic congestion will remain.

  Much of the traffic congestion in suburban neighbourhoods happens in places where many branches of neighbourhood streets converge, like streams joining to form a river. Traffic also tends to be highly concentrated at particular times of day, especially around school bell times in the morning. These delays are frustrating, but very challenging to solve. Expanding road infrastructure on the city edges

may allow people to 'get down the hill' faster but may not help people get to destinations in the Core Area more quickly. When contemplating widening roads, we also need to consider the quality of life for people in the neighbourhoods the extra traffic will pass through.

TMP Policy 1.21 - *Consider downstream impacts on traffic and nearby residents' quality of life when assessing expansions to vehicle capacity to serve suburban neighbourhoods.*

Maintenance Liability: Continued outward growth has a financial impact on the City. For example, while developers pay most of the costs to build roads in new subdivisions, the City is responsible for long-term maintenance and renewal. The challenge is that suburban neighbourhoods do not generate enough tax revenue to cover the maintenance (e.g., repaving, sweeping, and plowing) and eventual replacement of their infrastructure. This pattern has been documented across North America. It is one of the primary reasons we face an infrastructure deficit after decades of suburban growth. Neighbourhoods in the Core Area have a higher concentration of homes and businesses to share the costs of maintaining infrastructure.

TMP Policy 1.22 - *Recognize the long-term financial impacts of suburban development on the City's infrastructure deficit.*

TMP Policy 1.23 - *Prioritize infrastructure in the Core Area where more people benefit, and the tax base is better able to cover the long-term maintenance costs.*

- **Reduce dependence on the automobile where possible** ***(OCP Objective 7.8)***

  We will continue to look for ways to provide more transportation options for suburban neighbourhoods. Adding commercial uses in Village Centres will shorten some driving trips for shopping and errands. However, most residents will still commute outside their neighbourhoods. Nearly all these trips will happen by vehicle during the most congested times of day. Since switching to other modes of travel for commuting will be difficult, we need to reduce the impact of driving.

  TMP Policy 1.24 – *Support the development of Village Centres in suburban neighbourhoods.*

  TMP Policy 1.25 – *Focus on reducing peak hour vehicle travel from suburban neighbourhoods through policies and programs that encourage people to work from home, share rides, or drive at other times.*

  Many of the transportation challenges in suburban neighbourhoods are related to schools and the spikes of vehicle traffic during the morning drop-off and afternoon pick-up times.

  TMP Policy 1.26 – *Invest in programs that get more students in suburban neighbourhoods walking, biking, or taking the bus to school. Continue prioritizing safe walking and biking routes to schools.*

  TMP Policy 1.27 - *Encourage the School District to locate future schools in places that lessen the impact on nearby major roads.*

Functionality and safety in the Rural Lands

Over half of Kelowna's land is dedicated to agriculture and rural uses. Protecting agriculture is one of the ten pillars of the 2040 OCP. This means stopping urban sprawl from encroaching on rural areas and limiting the impact of traffic on farming.

- **Supporting agriculture in the Rural Lands**

  While we are focusing new growth in the Core Area, it may still be necessary to build a new roads or widen existing roads near agricultural lands to support suburban development. When this occurs, we will seek to balance trade-offs and minimize the impact on agricultural lands through thoughtful planning and design.

TMP Policy 1.28 - *Seek to balance trade-offs and minimize the impacts of roadway projects on agricultural lands through strategic planning and design.*

- **Improving road safety**

  Many rural roads have tight corners and intersections at irregular angles with poor sightlines. Sidewalks and bike lanes are rare in rural areas. These are not necessarily issues when roads are quiet but can quickly become challenges when roads become busier. With limited growth expected in the Rural Lands, most increases in traffic will be related to development in nearby suburban neighbourhoods.

  TMP Policy 1.29 - *Prioritize safety improvements and consistent shoulders on rural roads with higher traffic volumes.*

Maintenance and renewal policies

Before building new infrastructure, we need to make sure our existing infrastructure is well maintained. This includes repaving roads, fixing potholes, upgrading lighting, repairing sidewalks, landscaping, street sweeping, and snow clearing. Currently, a little over 35 per cent of transportation funding goes toward maintenance and renewal. The amount of funding needed will increase as our existing infrastructure ages.

- ### Closing the infrastructure deficit

  Many neighbourhoods in Kelowna were built 50 to 60 years ago. As a result, we will need to replace much of the infrastructure in them over the coming decades.

  TMP Policy 2.1 – *Prioritize renewal and enhancement of existing infrastructure over the construction of new infrastructure, where possible.*

  TMP Policy 2.2 – *Continue improving methods for estimating the maintenance and long-term renewal costs of infrastructure.*

  TMP Policy 2.3 – *Establish service level targets and a prioritization process for maintaining and renewing our existing infrastructure based on usage and desired levels of quality.*

  Increased funding and improved renewal forecasting needs are not the only ways to address the infrastructure deficit. We can avoid making the deficit bigger by better matching the amount of infrastructure in a neighbourhood with its financial capacity to maintain it.

  TMP Policy 2.4 *– Consider the financial capacity of neighbourhoods to support the long-term costs of infrastructure in planning decisions.*

- ### Coordinate renewal with other projects

  Renewal of City assets can sometimes be deferred or accelerated to line up with another City capital project or utility upgrade, or with a development's utility upgrades. Coordinating renewal in this way prevents duplication of work and increases value for public investment.

  TMP Policy 2.5 – *Coordinate infrastructure renewal projects with other construction activities (City, development and utility-led) where applicable.*

- **Better winter maintenance**
  With its relatively mild and dry winters, Kelowna has one of the best year-round climates in Canada for walking and biking. Keeping pathways clear will help people get around safely, particularly seniors and people with disabilities. Bike lanes are currently used to store snow in the winter, making year-round riding challenging.

  TMP Policy 2.6 – *Improve winter maintenance of sidewalks, bicycle lanes and pathways, prioritizing the most popular routes, to help extend the riding season.*

Transit policies

Growing around transit corridors is one of the key pillars of the 2040 OCP. Transit has the highest people-moving capacity of all modes of travel. It is also often the only alternative to driving for long-distance trips.

- **Moving toward higher capacity transit on Harvey Avenue**
  Many residents have asked about the potential for a higher capacity transit system in Kelowna. While a Skytrain or LRT is still many decades away, we can start laying the groundwork today.

  The Regional Transportation Plan examined this issue and identified Harvey Avenue as the corridor with the best potential for supporting higher capacity transit. The plan recommends that the province further analyze and consider dedicated transit lanes on Harvey Avenue.

  In the meantime, we can work to support higher capacity transit on Harvey Avenue by directing new homes and employment density along the corridor, while enhancing the existing bus service.

  The former CN Rail corridor has been suggested as an alternative for higher capacity transit. While using this existing right-of-way may seem like a cost-effective option, the old rail line is far from most destinations and would not provide immediate access to our Urban Centres, where the highest densities of employment and residential development are directed. In addition, it would be hard to add new residents and jobs to the corridor, and there would be significant impacts to the existing Okanagan Rail Trail.

  TMP Policy 3.1 *- Work towards higher capacity transit on Harvey Avenue by building up existing bus service, directing new residents and jobs near stops, and collaborating with the Ministry of Transportation and Infrastructure. (see related TMP Policy 6.1)*

- **Support growth along Transit Supportive Corridors**

  A key component of the 2040 OCP is to grow along Transit Supportive Corridors (shown in OCP Map 3.1 and illustrated below). These are corridors of low-rise apartments, with some commercial and mixed-use buildings, that will link Urban Centres and Village Centres. Adding new housing and employment 'on the way' between major destinations is a great way to support growth and build transit ridership.

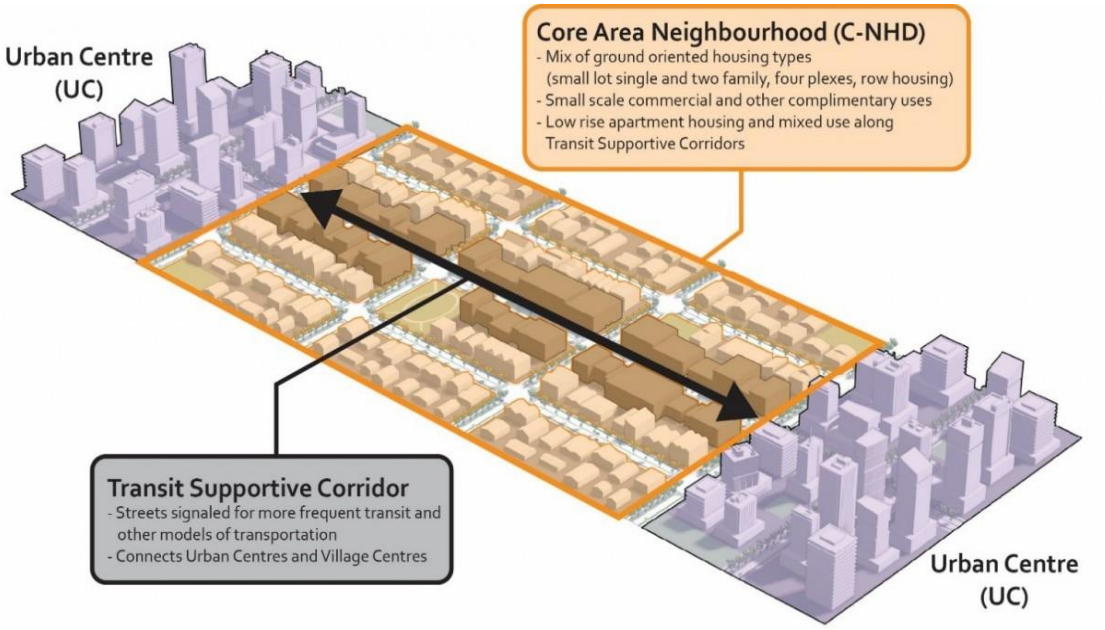
  Improving transit service will help increase the people-moving capacity of our Transit Supportive Corridors. More frequent service also means the bus is more likely to arrive when people need it.

  Since most trips by transit begin on foot, walking along Transit Supportive Corridors needs to be comfortable. In addition, bus stops need to be clean, attractive, safe, and accessible. This may require additional width on the street. Safe places to cross the street are also critical for people to reach bus stops.

  Without strong investment in transit service along Transit Supportive Corridors, Kelowna will not be able to grow without gridlock.

  TMP Policy 3.2 – *Focus increases in transit service along Transit Supportive Corridors to support growth and build transit ridership.*

  TMP Policy 3.3 – *Prioritize bus shelters and amenities along Transit Supportive Corridors that are clean, attractive, safe, and accessible for people with disabilities.*



- **Increase the speed and reliability of transit service**

  Kelowna's streets will be busier in the future. Increased traffic congestion poses a significant challenge for funding transit. A single minute of delay can increase costs by tens of thousands of dollars over the course of a year.

Finding ways to separate buses from congestion can make transit faster, more reliable and reduce the cost of providing service. Transit priority measures can help and can include things like changing the timing of signals, transit 'queue jump' lanes at busy intersections, or dedicated transit lanes.

TMP Policy 3.4 – *Apply transit priority measures along Transit Supportive Corridors, where appropriate.*

TMP Policy 3.5 – *Review bus stop locations to look for opportunities to combine or remove stops that are too close together.*

TMP Policy 3.6 – *Review existing and requested deviations from routes to ensure that the benefits – in terms of increased ridership and shorter walking distances – outweigh the added time for other riders.*

- **Modernize the transit fleet**

Diesel buses produce significant amounts of air pollution and greenhouse gas emissions. A diesel bus is less sustainable than a pickup truck when carrying fewer than five people. Moving to electric buses will reduce emissions, save costs, and offer a smoother and quieter ride.

TMP Policy 3.7 – *Support BC Transit's efforts to electrify the transit fleet by 2040.*

As ridership grows, using higher capacity buses (articulated or double-deckers) will be necessary to avoid leaving people behind because buses are full.

TMP Policy 3.8 – *Design new bus stops, exchanges, intersections, and other transit facilities to accommodate high-capacity buses.*

- **Balancing ridership and coverage**

Transit service must balance two competing objectives: increasing ridership and expanding service coverage. On the one hand, trying to maximize ridership means focusing service on the busiest routes. On the other hand, covering a wide area means spreading service thin. Approximately 80 per cent of current service is on routes in the Core Area. The remainder goes toward coverage services that provide access for residents without other means of transportation.

TMP Policy 3.9 *– Focus the bulk of new transit service investment on routes that offer the highest returns in terms of ridership, emissions, and congestion reduction.*

- **Improving transit coverage**

Not all transit service is designed to attract high ridership. Some routes are primarily intended to provide 'coverage', or access for people without other options to get around. Public transit is an essential service that people depend on.

Most coverage routes are in suburban neighbourhoods. The many branching streets in these neighbourhoods make it difficult to bring buses close to peoples' front door while keeping routes fast and direct. These lower ridership routes require larger subsidies since fewer fares are collected. As a result, we can often provide four or five hours of bus service to the Core Area for the same net cost as one hour in the suburbs.

One relatively unique aspect of Kelowna is that most low-income, older, or mobility-challenged residents live in the Core Area. Thus, while expanding transit coverage is important, focusing transit service in the Core Area will help support those who need it most. Focusing on the Core Area will also maximize the environmental benefits of transit.

TMP Policy 3.10 - *Provide access to a base level of transit service (every 30 minutes during peak travel periods) in areas with densities that meet performance standards to ensure the financial viability of service (based on the Transit Service Guidelines - Central Okanagan Region).*

- **On-demand transit to Suburban Neighbourhoods**

  On-demand transit is recommended in the Regional Transportation Plan and presents an opportunity to provide transit in areas where conventional fixed-route transit is not economically feasible, such as in low-density suburban and rural areas.

  Many places in North America are experimenting with on-demand transit. The Province is currently studying the potential for on-demand transit in Kelowna. On-demand transit could take many forms, but would most likely be like hailing transit through your phone in real-time with algorithms helping identify other potential riders en route to or from the nearest transit exchange. This would help bring transit to suburban residents in a more cost-effective way and would also be more convenient for riders.

  TMP Policy 3.11 – *Work with BC Transit to explore new ways of providing on-demand transit service in places where base level, fixed-route transit service is not viable.*

- **Making transit more accessible and affordable**

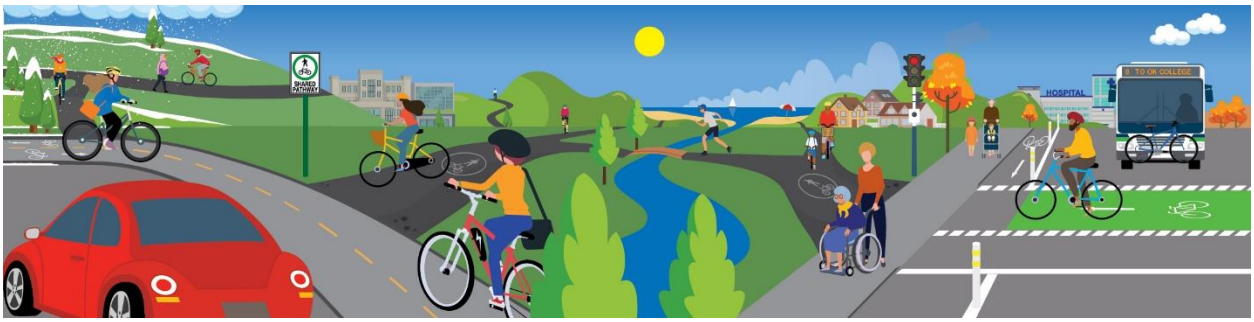
  People need to feel safe and comfortable accessing transit. Kelowna has roughly 600 bus stops. Just over half are fully accessible for people with disabilities.

  TMP Policy 3.12 – *Ensure transit stops and nearby streets are designed to consider the needs of people of all ages and abilities, including people with disabilities.*

  The cost of a transit pass can be a significant expense for people who depend on transit for transportation. The cost of transit should also be competitive with driving to help provide an incentive to use it.

  TMP Policy 3.13 *– Ensure the cost of a monthly transit pass is less than the cost of a monthly parking pass at city-owned lots in the Downtown.*

Biking policies



Kelowna is one of the most popular places for biking in Canada. Given the climate, relatively flat terrain, and the high number of short trips residents make, biking has strong potential to increase.

The Pedestrian & Bicycle Master Plan (PBMP) sets out a vision for a network of bike routes across the city. The 2040 TMP prioritizes actions to accelerate progress toward this vision over the next twenty years to make biking a convenient and enjoyable option for as many people as possible.

- **Accelerating progress on the bike network**

  While active transportation corridors such as Cawston Avenue or Abbott Street are successful, they can take a long time to design and construct. To move faster, the City is adopting designs that do not require rebuilding the whole street. For example, the new bike lanes on Sutherland are at street level instead of raised at sidewalk level.

  We will also be piloting "quick build" strategies using interim materials, such as concrete barriers or planter boxes, to deliver projects faster. Interim materials can be replaced with more permanent solutions in the future as funding becomes available. In the meantime, we can extend our network and make biking safer and convenient for more people.

  TMP Policy 4.1 – *Accelerate progress on the bike network by adapting designs and piloting quick-build infrastructure (in alignment with established design standards).*

  TMP Policy 4.2 – *Continue to build out the primary and supporting bike networks as envisioned by the PBMP and TMP.*

- **Exploring neighbourhood bikeways**

  Neighbourhood Bikeways are quiet streets with minimal vehicle traffic that are safe and comfortable for people biking and driving to share the road. A new type of facility for Kelowna, they are used in many communities around the world. They often use traffic calming measures to reduce speeds and cut-through traffic, giving priority to people bicycling. Crosswalk flashers or signals may be used at busy road crossings. Detailed design guidance and criteria are included in the BC Active Transportation Design Guide, which identifies neighborhood bikeways as safe for people of all ages and abilities. As a lower cost facility type, they can help Kelowna accelerate completion of the bicycle network.

  TMP Policy 4.3 – *Implement neighbourhood bikeways to build out the bike network more quickly.*

- **Extending the riding season**

  Biking is most attractive in the summer, making it a valuable relief valve when pressure on our road network is highest. While biking trips decrease in the colder months, people do continue to ride. During public engagement, we also heard that many more people would continue to ride if our bicycle network was better maintained during winter. We can support people riding for greater portions of the year through better lighting and better winter maintenance of our bicycle network.

  TMP Policy 4.4 – *Look for ways to extend the riding season by providing better lighting, enhanced winter maintenance, education on winter riding, and encouragement events.*

- **Sharing multi-use pathways**

  Some of our most popular active transportation facilities, such as the Waterfront Pathway and Okanagan Rail Trail are shared between a variety of users travelling at different speeds. With increased use there is more competition for space on multi-use pathways and more potential for conflict between people walking, biking, and using other active modes (e.g., skateboards, e-scooters, roller skates). New strategies will be needed to improve how these spaces operate.

  TMP Policy 4.5 – *Plan for separating people walking from faster users (e.g., people biking or riding e-scooters), in accordance with design guidance recommendations for busy multi-use pathways.*

  TMP Policy 4.6 – *Provide community education on how to share the path as volumes of people using the City's multi-use pathways increase.*

- **Addressing bicycle theft**

  The availability of safe bicycle parking and the risk of theft are factors that influence peoples' choice to travel by bike. Providing secure bike racks, educating people on how to properly lock their bikes, and enforcement measures (e.g. bait bikes) can help reduce bicycle theft.

  TMP Policy 4.7 – *Install both short and long-term bike parking where there is demand and provide education to residents on proper locking techniques.*

  TMP Policy 4.8 – *Work to understand trends related to bicycle theft in Kelowna and determine actions needed to reduce the occurrence of theft.*

Neighbourhood streets policies

Neighbourhood streets are local and collector streets that provide access to homes and businesses and connect neighbourhoods to the major road network. As neighbourhoods fill in with new housing, there will be more activity on neighbourhood streets including people walking, biking, driving and parking. It is important for these streets to safely accommodate these many needs.

- **Create neighbourhood streets that are comfortable and safe for people to walk**

  As neighbourhood streets get busier, controlling speeding will be critical to maintaining residents' quality of life. Most neighbourhood streets in older Canadian cities have a shared driving lane where people pull over and slow down to pass one another. These streets naturally control speeding and make neighbourhoods safer.

  Lowering speed limits and altering the design of neighbourhood streets can improve safety. These and other possible actions will be studied in the Transportation Safety Strategy (Project ID 26).

  TMP Policy 5.1 – *Explore ways to control speeding on neighbourhood streets. This may include curb extensions, shared travel lanes, traffic calming, or lowering speed limits.*

  Many neighbourhood streets lack sidewalks and traffic calming. Updating these streets will be a long-term effort. To accelerate progress in the short-term, we can consider cost effective and quick-build solutions, such as traffic calming curbs or asphalt sidewalks, where appropriate.

  TMP Policy 5.2 – *Consider cost effective solutions for filling sidewalk gaps and building curb extensions to control speeding and make walking safer on neighbourhood streets.*

  The safety and attractiveness of neighbourhood streets will be key to making them pleasant places where people want to live. Trees are a vital component of making a street greener. They provide natural traffic calming and shade during the hotter months (reducing the need to water and cool homes). Community art can also make a street more attractive and welcoming.

  TMP Policy 5.3 *– Ensure neighbourhoods streets are designed to include a tree boulevard where possible, and work with infill developments to have trees included as part of frontage improvements.*

  TMP Policy 5.4 *– Consider opportunities for placemaking on neighbourhood streets, for example with road murals or other community art initiatives. Ensure road paint is used to minimize environmental impact.*

- **Laneways**

  Many laneways in the Core Area are starting to function as neighbourhood streets with garages and entrances to carriage homes fronting laneways. The increased activity on these laneways may require future investments in drainage, pavement maintenance, lighting, or traffic calming.

  TMP Policy 5.5 – *Recognize the role of laneways as neighbourhood streets in areas where infill development is occurring. Monitor these laneways for potential retrofits and maintenance to accommodate the increase in people using them.*

Major roads policies

The road network is essential to goods movement and the economic prosperity of our City. Working to give residents more convenient options for getting around, in alignments with the TMP Vision, will help ***free up space*** on the road network to carry essential goods and trips that must be made by vehicle.

Over 2 million kilometres of travel happens on our roads each day. As Kelowna grows, traffic congestion threatens the movement of people and goods that are vital for our economy and quality of life. We know we cannot build our way out of congestion, so we must find ways to get the most out of our existing infrastructure. This means using our road space more efficiently, being strategic about new connections, maximizing the people-moving capacity of our streets and making them safer.

Streets also have value beyond moving people and goods. They support local businesses by providing attractive spaces to shop, work, or dine. Good street design can also make neighbourhoods more livable and more attractive places to visit.

- **Reimagining Harvey Avenue**

  Harvey Avenue is part of Highway 97, which is a provincial highway and serves as the transportation spine of the Okanagan. The corridor plays an important role in moving people and goods within Kelowna and connecting us to other parts of the province.

  Within Kelowna, Harvey Avenue functions as one of the city's 'main streets'. Balancing these two roles for Harvey – highway and main street – is challenging. A highway provides mobility for vehicles by limiting obstacles such as crossing traffic, driveways, turning vehicles, or people walking and biking. A main street provides access for people to nearby businesses and destinations.

To align with Clean BC and the BC Economic Framework, it will be important to manage congestion along Harvey Avenue in a way that helps reduce emissions. A key strategy is to shift commuting trips to other modes to free up space for goods movement and other trips that need to be made by vehicle.

The Regional Transportation Plan identified Harvey Ave as the corridor with the greatest potential for higher capacity transit due to the number of people and jobs along the corridor. Higher capacity transit will increase the people moving capacity of Harvey Avenue, and develop it into a more efficient, multi-modal transportation corridor. To be effective, Harvey Avenue also needs to incorporate the adjacent land use contexts along the corridor, incorporate strong bicycle and pedestrian connections to transit, and parallel facilities would be needed to help take local vehicle trips off the highway, where possible.

To realize this vision, the City will need to work collaboratively and in partnership with the Province to ensure Harvey Avenue can safely and efficiently move people and goods as the region grows.

TMP Policy 6.1 – *Work with the Province to strengthen Harvey Avenue as a multi-modal transportation corridor that can safely and efficiently move people and goods as the region grows. Seek to integrate Harvey into the surrounding transportation network, with strong bicycle and pedestrian connections to transit, as well as parallel roads to help take local vehicle trips off the highway. (See related TMP Policy 3.1)*

TMP Policy 6.2 – *Promote safety for all on Harvey Avenue by controlling vehicle speeds, protecting people outside of cars, and incorporating safe crossings.*

- **Using road space more efficiently**

Kelowna's geography makes it difficult to expand our roads. Steep hillsides, lakes, environmentally sensitive areas and protected agricultural lands limit where roads can go along the city's edges. There is little room to widen roads in the Core Area without buying land, tearing down homes, or disrupting local businesses. While the City is planning some new connections and road widenings, we need to find ways to make the most of our existing road space. This means maximizing the number of *people* that can move along a street, as opposed to the traditional focus on moving *vehicles*. A person walking, biking, or riding transit takes up much less space than a person driving.

TMP Policy 6.3 – *Invest in transit and the primary bike network to increase the number of people that can travel on the City's road network.*

TMP Policy 6.4 – *Invest in signal system optimization to reduce delay and associated emissions.*

TMP Policy 6.5 – *Time traffic signals to maximize the people-moving capacity of intersections, not just vehicles.*

Driveways can create conflict points posing challenges to safe and efficient operation of arterial roads. Limiting the number of driveways can help arterial roads operate more smoothly and safely.

TMP Policy 6.6 – *Look for ways to manage access on arterial roads such as combining driveways or providing access from laneways or side streets. Implement turn restrictions, when necessary.*

Roundabouts have safety and environmental benefits. In many cases, they are more time efficient and less expensive to maintain than traffic signals. However, they often require more land, which makes them challenging to add to existing streets.

TMP Policy 6.7 – *Consider roundabouts as the first option for intersections over adding new traffic signals.*

- **Safer streets**

  The estimated cost of traffic collisions in Kelowna ($600 million each year) is greater than the cost of traffic congestion ($330 million each year). The amount of driving in a community is highly correlated with the number of traffic-related injuries and deaths.

  The conventional approach to road safety has been to simplify streets. Making streets wider, straighter, and removing potential obstacles reduces the frequency of collisions. Unfortunately, these changes encourage people to drive faster, increasing the severity of collisions when they do happen.

  People will make mistakes while driving. However, the consequences of those mistakes should not be serious injuries or fatalities. Just three per cent of collisions involve a person walking or biking – but these account for over half the deaths on our streets. Seniors and people with disabilities are also at a much higher risk.

  Optimizing travel times is important, however allowing people to drive faster is not always worth the added risk of injury or death. Streets may move a little bit slower, but ensuring everyone gets where they need to go safely is the priority.

  TMP Policy 6.8 – *Reduce the number of injuries and deaths from collisions on Kelowna's streets.*

  TMP Policy 6.9 – *Promote safety for all by controlling speeding, protecting people outside of vehicles and shifting car trips to other modes, where feasible.*

  TMP Policy 6.10 – *Focus on safety when redesigning intersections, with a greater focus on people walking and riding bicycles.*

  TMP Policy 6.11 – *Accommodate people walking and bicycling in all new designs, and where possible with retrofit designs, by following applicable guidance such as the British Columbia Active Transportation Design Guide.*

  As congestion increases on our major roads, demand will exceed available capacity at key locations. This increase in demand can also exacerbate existing safety challenges.

  TMP Policy 6.12 – *Evaluate and prioritize safety improvements as part of new transportation capital projects. For major capital projects, complete independent road safety audits.*

  With most of our growth expected in the Core Area, construction activity will be commonplace in existing neighbourhoods. Construction activity will need to include safe and accessible accommodation for the increasing number of people walking and biking in these areas.

  TMP Policy 6.13 *– Ensure traffic control plans for construction on public property demonstrate accessibility and connectivity for people walking and biking through construction zones, as specified in the City's Traffic Management Guide.*

- **Think about roads as a system**

  We often focus on the "bottlenecks" or the places with the worst congestion, but we need to think about roads as a system. An analogy is to think about traffic like water flowing through a series of pipes. The narrowest point in the pipe will govern the flow of water. Widening the pipe at the narrowest point may allow more water to flow. It could also create a new bottleneck further along. For roads, these bottlenecks are often at intersections.

  The City has historically focused more on widening roads than intersections. The rising cost of acquiring land along corridors makes this approach challenging. Since intersections govern traffic flow in urban areas, revising intersections can be a more cost-effective way to increase vehicle capacity.

TMP Policy 6.14 – *Focus on intersections first when considering expanding vehicle capacity.*

However, we need to be thoughtful when expanding vehicle capacity. Trying to address one bottleneck may create a new one downstream that is more difficult or expensive to fix. As a result, we may be shifting traffic around rather than saving people time.

TMP Policy 6.15 – *Consider both upstream and downstream constraints when making changes to the road network.*

- **Filling in the street grid**

  A lack of connected streets makes it harder to move around. Drivers are forced to use arterial roads even if they are only going around the block. Parking and deliveries become more disruptive on busier arterials compared to quieter streets.

  TMP Policy 6.16 – *As development occurs in Urban Centres and the Core Area, look for opportunities to fill in the network with new streets, and laneways to improve connectivity for all modes.*

  TMP Policy 6.17 *– Establish parallel streets to reduce reliance on provincial highways.*

- **Improving reliability**

  The chance of running into traffic forces people to leave early to make sure they arrive at their destination on time. When travel delays are less predictable from one day to the next, the more 'buffer time' people need to add to their schedules. Making travel times more *predictable* can often save people more time than just reducing overall delays.

  TMP Policy 6.18 – *Consider travel time reliability in addition to average travel times when making changes to the road network.*

  TMP Policy 6.19 – *Explore ways to share the road network performance with motorists to help inform their travel decisions.*

- **Quick build infrastructure**

  Historically the City has tried to combine projects and rebuild entire streets at once as was done for the complete rebuild of Bernard Avenue. The 'whole street at a time' approach can be more efficient, but it often means we wait longer before acting. So, while we will continue looking for ways to combine projects, we will also find opportunities to make smaller changes more quickly.

  TMP Policy 6.20 - *Look for opportunities to make smaller changes to roads more quickly, using quick build materials to reduce costs where appropriate.*

- **Designing for shoulder seasons**

  Traffic volumes in Kelowna vary significantly throughout the year. For example, mornings are busiest in the winter. Midday and afternoon peaks are busier in the summer due to increased traffic from tourism and recreation. We typically design our road infrastructure for expected demand in the spring and fall to represent an average condition for the year.

  TMP Policy 6.21 – *Continue using the spring and fall shoulder season as the reference when designing traffic infrastructure.*

Education, programs and emerging technologies policies

Not all investments in transportation involve building and maintaining infrastructure. Many of the transformative changes coming over the next two decades will rely more on knowledge, understanding and on software rather than hard infrastructure. Our policy response to these changes will have a concrete impact on how people get around.

- ### Reduce the need for travel

  The pandemic demonstrated the possibilities and benefits of remote working, resulting in less travel during peak hours.

  TMP Policy 7.1 – *Encourage major employers to explore Travel Demand Management (TDM) strategies such as remote working for their employees.*

- ### Reduce vehicle idling

  Efforts to reduce the amount of driving can be complemented by working to reduce emissions from idling vehicles. Bylaws, education, and promotional campaigns can help people reduce unnecessary vehicle idling in support of climate and clean air objectives.

  TMP Policy 7.2 – *Recognize that vehicle idling creates noise, odour, and harmful emissions. Work to reduce vehicle idling in Kelowna in alignment with the Central Okanagan Clean Air Strategy.*

- ### Improve transit passes and payment

  There are opportunities to improve many elements of our transit system, from trip planning to payment options. Cashless fare payment is becoming more commonplace and can eliminate the hassle of paying with cash or purchasing passes from retailers. Other agencies are bundling transit fares with other modes of transportation, such as ride-hailing or shared mobility options (e.g., e-scooters). These actions can make transit easier to use and grow ridership for less investment than increasing transit service levels.

  Access to affordable transit passes can also help remove barriers to taking transit and incentivize ridership.

  TMP Policy 7.3 – *Support innovative fare payment policies and multi-modal fare integration.*

  TMP Policy 7.4 – *Work with major employers and post-secondary institutions to expand transit passes to their employees or students.*

- **Expand emerging technologies**

  Emerging technologies, such as ride-hailing, carshare, e-bikes, and e-scooters offer new ways for people to get around. These options can help support car-light living by providing a back-up option if you miss your bus or need a vehicle for a specific trip.

  TMP Policy 7.5 - *Continue to expand and refine the Micromobility Permit Program. Look for ways to offer more types of vehicles, cover more neighbourhoods and provide more equitable access to service.*

  New mobility technologies and services offer opportunities for a more equitable transportation system. They can also worsen existing divides. For example, most new shared services require a smartphone and a credit card, making it harder for people with lower-incomes or less access to technology to use them.

  TMP Policy 7.6 *– Structure shared mobility policies and programs to offer more equitable service for low-income or unbanked residents, people with limited access to technology, and people with disabilities.*

  Electric vehicles will help reduce tailpipe emissions and are a critical part of taking action on climate.

  TMP Policy 7.7 – *Support implementation of Kelowna's Community Electric Vehicle & E-Bike Strategy, including electrification of taxi, ride-hailing, carshare, and City-owned fleets.*

- **Safe routes to school**

  Around half of K-12 students are driven to school each day. This reduces children's activity and adds to emissions and traffic congestion.

  TMP Policy 7.8 – *Continue prioritizing locations near schools when considering new sidewalks, protected bicycle lanes, crosswalks, or traffic calming.*

  Transporting students by school bus eliminates a large number of vehicle trips. Instead of dozens of parents doing pick up and drop off at a school, these trips can be replaced by a few buses. School busing is a cost-effective way to reduce both traffic congestion and greenhouse gas emissions.

  Many of the requests to expand public transit into new neighbourhoods come from parents. In some cases, adding more school bus service would be more cost-effective and convenient for students than expanding public transit. Public transit could play a more significant role in getting older students to school.

  School districts are not obligated to provide busing, and the provincial government covers only a small portion of transportation costs. SD23 currently offers to bus students who live more than 3 kilometres (elementary) or 4km (middle/secondary) away from school. This leaves out many students who are also too far away to walk or bike. Lowering the distance threshold for busing students and considering other criteria such as steep grades or the need to cross major roads, could benefit many families, help reduce congestion, and support climate objectives.

  TMP Policy 7.9 – *Work with School District 23 to find ways to increase the number of students taking either school buses or public transit to school.*

- **Prepare for a driverless future**

  Many vehicles on the road in 2040 might be driverless. Many will likely belong to ride-hailing services, while others may belong to transport and delivery services.

  A driverless future offers many benefits. The prospect of on-demand, driverless mobility offers more convenient travel options and more independence for youth, the elderly, and people with disabilities. Connected vehicles could communicate with each other and use road space much more efficiently.

On-demand vehicles could free up lots of space currently used for parking, as only five per cent of the vehicles we own today are in use at any given time. Self-driving vehicles will also likely be electric, reducing their environmental impact.

However, many driverless vehicles on the road will be unoccupied. These 'zero-occupancy trips' where vehicles move between pick-ups, drop-offs and deliveries can pose a challenge. Currently, there is an upper limit on congestion: people must be willing to sit in traffic. This limit will not apply to driverless vehicles without any passengers. This could lead to increased traffic congestion as more people travel and empty vehicles circulate.

New mobile businesses and more deliveries could also dramatically increase the number of vehicles on the road in a driverless future. With more deliveries and passenger pick-ups and drop-offs, there will also be a greater demand for curb space.

It will be important to seek to optimize the benefits of driverless vehicles while minimizing these and any other negative impacts.

TMP Policy 7.10 – *Look for ways to use the efficiency gains from self-driving vehicles to reprioritize street space for people.*

TMP Policy 7.11 – *Ensure that self-driving vehicles do not increase risks for people walking and biking.*

TMP Policy 7.12 – *As self-driving vehicles become more common, look for ways to discourage zero-occupancy trips.*

TMP Policy 7.13 – *As more demands are placed on curb space, implement strategies to proactively manage and optimize the use of this resource.*

In some cases, such as the Micromobility Permit Program, the City is able to control how new services operate. In other cases, such as ride-hailing and driverless vehicles, senior governments will likely take the lead. It will be important to learn from other communities as new transportation services evolve.

TMP Policy 7.14 – *Prepare to adapt quickly to rapid technology change and regulatory shifts from senior governments.*

The 2040 Transportation Master Plan (TMP) is designed to guide our actions over the next 20 years. It was developed using a financial lens to ensure it is realistic, as well as with input from the public to ensure we are balancing the community's desire for improved service levels with the need to manage costs responsibly. It also lays out ways to measure our performance as we go, to ensure we are making progress toward our vision.

Funding the plan

This section discusses how actions recommended in the TMP can be funded. The TMP is a guide for long-term investment. Annual budget decisions that influence the funding of the TMP recommendations will be made each year by Council.

- **Kelowna's transportation budget**

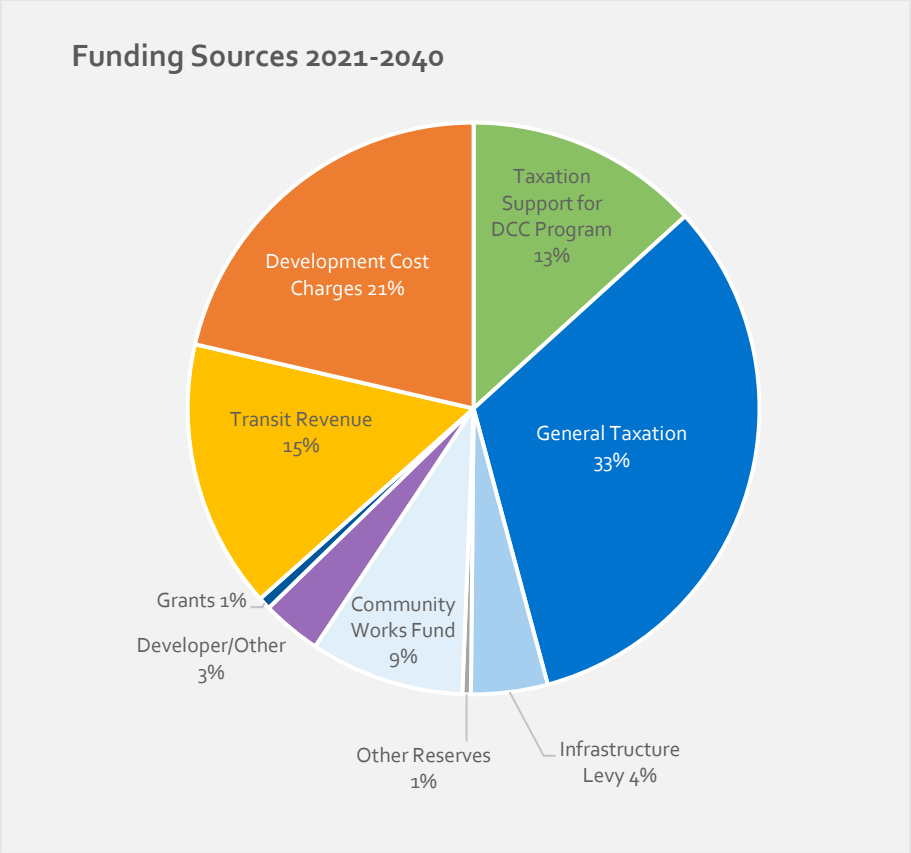
  Transportation is one of the most significant items in the City budget. We currently spend an average of about $40 million each year on operating, maintaining, and expanding our transportation system. To support the 2040 OCP and work towards the Imagine Kelowna vision, it will be necessary to increase investment in our transportation system.

  In Phase 3 we asked the public to weigh in on transportation investment by participating in a budget allocator exercise. On average, residents supported an increase in annual transportation funding that works out to an average annual property tax increase of about 0.2 per cent. The actions recommended in the TMP were chosen to fit within this budget, with investments gradually ramping up over time, and funded primarily by increases to property taxes and development cost charges (DCCs).

  Funding from the DCC Program is coordinated through the 20-Year Servicing Plan. It will be up to Council to decide on increased funding from property taxes each year as part of the annual budget.

- **Where the money comes from**

  The chart below provides a summary of the funding sources we anticipate will fund the recommendations in the 2040 TMP:



A description of each source is provided below:

- **Property taxes –** Roughly half of our transportation funding comes from property taxes. Property taxes are the most flexible source of revenue. They are often used to match or leverage funding from other sources, such as senior governments. Transit, maintenance and renewal, and education are the areas that are most dependent on taxation. A significant portion of taxation also goes towards supporting the Development Cost Charge (DCC) program.

- **Development cost charges –** Developers pay these fees to cover some of the City's costs related to servicing growth with infrastructure like sewers and roads. DCCs can only be used for certain types of infrastructure, and not for operational expenses such as transit service or on-going maintenance. Together with taxation support, these funds are used for projects in the DCC Program.

- **Infrastructure levy –** This levy was introduced in 2019 to address the backlog of infrastructure renewal projects. The levy funds projects such as road repaving, sidewalk repairs and the replacement of bridges.

- **Transit fare revenue –** Just over half of the City's transit operating costs are recovered from fares and advertising. Transit routes with higher ridership generate more revenue, meaning they require less of a subsidy from property taxes.

- **Senior government grants –** Funds from provincial and federal grants help us stretch our resources. Senior governments have announced major stimulus funding in response to the

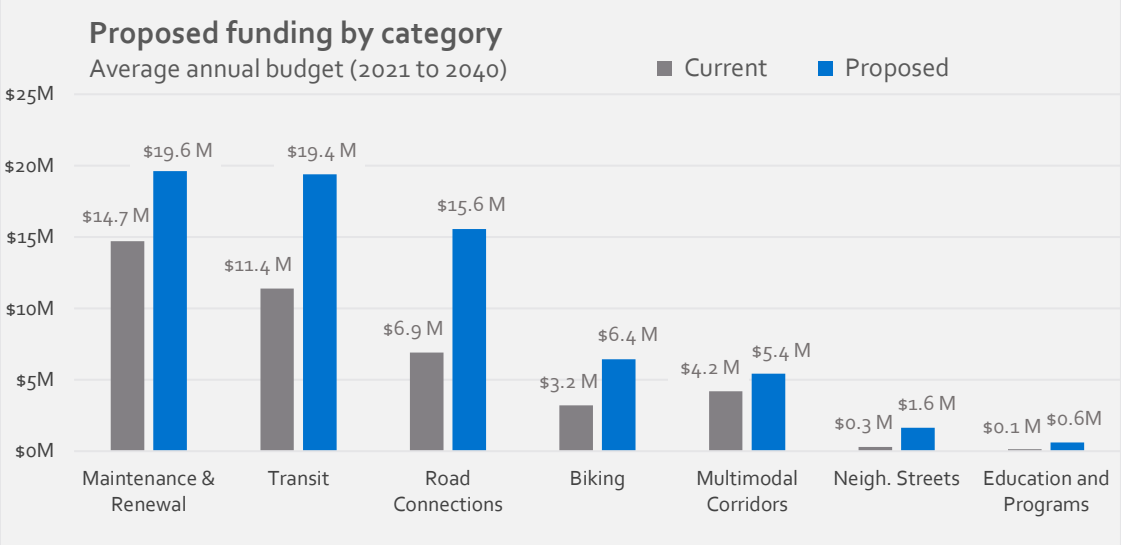
pandemic. The TMP puts Kelowna in a good position to take advantage of these opportunities. These funds are limited to specific uses or projects. To take advantage of grant funding opportunities, the City must have its portion of funding committed. However, we are taking a conservative approach to financial planning and are using historical averages when estimating contributions from senior governments.

- **Gas tax -** There is a common misconception that fuel taxes pay for roadways. The federal government does return a share of fuel taxes collected in Kelowna through the Community Works Fund. However, the amount we receive only covers one-fifth of our annual spending on roads.

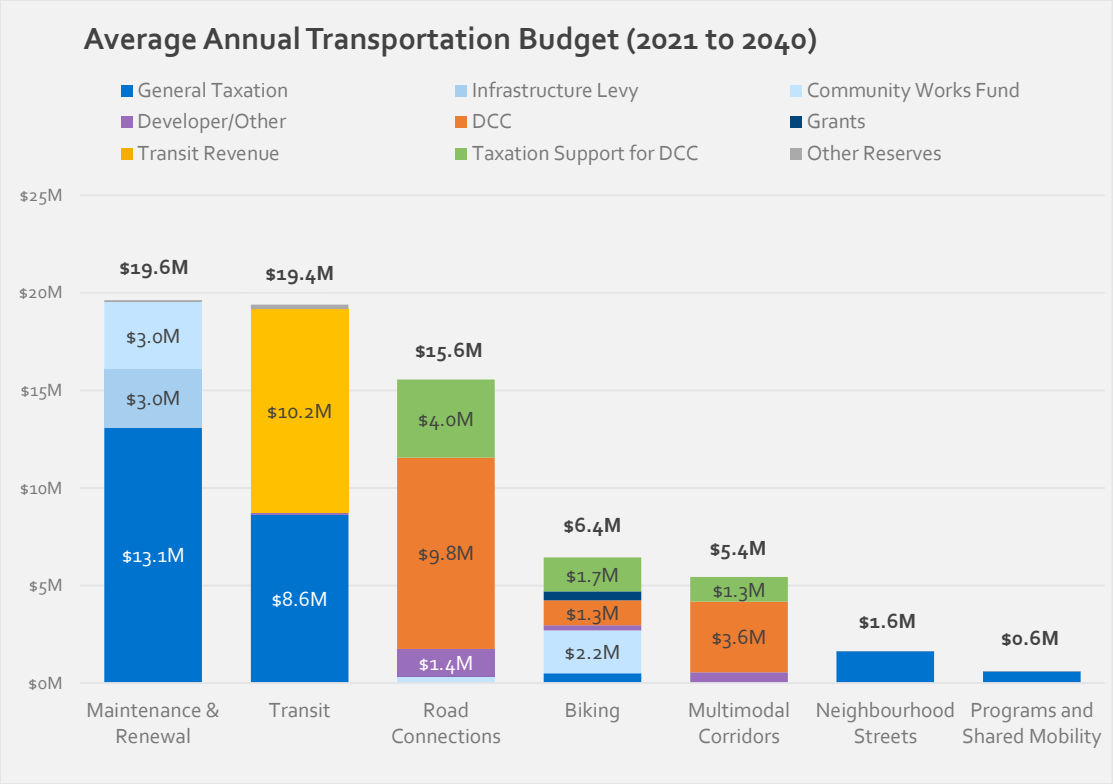
  As electric vehicles become more common, gas tax revenues will fall. This is an international issue for governments. Future trends are likely to include charges for road usage. While no recommendations on mobility pricing are included in the TMP, the concept should be considered as a potential future opportunity.

- ### Where the money goes

The chart below shows the investment proposed for each category and compares them to current averages. While funding increases are proposed across all categories to help keep Kelowna moving, the highest levels of investment are proposed for maintenance and renewal, and transit. This is because during our public engagement, residents told us that maintaining and renewing existing infrastructure and investing in transit are top priorities. Investing in transit is also critical for supporting the 2040 OCP and helping Kelowna grow without gridlock. Overall, maintenance & renewal funding is proposed to increase by about 30 per cent, and transit funding is proposed to increase by about 70 per cent.



This next chart puts it all together and shows the proposed annual transportation budget in 2040. Since there are different eligibility requirements for the various funding sources, it is important to consider the funding sources for each category. The chart below highlights the different sources that are needed to fund each category of investment:



- **Senior government investment**

The provincial and federal governments play major roles in funding transportation. It is estimated the TMP action list will leverage around $370 million of investment by senior governments. For example, the provincial government provides roughly half of the transit operating costs through BC Transit.

Historically, provincial and federal governments have helped pay for large transit infrastructure projects. This trend is anticipated to continue and provide opportunities for transit projects such as Kelowna's new operations facility and new exchanges. Senior governments have also funded walking and biking projects through grant programs.

Highways 97 and 33 are critical pieces of Kelowna's transportation network but both are under provincial jurisdiction. We work closely with the Ministry of Transportation and Infrastructure to maximize the movement of people and goods along both corridors. Projects that benefit provincial highways will likely be funded and delivered in partnership with the province.

Measuring our progress

It is important that we monitor our progress to make sure we keep moving toward our shared vision. The performance measures below are organized around the 12 TMP goals to reflect the many ways that transportation affects life in Kelowna. Where feasible, the TMP performance measures have been aligned with the metrics identified for the 2019 - 2022 Council priorities, to reduce duplication.

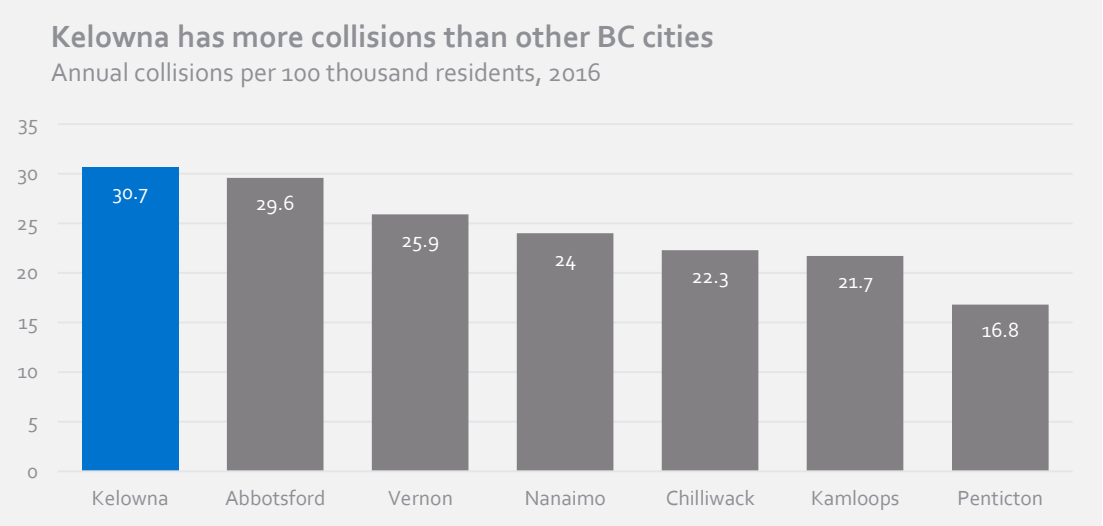
Some measures can be tracked on an annual basis, while others, such as those that rely on census or household travel survey data, can only be updated every five years. It is anticipated that staff would provide an update on TMP performance measures annually, with a larger, more comprehensive report every five years.

- ### Improve safety

  PERFORMANCE MEASURE – TRAFFIC RELATED INJURIES AND FATALITIES PER CAPITA

  Why is this important? Traffic collisions have significant impacts on people's lives, including property damage, injuries and fatalities. Human suffering, time off work, lost productivity, and vehicle repair costs also have big impacts on our society. ICBC data shows there are approximately 2,000 motor vehicle collisions per year that cause injuries in Kelowna. The estimated cost to society of these collisions is $500 million per year. Road safety is also an equity issue, as seniors, and people walking and biking are the ones who are most likely to be seriously injured in a collision.

  How are we doing? The number of collisions per capita is higher in Kelowna than in other similar sized B.C. cities. It is also 50 per cent higher than in Penticton and Kamloops. This is why we are taking many steps to make our streets safer and why the TMP proposes even more be done.



  What are we doing? Safety is an important consideration in all our projects. We are changing how we design roads to better control speeding and building more protected bike paths and safe places to cross busy roads. While we cannot prevent every injury, we can make injuries less frequent and less severe.

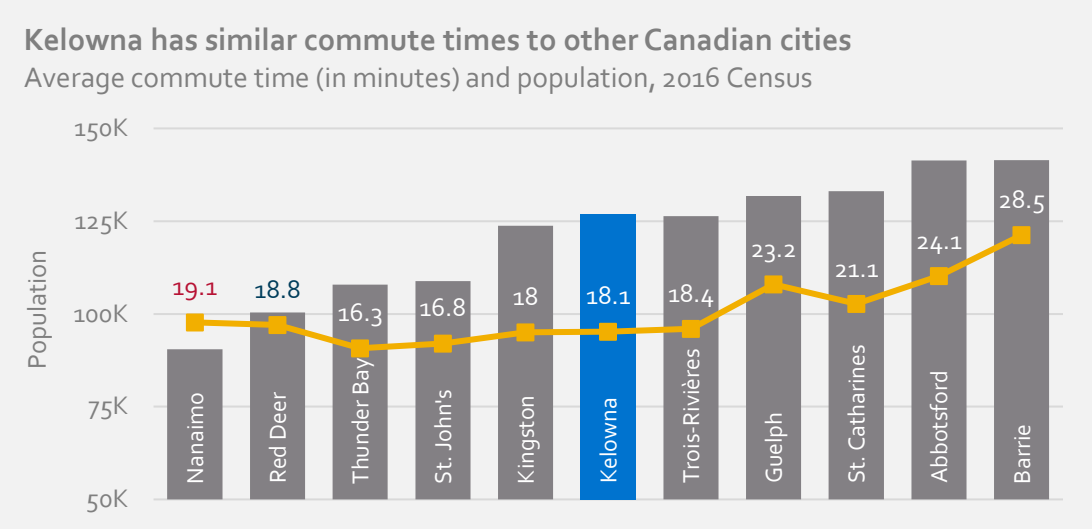
  What's next? We will monitor the data and work to keep this metric trending downward. The TMP recommends developing a Transportation Safety Strategy to identify key actions to help reduce the number of traffic related injuries and fatalities on our roadways. This is described further in the Targets section.

- **Foster a growing economy**

PERFORMANCE MEASURE – AVERAGE COMMUTE TIME

Why is this important? The time we spend commuting affects our quality of life as well as our economic competitiveness.

How are we doing? Average commute times in Kelowna increased from 16.2 minutes in 2007 to 18.1 minutes in 2016. Our commute times are comparable to other Canadian cities of a similar size.



What are we doing? The TMP proposes strategic roadway improvements that will help connect major employment areas such as our Urban Centres and the Gateway. This will help mitigate increasing travel times between key destinations in the city.

If the number of people who drive increases as our population grows, it will be harder to stop commute times from rising. This is why we are also investing in options such as walking, biking, and transit, which can help take pressure off our roads and prioritize road space for trips that need to be made by vehicle. We can also shorten commutes by ensuring that a variety of housing choices are available closer to where people work.

What's next? Average commute times tend to rise as cities grow and in conjunction with a booming economy. As described in the Forecasts and trends chapter, it will be important to aim for congestion levels that are not too high and not unrealistically low to keep Kelowna moving while also achieving the City's vision and goals for transportation. This approach will ensure that the unintended negative consequences of building too much road capacity is minimized, while ensuring that investments in effective infrastructure are maximized. We will monitor changes in average commute times to ensure they remain competitive with similar cities as we grow.

- **Improve travel choices**

PERFORMANCE MEASURE – NUMBER OF TRIPS BY WALKING, BIKING, AND TRANSIT

Why is this important? Making it easier to walk, bike and take transit will allow more people to move around within our available space. This will help slow the growth of traffic congestion, reduce emissions, and improve public health.

How are we doing? Transit ridership was steadily increasing before the pandemic. In 2020, ridership decreased by 40 per cent. While the impacts of COVID-19 will likely persist for some time, we expect that ridership will recover. Meanwhile, the number of bicycle trips in Kelowna increased by 40 per cent during the pandemic. We hope to build on that momentum by accelerating the expansion of our bicycle network. As for walking, it is difficult to accurately measure the number of walking trips made across the city.

What are we doing? Many of the actions recommended in the TMP focus on making walking, biking, and transit more convenient. The key is to ensure that as the city grows, we are adding new housing and new jobs in areas that are easily connected by these transportation options.

What's next? We will monitor this metric as part of our regular reporting and work to achieve the TMP's 2040 targets of 75 per cent of trips made by vehicle, doubling transit ridership and quadrupling the number of bike trips from pre-pandemic levels (see Targets section for more information).

- **Enhance urban centres**

PERFORMANCE MEASURE – INVESTMENTS CONNECTING HIGHER DENSITY URBAN AREAS

Why is this important? The 2040 OCP lays out a strategy to focus growth in our Urban Centres and Core Area. Investments that improve mobility between Urban Centres will help ensure that as our population grows, residents can still get where they need to go.

How are we doing? The City is investing in transportation options, such as biking, transit and emerging technologies to better connect Kelowna's Urban Centres. Examples include transit infrastructure improvements, new active transportation corridors (ATCs), bicycle parking and other investments.

What are we doing? In 2020 the City invested $5 million in active transportation capital projects, including the bicycle lane and sidewalk capital programs, as well as construction of Phase 5 of the Ethel ATC (from Springfield Avenue to Rose Avenue). For transit, we invested approximately $150,000 in bus stop enhancements and transit equipment. The City reports out on this annually as part of the 2019-2022 Council Priority Reporting.

What's next? We will monitor this trend to ensure investments continue to connect our Urban Centres.

- **Support livable communities**

PERFORMANCE MEASURE – SIDEWALK COMPLETENESS IN THE CORE AREA

Why is this important? – To minimize urban sprawl, most new housing in Kelowna will be added along existing streets in the Core Area. Many of these streets currently lack sidewalks, boulevards, or trees. Improving streetscapes by adding these features can make a street safer and more comfortable to walk, bike, and play on.

How are we doing? – The Pedestrian and Bicycle Master Plan identifies gaps on busier collector and arterial roads in the Core Area where there are no sidewalks. However, at the current level of sidewalk funding, it will take longer than a century to fill all these gaps. By that time, the sidewalks we are building today will need to be replaced.

There is also currently no strategy for updating neighbourhood streets. Developers are often responsible for adding sidewalks in front of their properties. Relying on this incremental approach means many streets will continue to have gaps, even in rapidly growing neighbourhoods.

What are we doing? – We are updating our standards for new development. The TMP recommends creating a capital program to fill in sidewalk gaps on local streets that pools contributions from citywide funds, nearby property owners and developers.

What's next? – We will monitor this metric to ensure sidewalk completeness in the Core Area trends upward. We will continue to investigate funding strategies to close this gap.

- **Be innovative and flexible**

PERFORMANCE MEASURE - TRIPS BY EMERGING MODES (SHARED MOBILITY/RIDE-HAILING)

Why is this important? As transportation becomes more connected, automated, shared, and electric, there will be opportunities to provide Kelowna residents with more accessible, affordable and convenient options for getting around – in particular within the Core Area and Urban Centres. As transportation technologies change rapidly, it will be important to harness the benefits for our community, while being proactive to minimize any negative impacts.

How are we doing? Kelowna's Micromobility Permit program allows companies to rent out bikes, e-scooters, and e-mopeds. In 2019, several companies began renting e-scooters that were limited to specific off-street pathways. The permit program was paused in 2020 because of the pandemic.

In 2021, a provincial pilot program legalized the use of e-scooters throughout the city under the same rules as bikes. Several companies began renting e-scooters and more trips were made during the first two months of this program than in the previous two years of the permit program.

We are also working with the province to access data on taxi and ride-hailing services so we can measure the number of trips being made using these services.

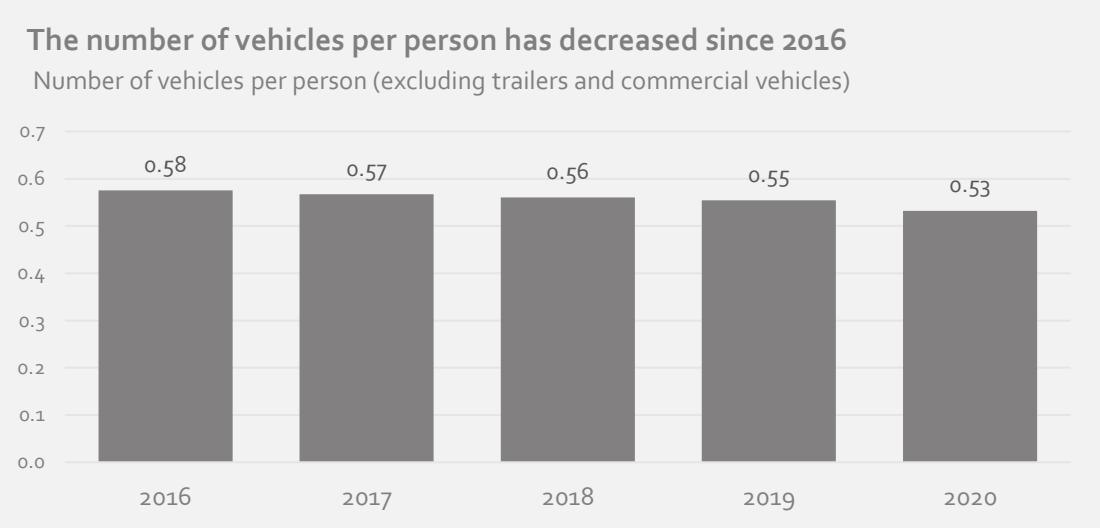
What are we doing? Many shared mobility services rely on space along the curb for parking or passenger drop-offs. The TMP recommends developing a Curb Space Management Strategy to manage competing demands and get the most out of curb space. We are also working with the province to facilitate access to ride-hailing in Kelowna. In addition, we are working on programs to expand access to emerging technologies for lower-income residents and attract services that would otherwise not come to Kelowna. We will continue to work toward adding new mobility options that embrace technology change and give people more options for getting around.

What's next? We will monitor this metric and work to ensure trips by emerging modes trends upwards.

- **Enhance travel affordability**

PERFORMANCE MEASURE – VEHICLES PER CAPITA

Why is this important? Transportation is often a household's second biggest expense. The estimated annual cost of owning a vehicle is approximately $7,000. Many households can afford to own multiple vehicles and choose to do so. However, if owning multiple vehicles is a necessity because there are no other viable options, this can increase the financial strain on medium and low-income families.



How are we doing? The average number of vehicles owned by Kelowna residents fell in the past five years, from 15 per cent above the provincial average in 2016, to 5 per cent above the provincial average in 2020.

What are we doing? The development of Kelowna's TMP was guided by Imagine Kelowna and a vision of a less car-centric city. This involves trying to encourage people and jobs to settle in areas of the city where car ownership is more optional.

What's next? We will monitor this metric and work to provide affordable transportation alternatives so that households do not have to own one or more vehicles to meet their daily travel needs.

- **Improve health**

PERFORMANCE MEASURE – SHARE OF STUDENTS DRIVEN TO SCHOOL

Why is this important? – Increasing the share of students walking, biking, or busing to school will benefit public health, congestion, and emissions. Children who walk or bike to school are more active overall than children who get to school by car. Traffic congestion around schools is a frequent issue for parents.

How are we doing? – On a typical day, about half of Kelowna's K-12 students are driven to school. Around half of the adults who drive kids to school continue on to work, while the other half drive back home. These trips between school and home have a big impact on congestion and emissions.

What are we doing? – We are increasing the funding for the Safe Routes to School Program to reach all schools in Kelowna over the next 10 – 15 years. There is also added funding to offer more bike skills training to elementary school students and we are prioritizing the construction of new sidewalks, bike paths, and crosswalks near schools.

Where people decide to live and where new schools are built will also influence how students get to school. Kids in suburban or rural areas are often too far away from their school to walk or bike. School busing will be the better option to reduce vehicle trips in these areas. And the more successful we are at attracting families to live in the Core Area, the more successful we will be at reducing the share of students driven to school.

What's next? – We will monitor this trend and work to keep it trending downward by investing in safe routes to school and working to promote school busing.

- **Promote inclusive transportation**

PERFORMANCE MEASURE – SHARE OF LOW-INCOME RESIDENTS CLOSE TO FREQUENT TRANSIT

Why is this important? For lower-income residents, not needing to own and maintain a car to get to work can mean the difference between affording groceries and having to use the food bank. Alternatives such as taking the bus or biking give residents access to employment and opportunities in the larger economy.

How are we doing? Roughly half of low-income residents are within a five-minute walk of frequent transit service today. This metric uses actual walking distances to bus stops and considers places where it is safe to cross major roads. The low-income line is defined using Statistics Canada's measure of after-tax household income from the 2016 Census.

What are we doing? –The TMP proposes a 65 per cent increase in transit service over the next 20 years. Most of this new service will be focused on popular routes in the Core Area, where most of our low-income residents live.

What's next? – Based on the service increases proposed in the TMP, we anticipate the share of low-income residents close to frequent transit could rise from 50 per cent to 70 per cent by 2040. We will monitor this metric and work to keep it trending upward.

PERFORMANCE MEASURE – SHARE OF LOW-INCOME RESIDENTS CLOSE TO PRIMARY BIKE ROUTES

Why is this important? For lower-income residents, not needing to own and maintain a car to get to work can mean the difference between affording groceries and having to use the food bank. Alternatives such as taking the bus or biking give residents access to employment and opportunities in the larger economy.

How are we doing? Today roughly 22 per cent of low-income residents live within 400 metres of a primary bicycle route.

What are we doing? The TMP includes many recommendations for improved active transportation facilities and connections. Many of these projects are in the Core Area where most of our low-income residents live. In addition, we are working to speed up progress on the bicycle network by using quick-build projects and designs which do not require us to fully tear up and reconstruct a street.

What's next? Based on the biking projects prioritized in the TMP, we anticipate the share of low-income residents close to the primary bike network could rise from 22 per cent to 75 per cent by 2040. We will monitor this metric and work to keep it trending upward.

- **Optimize travel times**

PERFORMANCE MEASURE – KEY CORRIDOR VEHICLE TRAVEL TIMES

Why is this important? – Reliable travel times help people and goods get where they need to go on time.

How are we doing? – We use online data to track travel times along sample routes across the City. This data allows us to see how travel times on these routes vary throughout the day and year, as well

as how they change over time. A summary of current and projected key corridor travel times is available in the TMP Scenarios Report (see page 11).

What are we doing? – Many of the recommended actions in the TMP will increase the efficiency of our road network, such as improving signal timing (i.e., better coordinate traffic lights along a route so traffic flows smoothly), building new road connections, and expanding intersections.

In addition to targeted investments in road capacity, the best way to keep travel times from increasing as our population grows will be to give people more options besides driving. This will reserve road space for those trips that absolutely need to be made by car.

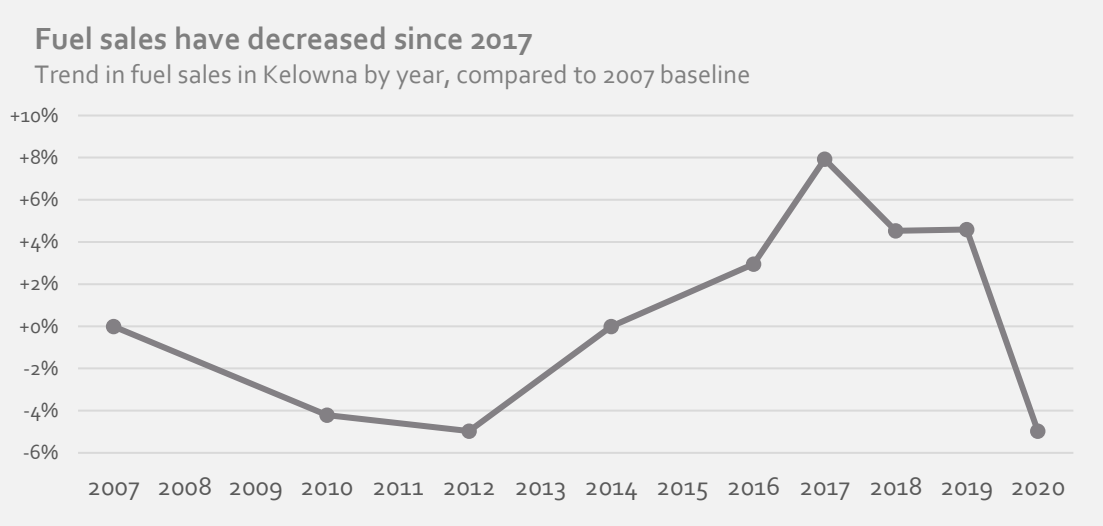
What's next? – As described in the Forecasts and Trends chapter, it will be important to aim for congestion levels that are not too high and not unrealistically low to keep Kelowna moving while achieving the City's vision and goals for transportation. This approach will ensure that the unintended negative consequences of building too much road capacity are minimized, while ensuring that investments in effective infrastructure are maximized. We will work to collect data and monitor travel times to ensure this balance is maintained.

- **Protect the environment**

PERFORMANCE MEASURE – TRANSPORTATION GREENHOUSE GAS EMISSIONS

Why is this important? – Transportation is the largest source of greenhouse gas emissions in Kelowna. Scientists warn that emissions need to be cut in half over the next decade to avoid catastrophic impacts from climate change.

How are we doing? – Measured by the amount of fuel sold in Kelowna, transportation emissions fell by nine per cent in 2020. The pandemic influenced this trend as people stayed home more and travelled less.



Fuel sales do not capture all transportation greenhouse gas emissions, such as the emissions from manufacturing vehicles or road construction. Kelowna's fuel sales also include fuel purchased by people who live in other cities and by tourists. Still, fuel sales are one of the most direct ways we have for tracking transportation-related greenhouse gas emissions.

What are we doing? – The TMP includes several recommendations for speeding up the adoption of electric vehicles, such as electrifying public transit and ride-hailing fleets. The Community Electric Vehicle and E-Bike Strategy provides more recommendations for moving to electric vehicles.

Electric vehicles cannot be our only response to climate change as it will take some time before most vehicles on the road are electric. We also need to consider the emissions from manufacturing vehicles and building new roads. This is why working to increase the share of trips made in Kelowna by walking, biking and transit is also critical to reducing emissions.

Additionally, we are working to find more precise ways of estimating our transportation emissions beyond just measuring fuel sales.

What's next? – Based on actions recommended in the TMP, we are working to reduce the average distance driven per person by 20 per cent. This is described further in the Targets section. While this reduction in average distance driven per person is expected to reduce per capita emissions, the degree of reduction to our *absolute* transportation emissions will be influenced by a number of factors including population growth, total distance driven, changes in vehicle fuel efficiency, and the uptake of electric vehicles. A reduction in absolute emissions is required to make progress toward the targets in Kelowna's Community Climate Action Plan.

Targets

The 2040 TMP sets out a long-term vision for changing how Kelowna residents get around. At the same time, it seeks to set realistic expectations for how much can change in 20 years given available funding and the existing layout of the City.

The targets below were developed through detailed modelling and analysis. They are intended to be ambitious, yet achievable with the actions proposed in the TMP. The targets are based on key metrics that help us understand broad trends in travel behaviour and provide a snapshot of the direction Kelowna is heading.

- ### Mode share

  Mode share is a term for the portion of trips that happen by different means of travel. Mode share changes slowly. Current travel patterns in Kelowna are the result of decades of land use and infrastructure decisions, economic forces, and societal trends that reinforce each other.

  Kelowna residents currently make 85 per cent of their trips by vehicle, either as a driver or a passenger. The remaining 15 per cent of trips are made by other means (e.g. biking, walking, transit) and comprise our sustainable mode share.

  We are working toward a target of 79 per cent of trips made by vehicle (21 per cent by sustainable modes) by 2030, and 75 per cent of trips made by vehicle (25 per cent by sustainable modes) by 2040.

  This is a conservative estimate that considers population growth, demographic trends, and actions recommended in the TMP. Reaching this target will mean doubling transit ridership and quadrupling the number of bike trips made by Kelowna residents.

  The CleanBC Roadmap proposes to move sustainable mode share from 24 per cent to 30 per cent by 2030 (i.e. a 6 percentage point increase). This target is a provincial average, and different regions will have different opportunities to shift modes. While it is not possible to match the provincial average of 30 per cent by 2030, the TMP aligns with the CleanBC 2030 mode share target by matching the

increase in sustainable mode share of 6 percentage points. This means Kelowna would move from 15 per cent to 21 per cent and will be doing our part to improve the provincial average.

Aligning with CleanBC's 2040 target of 40 per cent in the same way would require Kelowna to increase sustainable mode share by 16 percentage points. We estimate the TMP could achieve a 10 percentage point increase citywide, from 15 per cent to 25 per cent. While further work is needed to align with the 2040 provincial mode share target on a citywide basis, some parts of the city will be able to surpass it. For example, in the area comprised of Downtown, Pandosy, and Landmark sustainable mode share is projected to increase by 20 percentage points (from 25 to 45 per cent by 2040). This speaks to the importance of focusing growth in our Core Area to help shorten trip distances and make it easier for people to get around using sustainable modes of travel.

The table below shows the existing mode share for driving by neighbourhood and what we think can be achieved by 2040:

Table 1. Driving Mode Share

	Current (2018)	2040 Target
Citywide	85%	75%
Downtown/Pandosy/Landmark	75%	55%
Midtown	80%	70%
Rutland	85%	75%
Glenmore	90%	85%
The Mission/Southeast Kelowna	90%	90%
North Kelowna	90%	90%
Black Mountain	95%	95%

- **Distance driven**

The total distance driven (also referred to as vehicle kilometres travelled) is a better measure for congestion and emissions than mode share. This is because mode share does not consider the length of a trip, so it does not distinguish between driving a few blocks or all the way across town.

Our population is expected to grow by approximately 40 per cent. Based on the 2040 OCP, total distance driven is anticipated to increase by 25 per cent (if we make no additional investments in transportation). We can reduce the average distance driven per person by locating growth closer to jobs and destinations and providing more transportation options.

Based on the actions recommended in the TMP, **we are working to reduce the average distance driven per person by 20 per cent.** This would keep the increase in *total* distance driven to approximately 10 per cent.

While not costed for in this plan, there are additional measures that can be taken to reduce VKT in Kelowna from 10 per cent to 5 per cent growth. These actions are described as options in the Project Descriptions table (see Project IDs 15, 18, 20, and 24) and position the City to be ready should there be investments from senior governments to achieve these goals.

The CleanBC Roadmap proposes a 25 per cent province-wide reduction in total distance travelled by light-duty vehicles by 2030. Some parts of the province may be better able to meet this target than others. While reducing the total distance driven is desirable, the reality is that it is extremely challenging in the face of population growth. All future trips would need to be accommodated by other modes besides driving. This is not yet realistic given Kelowna's current layout and continued growth in neighbourhoods that depend on cars.

It should also be noted that the 20 per cent reduction in driving per capita is meant to be an average. Some people will have more opportunities to drive less than others, depending on where they live, their occupation, their family commitments, and their physical ability.

- **Safety**

  Injuries and fatalities resulting from traffic collisions have a devastating impact on the people involved and on the community. The TMP aims to reduce the number of injuries and deaths on our roads through targeted interventions such as the proposed Road Safety Program and traffic safety audits when designing major capital projects.

  The **TMP recommends developing a Transportation Safety Strategy** to set specific targets and outline the actions necessary to reduce injuries and fatalities on our roadways.

Appendix A: Recommended Actions

2040 Transportation Master Plan

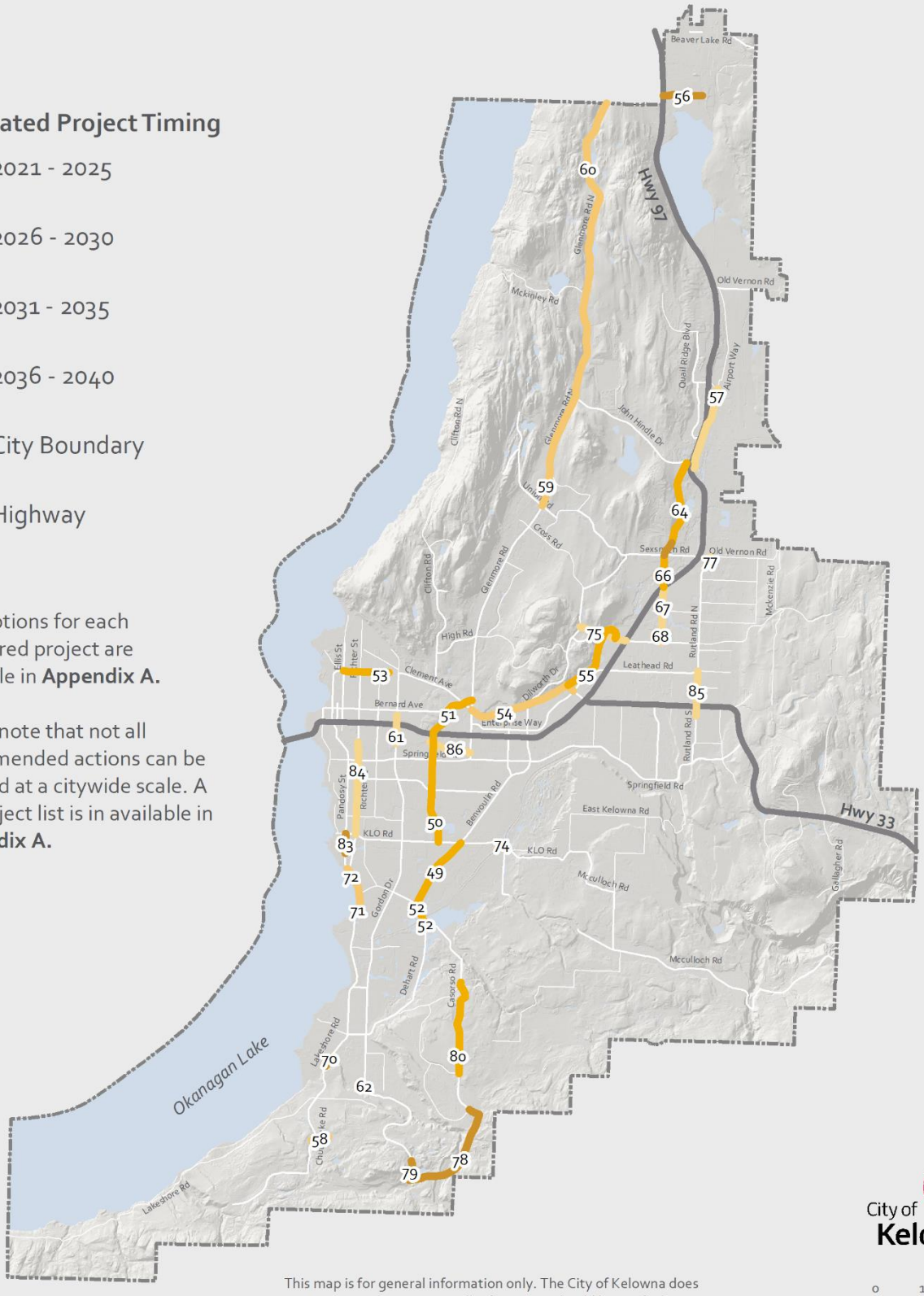
Map A.1 Recommended Projects
Road Connections

Estimated Project Timing

- 2021 - 2025
- 2026 - 2030
- 2031 - 2035
- 2036 - 2040
- City Boundary
- Highway

Descriptions for each numbered project are available in **Appendix A.**

Please note that not all recommended actions can be mapped at a citywide scale. A full project list is in available in **Appendix A.**



City of Kelowna

This map is for general information only. The City of Kelowna does not guarantee its accuracy. All information should be verified.

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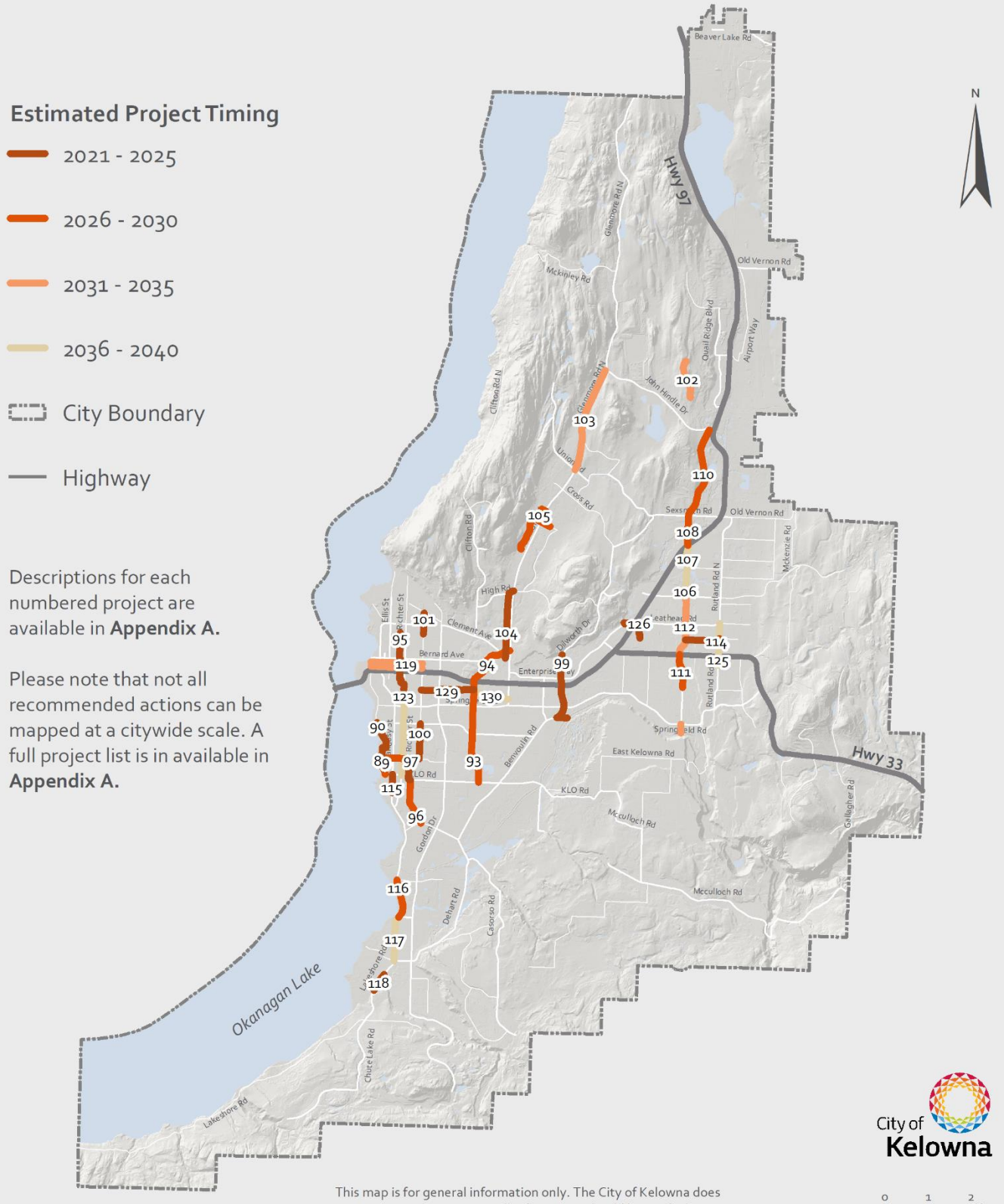
Rev. Dec 1, 2021

2040 Transportation Master Plan

Map A.2 Recommended Projects
Biking



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Rev. Dec 1, 2021

Project List

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
	Maintenance and Renewal				
1	Renewal	n/a	all years	149,900,000	0
2	Bridges Renewal	n/a	all years	10,800,000	0
3	KLO Rd Mission Creek Bridge Replacement	n/a	2021-2025	8,100,000	0
4	Maintenance	n/a	all years	0	193,500,000
	Neighbourhood Streets				
5	Crosswalk Safety, Signals and Flashers	n/a	all years	4,280,000	300,000
6	Neighbourhood Traffic Calming Program	n/a	all years	2,550,000	180,000
7	Sidewalk Network Expansion	n/a	all years	17,900,000	1,270,000
8	Local Street Urbanization Program	n/a	all years	7,900,000	590,000
	Education, Programs and Emerging Technologies				
9	TDM Existing Funding	n/a	all years	0	2,000,000
10	Accessibility Transition Plan	n/a	2021-2025	0	80,000
11	Adult Bicycle Skills Training	n/a	2023-2040	0	360,000
12	Bike and Ped Individualized Marketing Strategy	n/a	2026-2040	0	450,000
13	Bike Map Program	n/a	2022-2040	0	190,000
14	Wayfinding Program	n/a	2022-2040	0	100,000
15	Community Electric Vehicle & E-Bike Strategy - Implementation	n/a	2022-2030	1,080,000	180,000
16	Curb Space Management Strategy	n/a	2026-2030	0	50,000
17	Goods Movement Strategy	n/a	2021-2025	0	60,000
18	Employer Commute Trip Reduction Program	n/a	all years	0	570,000
19	Open Streets	n/a	2023-2040	0	430,000
20	Safe Routes to School Expansion	n/a	all years	1,860,000	110,000

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
21	Emerging Technologies and Shared Mobility Program	n/a	2022-2040	0	960,000
22	Student Bike Skills Training Expansion	n/a	2023-2040	0	450,000
23	Tactical Urbanism Pilot Project	n/a	2022-2040	0	950,000
24	Transit Pass Program Expansion	n/a	2023-2040	0	3,100,000
25	Transit Travel Training Program	n/a	2022-2040	0	860,000
26	Transportation Safety Strategy	n/a	2021-2025	0	80,000
	Transit				
27	Transit Operating Costs	n/a	all years	0	342,610,000
28	YLW Transit Hub	n/a	2021-2025	480,000	230,000
29	Exchange Driver Facilities	n/a	2026-2030	600,000	130,000
30	FTN Glenmore - Infrastructure	n/a	2031-2035	750,000	50,000
31	FTN Gordon - Infrastructure	n/a	2036-2040	1,000,000	30,000
32	Highway 33 Transit - Infrastructure	n/a	2036-2040	1,210,000	60,000
33	Springfield Transit - Infrastructure	n/a	2036-2040	1,300,000	30,000
34	Highway 97 Dedicated Transit Lanes - Infrastructure	n/a	2036-2040	20,000,000	0
35	Hollywood Rd Transit - Infrastructure	n/a	2036-2040	2,430,000	40,000
36	Orchard Park Exchange	n/a	2021-2025	1,490,000	720,000
37	Mission Recreation Transit Exchange & Mobility Hub	n/a	2021-2025	760,000	340,000
38	Mobility Hubs at Transit Exchanges	n/a	2031-2035	1,800,000	30,000
39	Transit - New Bus Stop and Amenities Program	n/a	all years	3,680,000	270,000
40	Transit - Land Acquisition	n/a	all years	1,790,000	0
41	Okanagan College Transit Exchange and Stations	n/a	2031-2035	1,250,000	160,000
42	Okanagan College Exchange Capacity Expansion	n/a	2021-2025	120,000	30,000
43	Pandosy / Richter Transit - Study + Infrastructure	n/a	2031-2035	960,000	70,000
44	Route 1 FTN+ Infrastructure	n/a	2026-2030	1,800,000	290,000
45	Rutland Road FTN+ Infrastructure	n/a	2036-2040	2,670,000	40,000
46	Rutland Mobility Hub and Driver Facility	n/a	2021-2025	220,000	110,000

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
47	Rutland Network Restructure - Infrastructure	n/a	2026-2030	880,000	60,000
48	Transit Maintenance & Operations Centre	n/a	2021-2025	0	10,200,000
	Road Connections				
49	Benvoulin Capacity Optimization	DCC	2026-2030	4,000,000	260,000
50	Burtch 2 (Springfield - KLO)	DCC	2026-2030	11,230,000	880,000
51	Burtch 3 (Glenmore - Springfield)	DCC	2026-2030	18,060,000	1,080,000
52	Casorso Roundabouts	DCC	2026-2030	2,620,000	140,000
53	Clement 1 (Ellis - Graham)	DCC	2026-2030	2,360,000	200,000
54	Clement 2 Extension (Spall - Hwy 33)	DCC	2031-2035	37,440,000	560,000
55	Clement 3 Extension - Land from Highway 33 to McCurdy	DCC	2031-2035	4,190,000	0
56	Commonwealth Rd Upgrade	DCC	2021-2025	7,880,000	880,000
57	Acland 2 Rd Extension (John Hindle - Airport)	DCC	2036-2040	15,240,000	230,000
58	Frost 1 (Killdeer - Chute Lake)	DCC	2031-2035	4,070,000	150,000
59	Glenmore 5 (Union - John Hindle)	DCC	2031-2035	16,580,000	600,000
60	Glenmore Rd Safety Upgrades (John Hindle - Lake Country)	DCC	2031-2035	14,820,000	620,000
61	Gordon Dual Left Turns (Sutherland - Bernard)	DCC	2036-2040	6,760,000	100,000
62	Gordon Bridge over Bellevue Creek	DCC	2036-2040	2,870,000	40,000
63	Hollywood 7 DCC (Sexsmith - Appaloosa) Improvements	DCC	2021-2025	1,780,000	200,000
64	Hollywood 7 Rd (Sexsmith - John Hindle)	DCC	2026-2030	13,110,000	790,000
65	Hollywood 6 Rd (Rail Trail - Sexsmith)	DCC	2026-2030	790,000	50,000
66	Hollywood 5 Rd (Hwy 97 - Rail Trail)	DCC	2031-2035	7,470,000	310,000
67	Hollywood 4 Rd (Stremel - Hwy 97)	DCC	2036-2040	7,800,000	120,000
68	Hollywood 3 Rd (McCurdy - Stremel)	DCC	2036-2040	2,850,000	40,000
69	Lakeshore 1 DCC (DeHart - Vintage Terrace), Road	DCC	Completed 2021	310,000	40,000
70	Lakeshore 1 DCC Bridge at Bellevue Creek	DCC	Completed 2021	2,120,000	240,000
71	Lakeshore 3 Bridge over Wilson Creek	DCC	2036-2040	2,810,000	40,000
72	Lakeshore 3 Rd (Richter - Cook)	DCC	2031-2035	13,830,000	210,000

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
73	Major Intersection Capacity Improvements	DCC	all years	29,720,000	2,080,000
74	McCulloch Area DCC (KLO/Hall/Spiers)	DCC	2021-2025	3,390,000	310,000
75	McCurdy Extension (Hwy 97 - Dilworth)	DCC	2036-2040	12,130,000	180,000
76	Road Safety Improvements	DCC	all years	29,950,000	2,090,000
77	Rutland 2 (Old Vernon Roundabout)	DCC	2036-2040	5,340,000	80,000
78	South Perimeter 1 DCC (Gordon - Stewart 1)	DCC	2021-2025	9,620,000	810,000
79	Gordon 1 (Frost - South Perimeter)	DCC	2021-2025	0	0
80	Stewart 3 DCC (Crawford - Dehart)	DCC	2026-2030	7,080,000	470,000
81	Sector B Deficiencies/Top Lift Paving	DCC	2026-2030	1,780,000	120,000
82	Traffic Signals & Roundabouts	DCC	all years	11,300,000	830,000
83	Lakeshore 4 (Lanfranco - Richter)	DCC	2021-2025	4,610,000	390,000
84	Richter 1 (Sutherland - KLO)	DCC	2036-2040	31,330,000	470,000
85	Rutland Multimodal Corridor (Robson - Leathead)	DCC	2036-2040	20,160,000	300,000
86	Sutherland Complete Street (Burtch - Spall)	DCC	2036-2040	38,870,000	600,000
87	Sutherland Complete Street (Spall - Dilworth) – Design only	n/a	2026-2030	200,000	0
88	Urban Centre Improvements	DCC	2025-2040	13,550,000	200,000
	Biking				
89	Abbott ATC (Rose - Cedar)	DCC	2021-2030	10,920,000	590,000
90	Abbott Protected Bike Route (Rose - West), ATC	n/a	2021-2025	250,000	30,000
91	AT Corridor/Bike Network Expansion	n/a	all years	10,900,000	780,000
92	Okanagan Rail Trail Lighting and Improvements	n/a	2026-2030	1,260,000	90,000
93	Burtch 2 ATC (Springfield - Benvoulin)	DCC	2026-2030	930,000	80,000
94	Burtch 3 ATC (Glenmore - Springfield)	DCC	2026-2030	1,610,000	120,000
95	Bertram ATC (Sutherland - Cawston)	DCC	2021-2025	6,730,000	320,000
96	Casorso 3 ATC (KLO - Barrera)	DCC	2021-2025	6,050,000	510,000
97	Casorso 4 ATC (Raymer - KLO)	DCC	2021-2025	670,000	80,000
98	Bertram/Central Green Overpass	n/a	2021-2025	5,500,000	630,000

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
99	Rail Trail to Greenway ATC	DCC	2021-2025	9,590,000	630,000
100	Ethel 3& 5 ATC (Springfield – Raymer)	DCC	Completed 2021	2,700,000	310,000
101	Ethel 6 ATC (Cawston - ORT)	DCC	2021-2025	2,640,000	250,000
102	UBCO MUP (Quail Ridge - Discovery Ave)	DCC	2031-2035	1,560,000	70,000
103	Glenmore 5 ATC (Scenic - John Hindle)	DCC	2031-2035	3,220,000	170,000
104	Glenmore 3 ATC (Clement - High)	DCC	2026-2030	890,000	80,000
105	Glenmore 4 ATC (Yates - Dallas)	DCC	2026-2030	850,000	60,000
106	Hollywood 3 ATC (McCurdy - Stremel)	DCC	2036-2040	520,000	10,000
107	Hollywood 4 ATC (Stremel - Hwy 97)	DCC	2036-2040	1,180,000	20,000
108	Hollywood 5 ATC (Hwy 97 - Rail Trail)	DCC	2026-2030	730,000	40,000
109	Hollywood 6 ATC (Rail Trail - Sexsmith)	DCC	2026-2030	330,000	20,000
110	Hollywood 7 ATC (Sexsmith - John Hindle)	DCC	2026-2030	3,080,000	240,000
111	Hollywood 9 ATC (Hollydell - Hwy 33)	DCC	2026-2030	5,010,000	360,000
112	Hollywood 10 ATC (Hwy 33 - McCurdy)	DCC	2031-2035	7,590,000	270,000
113	Hollywood 11 ATC (Springfield - Mission Creek Greenway)	DCC	2031-2035	830,000	30,000
114	Houghton 2 ATC (Hollywood - Mugford)	DCC	2021-2025	5,840,000	530,000
115	Lakeshore 4 ATC (Lanfranco - Richter)	DCC	2021-2025	260,000	20,000
116	Lakeshore 3 ATC (Lexington - Old Meadows)	DCC	2026-2030	5,130,000	280,000
117	Lakeshore 2 ATC (Old Meadows - Dehart)	DCC	2036-2040	3,390,000	50,000
118	Lakeshore 1 ATC (DeHart - Vintage Terrace)	DCC	Completed 2021	400,000	50,000
119	Leon Lawrence ATC (Waterfront - Ethel)	DCC	2031-2035	10,880,000	160,000
120	Neighbourhood Bikeway Capital Program	n/a	all years	1,710,000	30,000
121	Okanagan Rail Trail - Connection to Waterfront Park Pathway	n/a	2021-2025	250,000	30,000
122	Pandosy Village ATC (Raymer - Abbott)	DCC	2026-2030	2,930,000	210,000
123	Richter 1 ATC (Sutherland - KLO)	DCC	2036-2040	2,400,000	40,000
124	Rose 1 Road and ATC (Pandosy - Ethel) – Design only	n/a	2021-2025	200,000	0
125	Rutland Rd ATC (Robson - Leathead)	DCC	2036-2040	1,580,000	20,000

ID	Project Name	DCC Project	Estimated Timing	Estimated Municipal Cost (over 20 years)	
				Capital Cost	Operating Cost
126	Houghton 1 ATC (Houghton - Rail Trail)	DCC	2021-2025	2,650,000	300,000
127	Sutherland 2 DCC ATC (Ethel - Gordon)	DCC	2021-2025	1,070,000	120,000
128	Sutherland 1 ATC Improvements (Gordon - Burtch)	DCC	2021-2025	570,000	70,000
129	Sutherland 1 ATC (Lequime - Burtch)	DCC	2021-2025	3,130,000	320,000
130	Sutherland Complete Street ATC (Burtch - Spall)	DCC	2036-2040	1,010,000	20,000

Project Descriptions

Maintenance and Renewal			
ID	**Project Name**	**Project Description**	**Primary TMP Goal(s)**
1	Renewal	Accelerated renewal to tackle the Infrastructure Deficit, preventing further deterioration and escalating replacement costs. Assets include roads, bridges, sidewalks, bikeways, traffic signals, streetlights, and multi-use paths. *Increase compared to current funding*	**Ensure Value for Public Investment**
2	Bridges Renewal	Additional funding for bridge replacement and rehabilitation. *Increase compared to current funding*	**Ensure Value for Public Investment**
3	KLO Rd Mission Creek Bridge Replacement	Replacement of aging KLO Rd Mission Creek bridge in conjunction with the McCulloch Area DCC project. *Existing project in 10-Year Capital Plan*	**Ensure Value for Public Investment**
4	Maintenance	To achieve higher service levels, this is an increase in maintenance funding that includes additional asphalt resurfacing, pothole repairs, sidewalk repairs, roadway and pathway sweeping, landscaping and improved winter maintenance for sidewalks and bike routes.. *Increase compared to current funding*	**Ensure Value for Public Investment**
Neighbourhood Streets			
ID	**Project Name**	**Project Description**	**Primary TMP Goal(s)**
5	Crosswalk Safety, Signals and Flashers	Increased investment in crosswalk safety to improve travel for people walking and biking. People walking and biking are injured primarily at marked crosswalks and at unsafe crossing locations. This program targets the problem locations with improvements such as yellow flashing beacons, countdown timers, audible signals, and pedestrian signal heads. Highest priority will be given to crosswalks connecting key destinations (e.g., schools, parks, bus stops) in the Urban Centres and Core Area. *Existing program in 10-Year Capital Plan* *Increase compared to current funding*	**Improve Safety, Support Livable Communities, Promote Inclusive Transportation**

6	Neighbourhood Traffic Calming Program	Additional investment in neighbourhood traffic calming to accommodate traffic growth throughout the city. Traffic calming to reduce vehicle speeds and improve safety for pedestrians and bicyclists is a critical action for making neighbourhoods more attractive and walkable. Potential locations for speed humps, traffic circles, and curb extensions, and other measures are selected based on technical evaluation and neighbourhood support. *Existing program in 10-Year Capital Plan* *Increase compared to current funding*	**Improve Safety, Support Livable Communities**
7	Sidewalk Network Expansion	Accelerate construction of the sidewalk network outlined in the Pedestrian and Bicycle Master Plan (PBMP). Highest priority will be given to sidewalks connecting key destinations (e.g., schools, parks, bus stops) in the Urban Centres and Core Area. *Existing program in 10-Year Capital Plan* *Increase compared to current funding*	**Promote Inclusive Transportation, Improve Health**
8	Local Street Urbanization Program	Invest in sidewalk, street trees and urbanization on local streets where infill development is occurring. **New program*	**Support Livable Communities**

Programs And Education

ID	Project Name	Project Description	Primary TMP Goal(s)
9	TDM Existing Spending	*Reflects existing spending on Transportation Demand Management, Education, Incentives, and Shared Mobility.*	**Promote Inclusive Transportation**
10	Accessibility Transition Plan	As recommended in the City's *Community for All Action Plan*, this project involves developing an Accessibility Transition Plan to ensure sidewalks, crossings and intersections meet the needs of people with disabilities (e.g., people in wheelchairs, mobility scooters or with limited vision and hearing). Accessibility design guidelines will be incorporated into Bylaw 7900 and priority areas for retrofits will be identified. **Project in progress*	**Promote Inclusive Transportation**
11	Adult Cycling Skills Training	Help train new adult riders proper biking techniques and rules of the road to build confidence and skill level. Match new riders with experienced riders for rides to increase skill and comfort level. **New program*	**Promote Inclusive Transportation, Improve Safety, Improve Health**
12	Bike and Ped Individualized Education and Marketing Strategy	Create targeted and neighbourhood specific programs to encourage walking and biking. This may be tied to capital projects to improve the walking and biking network within the neighbourhood. **New project*	**Improve Travel Choices, Promote Inclusive Transportation**

13	Bike Map Program	Develop and produce physical bike maps for residents and visitors, update them as the network is expanded. **New program*	**Improve Travel Choices, Promote Inclusive Transportation**
14	Wayfinding Program	Planning, installation, maintenance and operations for wayfinding signage on active transportation facilities. **New program*	**Improve Travel Choices, Promote Inclusive Transportation**
15	Community Electric Vehicle & E-Bike Strategy - Implementation	Implement the Community Electric Vehicle & E-Bike Strategy to provide enhanced access to EV Charging stations and promote the use of electric bicycles. *Option: Seek out additional funding sources to provide e-bike purchase incentives and/or rebates for income-qualified residents. This would be a cost-effective option to help reduce driving and progress toward climate objectives.* *Existing project*	**Protect the Environment, Improve Travel Choices**
16	Curb Space Management Strategy	Develop a strategy to prepare for increased demand on curb space from ride-hailing, deliveries, and shared mobility. This will be important for managing competing demands within our Urban Centres and maximizing the value of curb space. **New project*	**Be Innovative and Flexible, Enhance Urban Centres**
17	Goods Movement Strategy	Develop a regional strategy for supporting goods movement, including deliveries and curb management, and policies to right-size delivery vehicles in Urban Centres. **Project in progress*	**Foster a Growing Economy**
18	Employer Commute Trip Reduction Program	Development and implementation of a program to encourage, support and incentivize commuting via sustainable modes of travel and reducing peak-hour single occupancy vehicle trips. The program will include partnerships with employers to promote work from home or commuting via, bike, walk, transit, or small-electric vehicles. *Option: Seek out additional funding sources to more fully fund this program once developed. The societal benefit – in terms of time savings, emissions, and safety benefits – for every remote worker is estimated at $1,000 - $1,500 annually. This action could be a cost-effective way to reduce driving and help meet climate objectives.* **New project*	**Be Innovative and Flexible**
19	Open Streets	Closing streets to cars temporarily for festivals and social events, starting with pilot projects. Annual budget for pilot projects. **New project*	**Enhance Urban Centres, Support Livable Communities**

20	Safe Routes to School Program Expansion	The Safe Routes to School Program helps to provide travel plans and infrastructure improvements to schools to help make it safer for students to bike or walk to school. Maximizing the number of students biking and walking to school is a cost-effective strategy for managing peak hour traffic congestion and improving public health. Funding increases by an additional $50k / year (bringing total to $100k / year) which would allow the program to serve all Kelowna schools in 10 – 15 years. *Option: Work with School District 23 to find ways to increase the number of students taking either school buses or public transit to school, for example by lowering the distance threshold for busing students and/or considering other criteria such as steep grades or the need to cross major roads that make biking or walking to school less practical. Recognize that school busing is a cost-effective way to help reduce peak-hour traffic congestion, and reduce greenhouse gases from transportation.* *Increase compared to current funding*	**Improve Safety, Improve Health**
21	Emerging Technologies and Shared Mobility Program	Create incentives for emerging technologies and shared mobility services to launch and operate in wider geographic areas, ensure access to low-income residents, and reduce emissions from operations. **New project*	**Be Innovative and Flexible**
22	Student Bike Skills Training Expansion	Develop a graduated bicycle education program that includes bike rodeos, and more intensive sessions based on HUB Cycling's Learn to Ride program for Kelowna elementary students. The goal is to have all students in Kelowna receive basic safe cycling training by Grade 6. *Increase compared to current funding*	**Promote Inclusive Transportation, Improve Health**
23	Tactical Urbanism Pilot Project	Experiment with quick-build infrastructure and temporary materials to create cost-effective transportation infrastructure or beautification projects like curb extensions, protected bike lanes, sidewalks, quickly responding to challenges with an interim solution outside of the traditional capital planning process. **New program*	**Be Innovative and Flexible**

24	Transit Pass Program Expansion	Expansion of transit pass programs to improve the affordability and convenience of transit service. Potential examples include expanding UPass to Okanagan College students; employee passes for Interior Health, UBC Okanagan and other major employers; and potentially the introduction of discounted passes for lower-income residents. *Option: Expand discounted funding pass program to reach more of those in need through exploring new funding sources. In addition to supporting equity and inclusivity goals, this action could be a cost-effective way to help meet climate objectives.* *Existing program* *Increase compared to current funding*	**Improve Travel Choices**
25	Transit Travel Training Program	Formalize general training for conventional transit to encourage and empower people to use conventional transit. Focus on youth to develop a culture of transit ridership as well as older adults and persons with disabilities to support mobility independence. Explore providing training to working age adults to reduce reliance on personal autos. *Youth/Adult 50+ program piloted 2020-21* *Increase compared to current funding*	**Promote Inclusive Transportation**
26	Transportation Safety Strategy	Through public engagement, staff heard that transportation safety is a top priority for residents. This study would examine transportation safety issues in Kelowna comprehensively and help identify a safety policy and key strategies to reduce fatalities and injuries for all travelers. **New project*	**Improve Safety**
Transit			
ID	**Project Name**	**Project Description**	**Primary TMP Goal(s)**
27	Transit Operating Costs	Increases spending on transit operations including service hours, fleet and operations, maintenance of bus stops, marketing, and administration. Includes projects #27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7. *Increase compared to current funding*	**Improve Travel Choices, Support Livable Communities**
27.1	Custom Transit Service	Increase service hours for custom transit (handyDART) by roughly 60 per cent. *Increase compared to current funding*	**Promote Inclusive Transportation**

27.2	Rutland Transit Service	Rutland residents make the most trips by transit of any neighbourhood in the city. This roughly 80 per cent increase in service on Routes 10 and 11 would improve frequency from every 15 minutes to every 8 to 10 minutes during the peak. The layout of routes in Rutland will be reviewed in the future to streamline services, take advantage of new road connections (Hollywood Rd) and better match service with residents' destinations. *Increase compared to current funding*	**Improve Travel Choices, Protect the Environment**
27.3	Local Service Investment	While the TMP focuses on the busiest routes in the Core Area, local services still play an important role in enabling access. This package would increase service hours by roughly 40 per cent on local routes. For example, Routes 16 and 17 could have frequency increased from every 30 minutes to every 20 minutes. *Increase compared to current funding*	**Improve Travel Choices**
27.4	Harvey Transit Service	Harvey Ave is the spine of our transit network. This package would roughly double hours of service on Route 97. It would allow for more frequent service throughout the day, support new homes and employment along Harvey Ave, and build the foundation for future higher capacity transit (e.g., light rail). *Increase compared to current funding*	**Improve Travel Choices, Protect the Environment**
27.5	Glenmore Transit Service	Glenmore has relatively high potential for transit due to its layout and location "on the way" between UBCO and Downtown. This package would increase hours of service by roughly 55 per cent in Glenmore. Route 6 (Downtown to UBCO) would operate throughout the day instead of only during peak hours. Route 18 (Glenmore to Downtown) and Route 19 (Glenmore to Orchard Park) could also run every 15 minutes during peak hours. *Increase compared to current funding*	**Improve Travel Choices, Protect the Environment**
27.6	Gordon Transit Service	Transit trips from the Mission that pass through Pandosy, Capri-Landmark, and Downtown travel along Gordon Dr, serving a large area where growth is anticipated. This package would more than double service hours for Gordon (+120%). *Increase compared to current funding*	**Improve Travel Choices, Protect the Environment**
27.7	Pandosy / Richter Transit Service	Transit service increases for Pandosy or Richter in alignment with the direction from the Pandosy/Richter Transit Study. This package would roughly double the amount of transit service on Pandosy and Richter. *Increase compared to current funding*	**Improve Travel Choices, Protect the Environment, Enhance Urban Centres**
27.8	Airport Transit Service	Extending select trips from the UBCO exchange to the Airport. *Increase compared to current funding*	**Improve Travel Choices**

28	YLW Transit Hub	Enhancement of YLW airport transit hub infrastructure, in combination with increase in service with purpose of serving both the airport and the Gateway district industrial and commercial. **New project* *Project in the Regional Transportation Plan and Draft Okanagan Gateway Transportation Study*	**Foster a Growing Economy, Improve Travel Choices**
29	Exchange Driver Facilities	Development of two facilities with essential amenities for transit operators, supervisory and security staff at the Queensway and UBCO transit exchanges. **New project*	**Ensure Value for Public Investment**
30	FTN Glenmore - Infrastructure	Bus stop improvements along Glenmore Rd, including enhanced shelters, boarding platforms, and transit priority measures. Outfit intersections with transit signal priority to improve transit speed and reliability. **New project*	**Optimize Travel Times, Improve Travel Choices**
31	FTN Gordon - Infrastructure	Upgrades to bus stops, including the potential for pull-outs, as well as transit signal priority from Dehart Rd to Clement Ave. **New project*	**Optimize Travel Times, Improve Travel Choices**
32	Highway 33 Transit - Infrastructure	Install transit priority measures from Enterprise Way to Rutland Rd to prepare the corridor for higher-order transit services. The improvements will help make transit faster, more reliable, and accommodate higher passenger volumes at stops. **New project*	**Improve Travel Choices, Optimize Travel Times**
33	Springfield Transit - Infrastructure	Upgrades to bus stops, including the potential for queue jumper lanes at intersections, as well as transit signal priority from Pandosy St to Ziprick Rd. **New project*	**Optimize Travel Times, Improve Travel Choices**
34	Highway 97 Dedicated Transit Lanes - Infrastructure	Adding dedicated transit lanes along Highway 97 would create a fast and reliable transit corridor from the bridge to UBC Okanagan. It would make more efficient use of the existing road network, increase the number of people that can move along Highway 97, and allow transit to bypass traffic and stay on schedule. Adding dedicated transit lanes would also protect space for potential future conversion to light rail or other type of transit. This may be possible in the future as the population grows and technology brings costs down. The goal of the project would be to achieve a fast and reliable transit corridor without reducing vehicle capacity. Further study is required to determine the best way to achieve this goal. It is anticipated the project will be part of the next phase of the Province's Central Okanagan Planning Study. **New project* *Project in the Regional Transportation Plan*	**Optimize Transit Travel Times, Improve Travel Choices**

35	Hollywood Rd Transit - Infrastructure	Transit infrastructure in support of new Local ridership services on Hollywood Rd from South Rutland to John Hindle Drive. **New project* *Project in the Regional Transportation Plan*	**Improve Travel Choices, Optimize Travel Times**
36	Orchard Park Exchange	Redevelopment of the Midtown (Orchard Park) Exchange which has reached capacity during peak periods. The new design will attempt to address the operational challenges with the existing layout stemming from interactions between buses, vehicles, and people walking. Further, the current exchange is located on private property and is not under a formal lease with the landowner. A stable, long-term solution for the facility is required to facilitate future service expansion. May include integration of a mobility hub into the transit exchange design. *Existing Project in 10-Year Capital Plan – P2*	**Optimize Travel Times, Improve Travel Choices, Improve Safety**
37	Mission Recreation Transit Exchange & Mobility Hub	Serving the current Mission Recreation exchange requires that buses slowly navigate the internal road network of the broader site, often conflicting with other users, particularly in the roundabout fronting H20. This circuitous routing adds to operating costs. A relocated exchange will address these challenges, support an increase in transit trips for the Mission and the recreation complex. May include integration of a mobility hub into the transit exchange design. *Existing project in 10-Year Capital Plan – P2* *Project is contingent on senior government funding*	**Improve Travel Choices, Optimize Travel Times, Improve Safety**
38	Mobility Hubs at Transit Exchanges	Funding for mobility hubs at Queensway, and UBCO transit exchanges. Mobility hubs are also proposed at other transit exchange locations, and incorporated into those projects (see # 28, 35, 36, 40, and 45). **New project*	**Be Innovative and Innovative, Improve Travel Choices**
39	Transit - New Bus Stops and Amenities Program	Annual program involving design and construction of new bus stops in support of service changes, installation of new transit shelters, benches, signage and other stop amenities. The program also supports public requests for stop improvements such as accessibility enhancements, as well as coordination with development that occurs along transit corridors. *Increase compared to current funding*	**Improve Safety, Improve Travel Choices, Support Livable Communities**
40	Transit - Land Acquisition	Annual land acquisition funding for bus stops and other improvements. *Existing program in 10-Year Capital Plan – P2*	**Improve Travel Choices, Ensure Value for Public Investment**
41	Okanagan College Transit Exchange and Stations	Relocation of the transit exchange to align with Okanagan College's plans for campus expansion. May include integration of a mobility hub into the transit exchange design. **New project*	**Foster a Growing Economy, Be Innovative and Flexible**

42	Okanagan College Exchange Capacity Expansion	Addition of a bus bay to the existing exchange to facilitate service expansion. **New project*	**Improve Travel Choices, Foster a Growing Economy**
43.1	Pandosy / Richter Transit Study	The 2040 OCP identifies Pandosy and Richter as 'Transit Supportive Corridors', where new housing and commercial will be focused around high-quality transit service. This study will identify needed transit service and infrastructure improvements along the Pandosy and Richter corridors to accommodate future transit demand as this area grows. **New Project* *Project in the Regional Transportation Plan*	**Improve Travel Choices, Optimize Travel Times**
43.2	Pandosy / Richter Transit - Infrastructure	Infrastructure for frequent service to support increased transit demand between Downtown and the Mission. Pandosy / Richter study will determine required service levels for the Pandosy and Richter corridors respectively. This project may be delivered in parallel with changes to existing Route 1 Lakeshore (Project #43). **New Project* *Project in the Regional Transportation Plan*	**Improve Travel Choices, Optimize Travel Times**
44	Route 1 FTN+ Infrastructure	Infrastructure such as upgraded bus stops and transit priority improvements in support of service expansion to FTN+ levels on Pandosy St and Lakeshore Rd. **New project*	**Improve Travel Choices, Optimize Travel Times**
45	Rutland Road FTN+ Infrastructure	Infrastructure such as upgraded bus stops and transit signal priority, to support frequent service on Rutland Road in its role as a 'Transit Support Corridor' linking the Rutland Urban Centre with UBCO and the Gateway district. **New project*	**Improve Travel Choices, Optimize Travel Times**
46	Rutland Mobility Hub and Driver Facility	Design, land acquisition and construction of parking lot near the Rutland Transit Exchange for mobility hub and possible park and ride in partnership with BC Transit or private development. **New project*	**Improve Travel Choices, Be Innovative and Flexible**
47	Rutland Network Restructure - Infrastructure	Upgrade existing sub-standard stops, construction of new stops in association with network restructuring in north and south Rutland. *Existing project* *Project in the Draft Okanagan Gateway Transportation Study*	**Improve Travel Choices, Optimize Travel Times, Support Livable Communities**
48	Transit Maintenance & Operations Centre	Development of a new transit operations facility south of UBCO with a larger capacity for buses, maintenance, administration and other functions. The new facility will enable service hour increases targeted in the Transit Future Action Plan and support the planned transition to a low-carbon fleet. *Existing project in 10-Year Capital Plan* *Project is contingent on senior government funding*	**Support Livable Communities, Be Innovative and Flexible**

Road Connections			
ID	**Project Name**	**Project Description**	**Primary TMP Goal(s)**
49	Benvoulin Capacity Optimization	The project involves maximizing the capacity of Benvoulin Rd, from KLO to Casorso while avoiding widening to a full five lane cross-section, to accommodate growth. **New project*	**Improve Safety, Optimize Travel Times**
50	Burtch 2 (Byrns/Guisachan - KLO)	The project involves the extension of Burtch Rd from Byrns/Guisachan Rd to KLO Rd to accommodate growth. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times, Foster a Growing Economy**
51	Burtch 3 (Glenmore - Springfield)	Reconstruction of Burtch Rd between Springfield Rd and Glenmore Rd to a four-lane arterial, in conjunction with the redevelopment of Parkinson Rec Centre. It would effectively be an extension of Glenmore Rd to KLO Road (in conjunction with Burtch Extension), increasing network redundancy and north-south connectivity. Includes portions of 5-laning from north of Harvey to south of Springfield. The project includes an ATC facility. **New project* *Project in the Regional Transportation Plan*	**Optimize Travel Times, Foster a Growing Economy, Improve Travel Choices**
52	Casorso Roundabouts	The project involves optimizing capacity of the Casorso/Swamp and Casorso/Benvoulin roundabouts using the existing Casorso bridge. Capacity will be increased through the addition of auxiliary lanes, widening/lengthening approaches and other upgrades to the roundabouts. **New project*	**Optimize Travel Times, Foster a Growing Economy**
53	Clement 1 (Ellis - Graham)	Reconstruction of the south side of Clement as a five-lane arterial between Ellis and Graham to accommodate growth. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times, Foster a Growing Economy**
54	Clement 2 Extension (Spall - Highway 33)	Extending Clement Avenue as a two-lane roadway from Spall Road to Highway 33 with at-grade intersections at Spall, Dilworth Drive and Highway 33. The Okanagan Rail Trail would be preserved, though realignment will be necessary in some sections. This project is recommended for consideration in conjunction with the dedicated transit lanes project along Highway 97 (#47). Further study, in partnership with the Ministry of Transportation and Infrastructure is anticipated as part of the next phase of the Central Okanagan Planning Study. *Existing project in 10-Year Capital Plan – P2* *Project in the Regional Transportation Plan*	**Optimize Travel Times, Foster a Growing Economy**

55	Clement 3 Extension Land (Highway 33 – McCurdy)	Purchase of land to protect a corridor for the Clement Extension from Highway 33 to McCurdy Rd. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan*	**Optimize Travel Times, Foster a Growing Economy**
56	Commonwealth Rd Upgrade	Linking Commonwealth Road to Jim Bailey Rd across the former rail corridor and upgrading Commonwealth to serve both industrial and residential traffic. **New project*	**Support Livable Communities, Foster a Growing Economy**
57	Acland 2 (John Hindle Drive – Airport Way)	This project involves extending Acland Rd from the future John Hindle Extension interchange to Airport Way. This will create a new, direct road connection between John Hindle Dr, Rutland Rd and the Airport as an alternative to Highway 97. *Existing project in 10-Year Capital Plan – P2* *Project in the Okanagan Gateway Transportation Study and Regional Transportation Plan*	**Optimize Travel Times, Foster a Growing Economy**
58	Frost 1 (Killdeer - Chute Lake)	Frost Rd extension from Killdeer to Chute Lake Rd directly opposite Okaview Rd (Chute Lake Cr) forming a four-leg roundabout intersection to accommodate growth. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times, Support Livable Communities**
59	Glenmore 5 (Union Rd - John Hindle Dr)	Widen Glenmore Rd to four lanes between Union Rd and John Hindle Dr and improve the intersection with John Hindle, improving safety and capacity along the corridor. The project accommodates growth and will be delivered in conjunction with Glenmore 5 ATC (project ID#103) to complete a gap in the active transportation network. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan*	**Optimize Travel Times, Improve Travel Choices**
60	Glenmore Rd Safety Upgrades (John Hindle - Lake Country)	This project is a safety improvement for Glenmore Rd between John Hindle Dr and Lake Country in response to anticipated increases in traffic volumes. The work will involve straightening corners, shoulder widening, and intersection improvements. Land for potential four-laning in the future should be protected. **New project* *Project in the Regional Transportation Plan*	**Improve Safety, Foster a Growing Economy**
61	Gordon Dual Left Turns (Sutherland - Bernard)	The project will upgrade Gordon Dr between Sutherland Ave & Bernard Ave. The upgrades include land acquisition, construction of dual left turn lanes on Gordon Dr at Highway 97, bike lanes, and other intersection works. *Existing project in Capri-Landmark Urban Centre Plan*	**Optimize Travel Times**
62	Gordon Bridge over Bellevue Creek	The project involves upgrading & widening of the existing narrow bridge. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**

63	Hollywood 7 DCC (Sexsmith - Appaloosa) Improvements	Portion of Hollywood 7 improvements planned for 2021. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan and Draft Okanagan Gateway Transportation Study*	**Improve Travel Choices, Foster a Growing Economy**
64	Hollywood 7 Rd (Hwy 97 - John Hindle)	The project will extend Hollywood Rd N from Highway 97 to John Hindle Dr. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan and Draft Okanagan Gateway Transportation Study*	**Improve Travel Choices, Foster a Growing Economy**
65	Hollywood 6 Rd (Rail Trail – Sexsmith)	The project will extend Hollywood Rd N from the Rail Trail to Sexsmith Rd. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan and Draft Okanagan Gateway Transportation Study*	**Improve Travel Choices, Foster a Growing Economy**
66	Hollywood 5 Rd (Hwy 97 – Rail Trail)	The project will extend Hollywood Rd N from Highway 97 to the Rail Trail and will include a new bridge over Mill Creek. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan and Draft Okanagan Gateway Transportation Study*	**Improve Travel Choices, Foster a Growing Economy**
67	Hollywood 4 Rd (McCurdy - Hwy 97)	The project will extend Hollywood Rd N between McCurdy Rd and Highway 97 following the existing Findlay Rd. *Existing project in 10-Year Capital Plan*	**Foster a Growing Economy, Optimize Travel Times**
68	Hollywood 3 Rd (McCurdy – Stremel)	The project will extend Hollywood Rd N between Stremel Rd and McCurdy Rd. *Existing project in 10-Year Capital Plan*	**Foster a Growing Economy, Optimize Travel Times**
69	Lakeshore 1 DCC (DeHart - Vintage Terrace), Road	The project will complete remaining road upgrades between McClure Rd & Vintage Terrace Rd. A separate DCC AT project will complete a multi-use pathway on the west side. The project will be coordinated with utility upgrades and potential developments in the area. *Existing project in 10-Year Capital Plan*	**Foster a Growing Economy**
70	Lakeshore 1 DCC Bridge at Bellevue Creek	The project will fund construction of Lakeshore Rd bridge over Bellevue Creek. The bridge will include all road features both for vehicular and active transportation. *Existing project in 10-Year Capital Plan*	**Improve Safety, Foster a Growing Economy**
71	Lakeshore 3 Bridge at Wilson Creek	The project will fund replacement of Lakeshore Rd bridge over Wilson Creek north of Cook Rd. The bridge will include features both for vehicular and active transportation. *Existing project in 10-Year Capital Plan*	**Ensure Value for Public Investment, Foster a Growing Economy**
72	Lakeshore 3 Rd (Richter – Cook)	Addition of left turn lanes at intersections and sidewalk on east side of Lakeshore Rd. Two-way left turn lane or concrete/tree median (as space permits) to be added between Swordy and Bechard for beautification and access management. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times, Improve Safety**

73	Major Intersection Capacity Improvements	The Intersection Capacity Program is targeted to expand vehicle capacity at key intersections. Since intersections are the main constraints in a transportation network, investing in intersections rather than corridor widening is a more cost-effective approach. **New program*	**Optimize Travel Times, Foster a Growing Economy**
74	McCulloch Area DCC (KLO/Hall/Spiers)	The project involves realignment of Spiers Rd to form a four-leg roundabout at Hall Rd. The existing Spiers/KLO intersection will be terminated. The realignment will also involve land disposition & acquisition. The project will be coordinated with Mission Creek bridge replacement and utility upgrades. *Existing project in 10-Year Capital Plan*	**Improve Safety, Foster a Growing Economy**
75	McCurdy Extension (Hwy 97 - Dilworth)	This project will extend McCurdy Rd as an arterial road from Highway 97 to Dilworth Dr, shortening trip distances between Glenmore, Rutland, and the Highway 97 commercial corridor and reducing out-of-direction travel. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times**
76	Road Safety Improvements	Most serious collisions occur at intersections. The Road Safety Program is needed to target intersections with higher collision rates. This program will allow the City to improve one or two intersections every year depending on funding level and the scale of improvements as each location will vary. **New program*	**Improve Safety**
77	Rutland 2 (Old Vernon Roundabout)	Expansion of the existing roundabout to a multilane roundabout to accommodate future growth. *Existing project in 10-Year Capital Plan*	**Foster a Growing Economy, Optimize Travel Times**
78	South Perimeter 1 (Gordon – Stewart 1)	The project will construct a 2-lane rural arterial road from the south end of Gordon Dr to the south end of Stewart Rd West to accommodate growth in the South West Mission area. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times**
79	Gordon 1 (Frost – South Perimeter)	The project involves southerly extension of Gordon Dr to South Perimeter Rd to accommodate growth in Southwest Mission. *Existing project in 10-Year Capital Plan*	**Optimize Travel Times**
80	Stewart 3 (Crawford – Dehart)	The project involves construction between Crawford Rd and DeHart Rd and land acquisition only between DeHart Rd and Swamp Rd. The corridor inherits sub-standard geometry. Safety improvements are needed following the construction of South Perimeter Rd. *Existing project in 10-Year Capital Plan*	**Improve Safety, Optimize Travel Times**
81	Sector B Deficiencies/Top Lift Paving	Correcting pavement and road surface deficiencies at several locations in the Upper Mission. *Existing project in 10-Year Capital Plan*	**Ensure Value for Public Investment**

82	Traffic Signals & Roundabouts Program	As traffic volumes continue to grow at intersections, roundabouts and traffic signals are warranted to improve traffic control. Partnerships with ICBC have delivered some projects in this program in the past. *Existing program in 10-Year Capital Plan*	**Improve Safety, Optimize Travel Times**
83	Lakeshore 4 (Lanfranco - Richter)	The project will upgrade Lakeshore Rd between Lanfranco Rd and Richter St including urbanization such as curb, boulevard, sidewalk, and protected bike lanes, as development occurs. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety**
84	Richter 1 (Sutherland - KLO)	Urbanization of Richter to support densification from Pandosy urban centre to Downtown with a multimodal corridor. Pandosy/Richter Transit Study will set direction for this project. **New project*	**Enhance Travel Affordability, Improve Travel Choices, Optimize Travel Times**
85	Rutland Multimodal Corridor (Robson – Leathead)	Reconstruction of Rutland Rd as a Transit Supportive Corridor with better infrastructure for people walking, biking, and using transit. **New project*	**Enhance Travel Affordability, Improve Travel Choices, Optimize Travel Times**
86	Sutherland Complete Street (Burtch - Spall)	This project is the extension of Sutherland from Burtch Rd to Spall Rd as a complete street with protected two-way cycle track on the north side. It provides east-west connectivity and facilitates development in Capri-Landmark. *Existing project in Capri-Landmark Urban Centre Plan*	**Enhance Urban Centres, Improve Travel Choices**
87	Sutherland Complete Street (Spall - Dilworth)	Design only, for the extension of Sutherland Ave from Spall Rd to Dilworth Dr, with two-way protected cycle track on the north side. The future extension will improve connectivity through Midtown and will encourage economic development in the urban centre. **New project*	**Enhance Urban Centres, Improve Travel Choices**
88	Urban Centre Improvements	Streetscaping and beautification of key commercial streets in Urban Centres, with a focus on Rutland and South Pandosy. The program will seek inspiration from the success of Bernard Avenue, improving conditions for walking, shopping, and patios, and supporting local businesses. **New program*	**Enhance Urban Centres, Foster a Growing Economy**

Biking

ID	Project Name	Project Description	Primary TMP Goal(s)
89	Abbott ATC (Rose – Cedar)	Extension of the Abbott Street active transportation corridor from Rose Ave to Cedar Ave, connecting to the Pandosy Waterfront Park. *Existing project in 10-Year Capital Plan*	**Support Livable Communities, Improve Health**

90	Abbott Protected Bike Route (Rose – West), ATC	A pilot project seeking to advance the development of protected bike lanes on Abbott St from Rose Ave to the south of West Ave using interim materials, reducing the gap in the Abbott Active Transportation Corridor (ATC) network and connecting to the Pandosy Urban Centre. **New project*	**Improve Travel Choices, Promote Inclusive Transportation**
91	AT Corridor/Bike Network Expansion	An annual program to build or improve existing bike lanes, including signs, markings, signals, and trip end facilities. Annual projects are identified in the Pedestrian & Bicycle Master Plan. To maximize the benefits, projects in Urban Centres and the Core Area will be prioritized. *Existing program in 10-Year Capital Plan*	**Improve Travel Choices, Promote Inclusive Transportation**
92	Okanagan Rail Trail Lighting and Improvements (Dilworth - Airport)	Funding for lighting the Okanagan Rail Trail incrementally from west to east based on trail utilization and user feedback. *Existing project in 10-Year Capital Plan*	**Improve Safety, Promote Inclusive Transportation**
93	Burtch 2 ATC (Springfield - Benvoulin)	Active transportation component of Burtch 2 Extension from Springfield Rd to Benvoulin Rd. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
94	Burtch 3 ATC (Glenmore - Springfield)	Active transportation component of Burtch 3 Rd upgrades from Glenmore Dr to Springfield Rd. **New project*	**Improve Safety, Improve Travel Choices**
95	Bertram ATC (Sutherland - Cawston)	Providing a north-south protected bike connection across Downtown to accommodate growth, including the new UBCO campus. **New project*	**Enhance Urban Centres, Improve Travel Choices, Improve Health**
96	Casorso 3 ATC (KLO - Barrera)	Protected bike lanes to create a north-south active transportation connection in the Pandosy urban centre between the Ethel ATC and Barrera ATC. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety, Enhance Travel Affordability**
97	Casorso 4 ATC (Raymer - KLO)	This project will provide a north-south active transportation connection along the Pandosy urban centre from the Ethel ATC to KLO Rd, also creating a link to Okanagan College. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety, Enhance Travel Affordability**
98	Bertram/Central Green Overpass	The project includes an overpass for people walking and biking connecting Downtown with Central Green along with considerations for linking to the Sutherland bike corridor and future bike routes in downtown. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety**

99	Rail Trail to Greenway ATC	A north-south biking connection between the Okanagan Rail Trail and Mission Creek Greenway that would also connect to the Midtown Urban Centre. Dilworth Dr, Cooper Rd, and Leckie Rd are possible alignments. If development and funding conditions favour one corridor, the corridor that can be completed the soonest is the priority. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan*	**Improve Travel Choices, Improve Safety, Improve Health**
100	Ethel 3 & 5 ATC (Springfield - Raymer)	Protected bike lanes connecting from Springfield Rd to Raymer Ave. ***Completed in 2021***	**Improve Safety, Improve Travel Choices**
101	Ethel 6 ATC (Cawston - Rail Trail)	Construction of a key bike connection, extending the Ethel St active transportation corridor from Cawston Ave to the Okanagan Rail Trail. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
102	UBCO MUP	Multi-use pathway connections between UBCO campus and Quail Ridge residential and commercial areas. **New project* *Project in the Draft Okanagan Gateway Transportation Study*	**Improve Safety, Improve Travel Choices**
103	Glenmore 5 ATC (Scenic – John Hindle)	Extension of multi-use path from Scenic Dr to John Hindle Dr as part of Glenmore 5 (project ID #59). **New project*	**Improve Safety, Improve Travel Choices**
104	Glenmore 3 ATC (Clement - High)	Neighbourhood bikeway parallel to Glenmore Road. Alignment study required to determine route. **New project*	**Improve Safety, Improve Travel Choices**
105	Glenmore 4 ATC (Yates – Dallas)	Multi-use path on Yates, Ballou, and McTavish to close a gap in the active transportation network. Multi-use path link along Kane into village centre is also included. *Existing project in 10-Year Capital Plan* *Project in the Regional Transportation Plan*	**Improve Safety, Improve Travel Choices**
106	Hollywood 3 ATC (McCurdy – Stremel)	Active transportation component of Hollywood Rd Extension from Stremel Rd to McCurdy Rd. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
107	Hollywood 4 ATC (Stremel – Hwy 97)	Active transportation component of Hollywood Rd Extension from Highway 97 to Stremel Rd. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choice**
108	Hollywood 5 ATC (Hwy 97 – Rail Trail)	Active transportation component of Hollywood Rd Extension from the Rail Trail to Highway 97. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**

109	Hollywood 6 ATC (Rail Trail – Sexsmith)	Active transportation component of Hollywood Rd Extension from Sexsmith Rd to the Rail Trail. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
110	Hollywood 7 ATC (Sexmsmith – John Hindle)	Active transportation component of Hollywood Rd Extension from John Hindle Dr to Sexsmith Rd. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
111	Hollywood 9 ATC (Hollydell – Hwy 33)	The work primarily involves urbanizing the west side of Hollywood and modifying the signal at Hwy 33. Some land acquisitions may be necessary. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety, Improve Travel Choices**
112	Hollywood 10 ATC (Hwy 33 – McCurdy)	Installation of protected bike lanes on Hollywood Rd from Highway 33 to McCurdy Rd. The project may require reconstruction of the curbs. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
113	Hollywood 11 ATC (Springfield - Mission Creek)	This project completes the segment of Hollywood ATC from Springfield Rd to the Mission Creek Greenway. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices**
114	Houghton 2 ATC (Hollywood - Rutland)	The project involves extension of the Houghton ATC from Hollywood Rd east to Rutland Rd, completing a key corridor for walking and biking in the Rutland urban centre. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety, Improve Health**
115	Lakeshore 4 ATC (Lanfranco – Richter)	Protected bike lanes component of Lakeshore Rd upgrade between Lanfranco Rd and Richter St. *Existing project in 10-Year Capital Plan*	**Enhance Urban Centres, Improve Safety, Protect the Environment**
116	Lakeshore 3 ATC (Lexington – Old Meadows)	The project will complete the remaining multi-use pathway on the west side between Lexington Dr & Old Meadows Rd. The urbanization on the east side will be incrementally delivered by development. *Existing project in 10-Year Capital Plan*	**Improve Travel Choices, Improve Safety, Improve Health**
117	Lakeshore 2 ATC (Old Meadows – Dehart)	The project will complete the remaining multi-use pathway on the west side between Old Meadows Rd & Greene Rd. The urbanization on the east side will be incrementally delivered by development. *Existing project in 10-Year Capital Plan*	**Improve Travel Choices, Improve Safety, Improve Health**

118	Lakeshore 1 ATC (DeHart – Vintage Terrace)	The project will complete the remaining multi-use pathway on the west side between McClure Rd & Vintage Terrace Rd. Separate DCC Roads projects will fund the other road features such as Bellevue Creek bridge, curb, gutter, boulevard, bike lane & sidewalk south of McClure Rd. The project will be coordinated with utility upgrades and potential developments in the area. *Existing project in 10-Year Capital Plan*	**Improve Travel Choices, Improve Safety, Improve Health**
119	Leon Lawrence ATC (Waterfront - Ethel)	Complete street project in the Downtown using Leon and Lawrence as a one-way couplet to create a protected bike route between Abbott and Ethel. *Existing project in 10-Year Capital Plan – P2* *Project in the Regional Bicycling and Trails Master Plan*	**Enhance Urban Centres, Improve Safety, Protect the Environment**
120	Neighbourhood Bikeway Capital Program	Program to construct neighbourhood bikeways on local streets. Neighbourhood bikeways are a lower-cost alternative to protected bike lanes on quieter streets that are suitable for all ages and abilities. Typical projects will include wayfinding signage, traffic calming elements, and crossing signals on major roads to ensure safety and control speeding. **New program*	**Improve Travel Choices, Improve Health**
121	Okanagan Rail Trail - Connection to Waterfront Park Pathway	The Okanagan Rail Trail forms an important all ages and abilities walking and bicycling connection between Downtown, UBCO and points in-between. This project closes the gap between the trail's current endpoint west of Ellis, to Sunset Dr, and then connecting to the Waterfront Park pathway.	**Improve Travel Choices, Support Livable Communities**
122	Pandosy Village ATC (Raymer - Abbott)	The project will deliver an east-west protected bike route connecting the Casorso/Ethel ATC from Raymer Ave with the Abbott ATC through Pandosy. This will also form a key connection to Okanagan College and Kelowna Secondary. Alignment to be determined. **New project*	**Enhance Urban Centres, Improve Travel Choices, Improve Safety**
123	Richter 1 ATC (Sutherland - KLO)	Protected bike lanes component of Richter St urbanization to support densification from Pandosy to Downtown with a multimodal corridor. **New project*	**Enhance Travel Affordability, Improve Travel Choices, Optimize Travel Times**
124	Rose 1 Road and ATC (Pandosy - Ethel)	Design only, for the active transportation corridor on Rose Ave between the KGH and the Ethel ATC. *Existing project in 10-Year Capital Plan*	**Improve Safety, Support Livable Communities**
125	Rutland Rd ATC (Robson – Leathead)	Active transportation component of the Rutland Rd reconstruction as a Transit Supportive Corridor. **New project*	**Enhance Travel Affordability, Improve Travel Choices, Optimize Travel Times**

126	Houghton 1 ATC (Houghton - Rail Trail)	The project extends the current Houghton ATC from Nickel Rd to the Rail Trail at Enterprise Way via Leathead. This creates a crucial link for walking and bicycling between Rutland and the Rail Trail. *Existing project in 10-Year Capital Plan*	**Improve Safety, Improve Travel Choices, Protect the Environment**
127	Sutherland 2 DCC ATC (Ethel - Gordon)	Continued extension of the Sutherland two-way cycle track from Ethel St to Lequime St. *Existing project in 10-Year Capital Plan*	**Improve Safety, Support Livable Communities, Enhance Urban Centres**
128	Sutherland 1 ATC Improvements (Gordon - Burtch)	The project will provide an interim extension of the Sutherland two-way cycle track from Lequime St to Burtch Rd using quick-build materials. Permanent infrastructure will be installed when funds become available. **New project*	**Improve Safety, Support Livable Communities, Enhance Urban Centres**
129	Sutherland 1 ATC (Lequime – Burtch)	The project will extend the Sutherland two-way cycle track from Lequime St to Burtch Rd to provide a critical bike connection between Downtown and Capri-Landmark. *Existing project in 10-Year Capital Plan*	**Improve Safety, Support Livable Communities, Enhance Urban Centres**
130	Sutherland Complete Street ATC (Burtch – Spall)	Protected cycle track component of the Sutherland Ave extension, which will provide east-west connectivity and accommodates growth in Capri-Landmark urban centre. **New project*	**Improve Safety, Support Livable Communities, Enhance Urban Centres**

Appendix B: Functional Classification System

Functional Classification System

The Functional Classification System organizes streets by land use and street type (described further in Chapter 2). These classifications help determine priorities for activities like snow clearing or street sweeping and the requirements for new developments.

Kelowna's street network has evolved over decades and will continue to change. While the classification of some streets may seem out of place for today's conditions, it accounts for future growth outlined in the 2040 Official Community Plan (OCP).

The Functional Classification Map (Map B.1) also includes key roads that do not yet exist, but are planned for the future. These may be roads recommended within the next 20 years, longer-term projects beyond the TMP's 20-year timeframe, or roads connected to the development of specific properties.

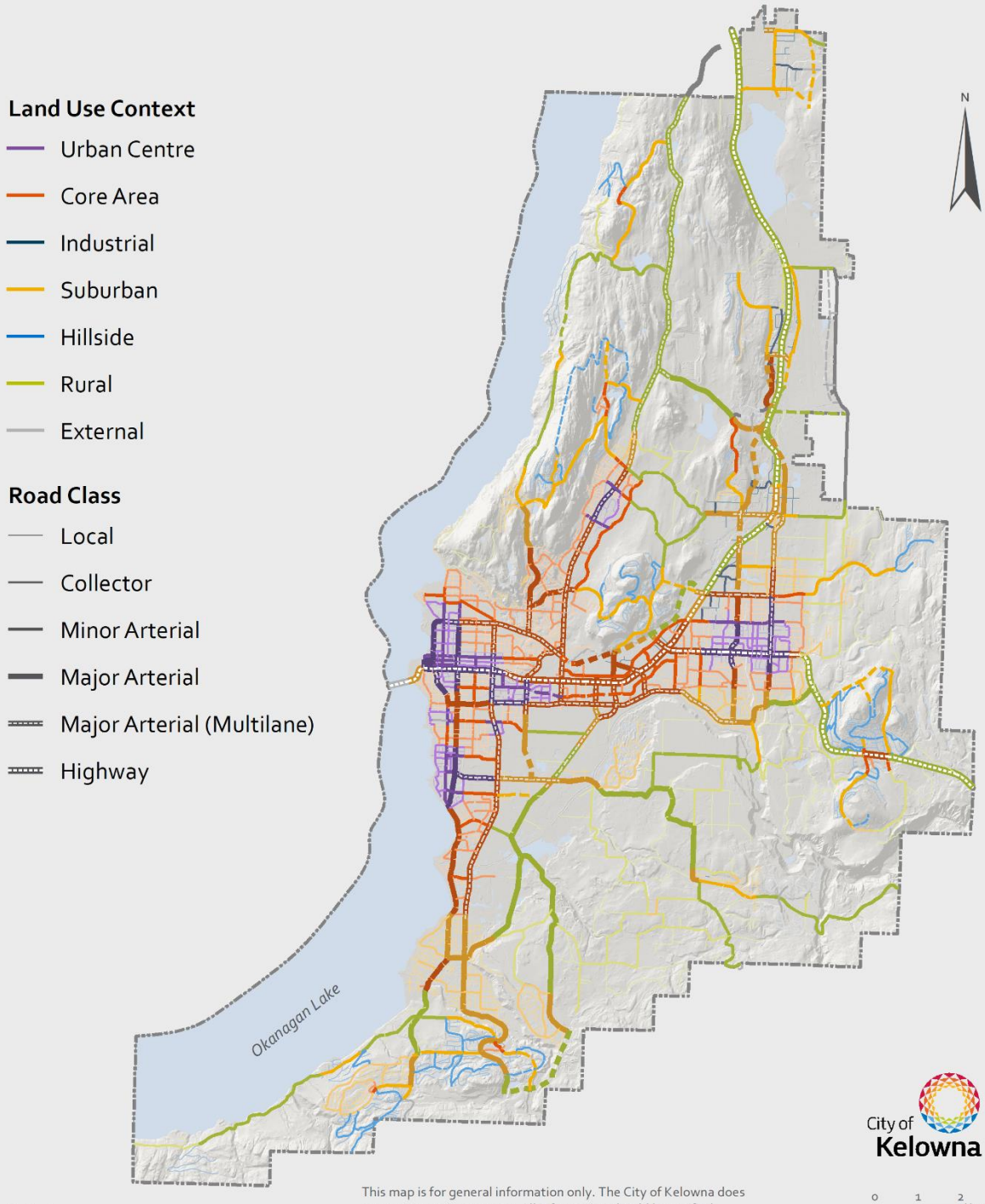
Please note that the Functional Classification Map does not show laneways or emergency accesses.

		Street Type			
		Neighbourhood Streets		Major Roads	
Land Use	Urban Centre	Urban Centre Local	Urban Centre Collector	Urban Centre Minor Arterial	Urban Centre Major Arterial
	Core Area	Core Area Local	Core Area Collector	Core Area Minor Arterial	Core Area Major Arterial
	Industrial	Industrial Local	Industrial Collector		
	Suburban	Suburban Local	Suburban Collector	Suburban Minor Arterial	Suburban Major Arterial
	Hillside	Hillside Local	Hillside Collector		
	Rural	Rural Local	Rural Collector	Rural Minor Arterial	Rural Major Arterial

The Functional Classification System is a part of both the 2040 OCP and 2040 TMP. Typical cross-sections associated with each functional class are part of the Subdivision, Development & Servicing Bylaw (Bylaw 7900). Updates to align Bylaw 7900 with the 2040 OCP and 2040 TMP are currently underway and will follow endorsement of the 2040 TMP. The Functional Classification System and Bylaw 7900 work together within a larger system of policies to guide the development of new transportation infrastructure.

2040 Transportation Master Plan

Map B.1 Functional Road Classification



Rev. Sep 8, 2021

This map is for general information only. The City of Kelowna does not guarantee its accuracy. All information should be verified.

Overlay maps

The functional classification system describes many of Kelowna's streets. Some streets have unique roles which are outlined in the following four overlay maps.

- **Transit Overlay Map**
  Map B.2 shows current and planned transit routes where additional space may be required for bus stops. Since most people walk to and from a bus stop, it is important to ensure these streets have good sidewalks and convenient places to cross and catch the bus. Special attention is necessary to accommodate larger transit vehicles along these routes.

- **Bicycle Overlay Map**
  Map B.3 shows streets where additional street right-of-way is typically needed to separate people biking from vehicle traffic. Primary bike routes are intended to accommodate people of all ages and abilities (e.g., Ethel, Sutherland, or Cawston). Secondary routes are usually bike lanes that connect people to the primary routes and their destinations.

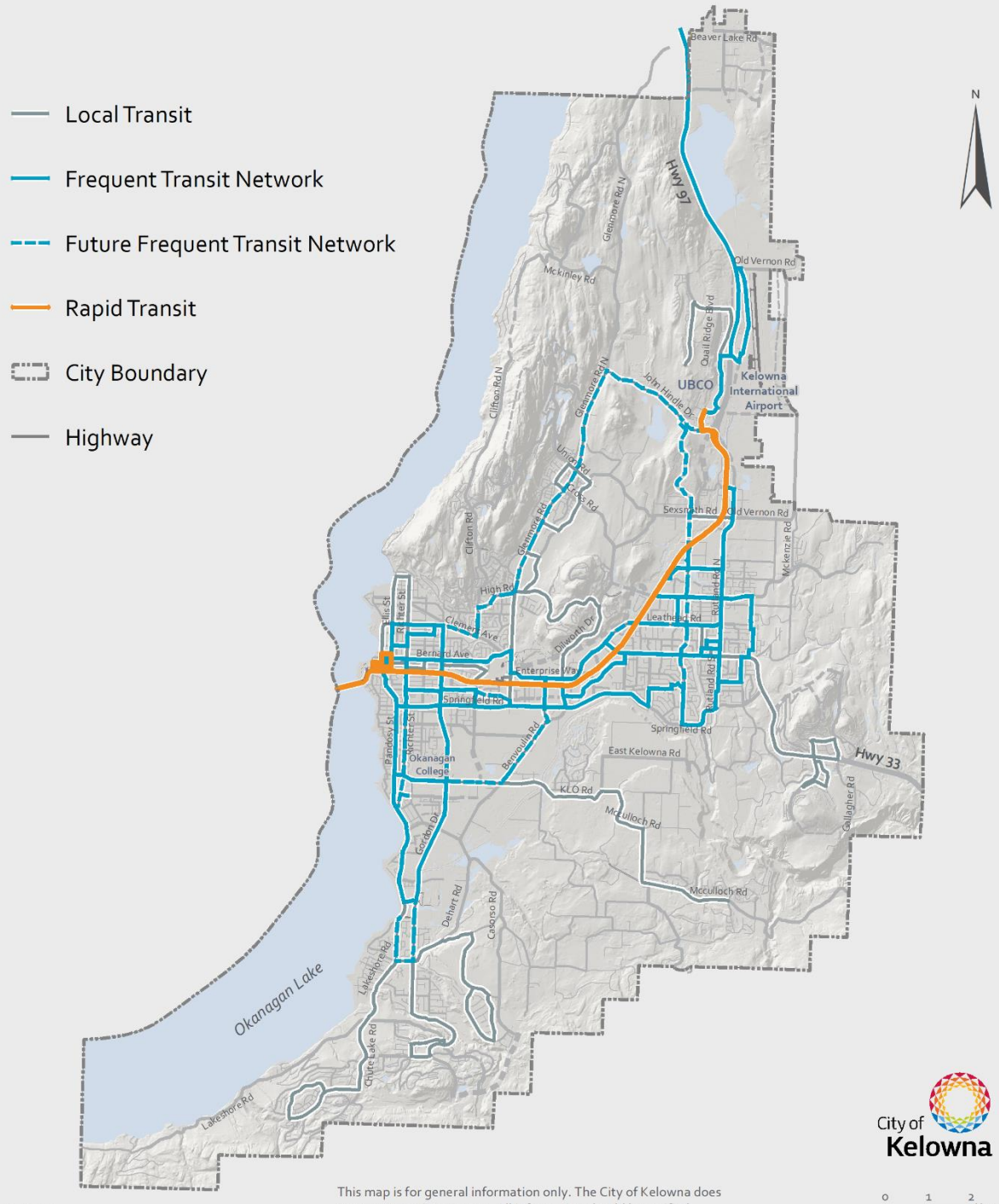
  The Bicycle Overlay is based on the Pedestrian and Bicycle Master Plan (2016) and has been updated to reflect the project priorities in the 2040 Transportation Master Plan.

- **Truck Route Overlay Map**
  Truck routes are important for the movement of goods and to support local businesses. While trucks and commercial vehicles use the majority of the road network, Map B.4 shows where more truck traffic can be expected. In rural areas, agricultural truck traffic can increase during certain seasons. Special attention is necessary to accommodate larger vehicles along these routes.

- **DCC Project Overlay Map**
  Map B.5 shows places where new roads or retrofit projects are planned over the next 20 years as part of the Development Cost Charge (DCC) Program. This map also includes recommended projects that are not yet funded but that are likely to become DCC projects in future updates.

2040 Transportation Master Plan

Map B.2 Transit Overlay
Functional Road Classification



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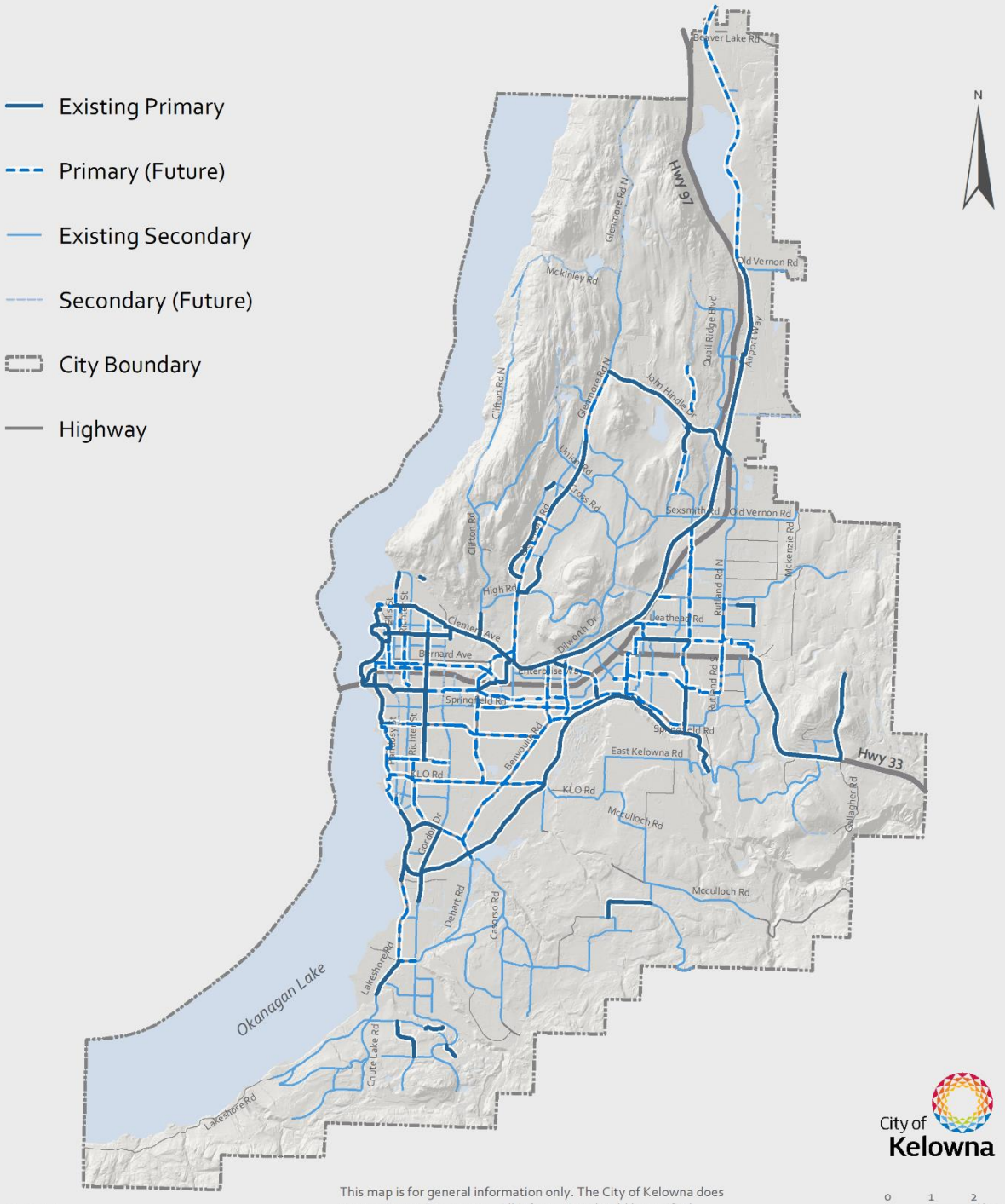
2040 Transportation Master Plan

Map B.3 Biking Overlay
Functional Road Classification



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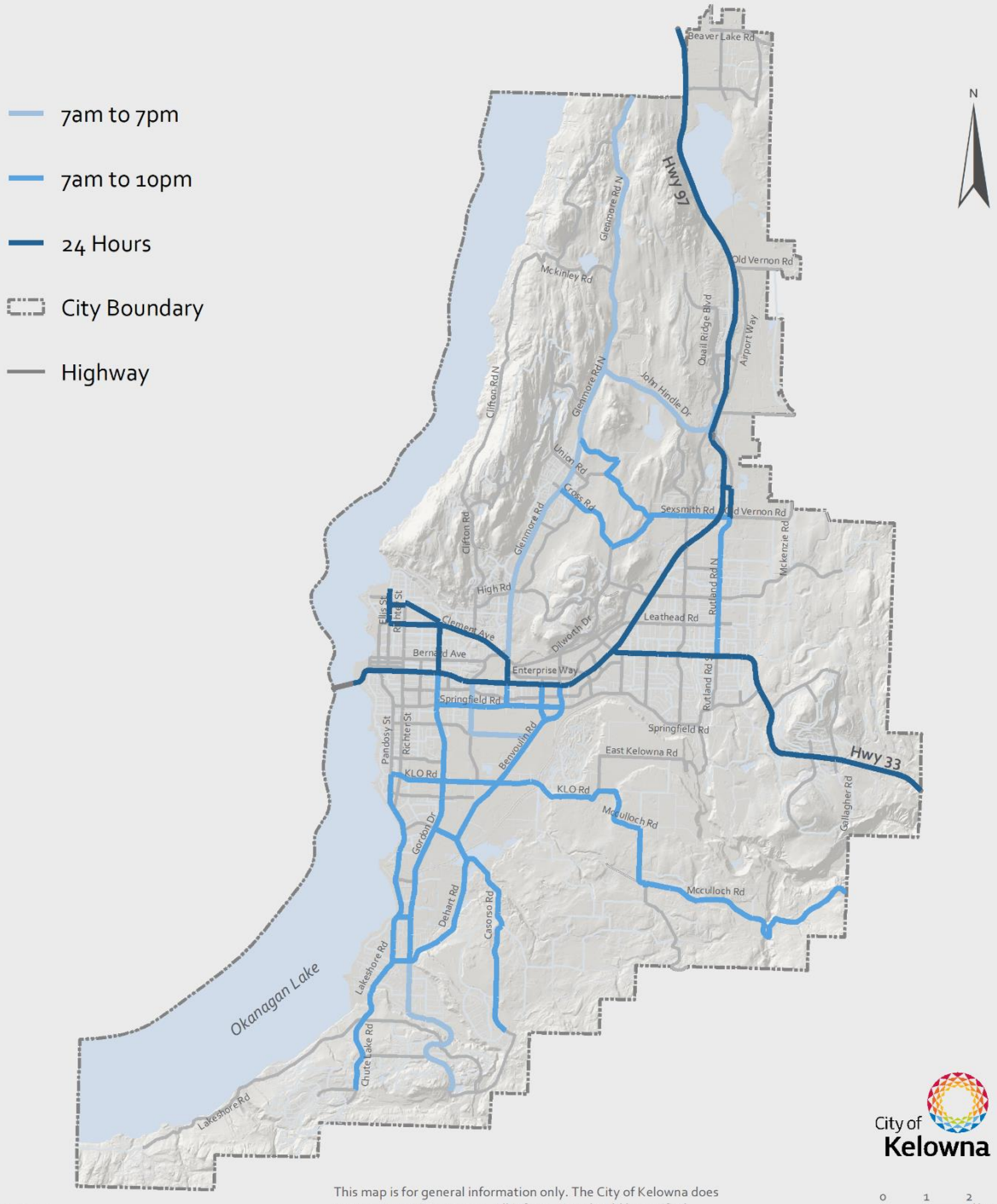
2040 Transportation Master Plan

Map B.4 Truck Route Overlay
Functional Road Classification



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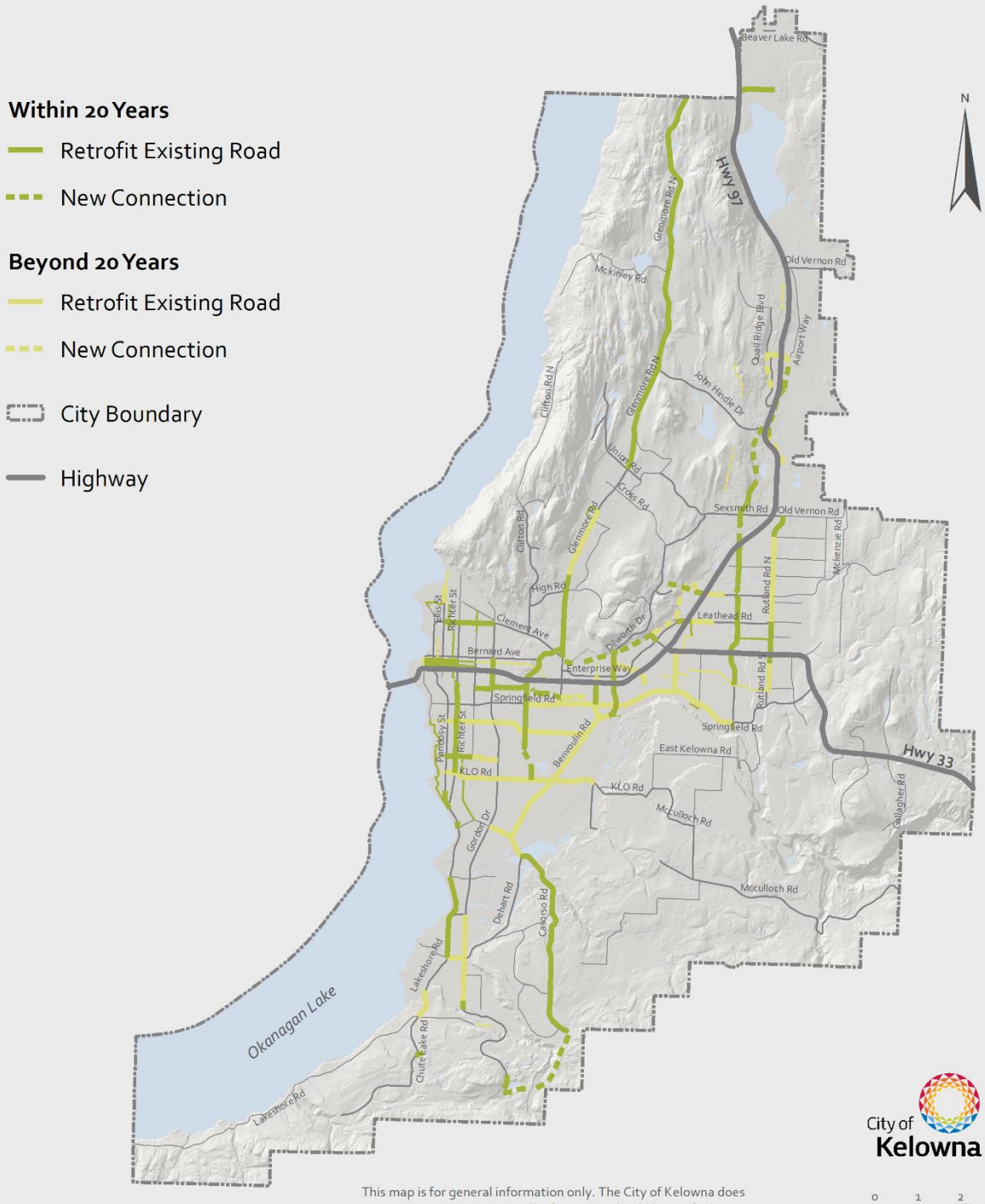
2040 Transportation Master Plan

Map B.5 DCC Project Overlay
Functional Road Classification



Rev. Sept. 8, 2021

Appendix C: Definitions

Active Transportation Corridor (ATC)
A corridor that is prioritized for safe and convenient use by human-powered (active) modes of transportation, such as walking and biking. Active Transportation Corridors can consist of independent pathways, or protected paths integrated into roads.

Arterial Road
A road that is designed to facilitate the movement of people or goods over longer distances in the city.

Car Dependent
Refers to transportation and land use patterns that necessitate the use of cars for most, if not all, daily trips. Long distances, steep grades, and/or limited transportation alternatives mean residents must drive to meet their daily travel needs.

Frequent Transit Network
A network of transit corridors where transit service runs at least every 15 minutes in both directions throughout the day and into the evening.

Functional Classification System
A system that categorizes roads according to their role and function in the transportation network. The functional classification of a road (e.g., arterial, collector, local) helps determine priorities for things like snow clearing or sweeping, as well as requirements for new developments.

Greenhouse Gas (GHG) Emissions
Gases that trap heat in the Earth's atmosphere (carbon dioxide, methane, nitrous oxide, ozone, water vapour). The majority of GHG emissions are produced by the burning of fossil fuels such as coal, petroleum, and natural gas.

High Street
A street located in an Urban Centre where retail commercial uses are required at grade and where the City would target the greatest emphasis on creating a high quality, pedestrian oriented public realm.

Higher Capacity Transit
Public transit that often has an exclusive right-of-way and has vehicles that make fewer stops, travel at higher speeds, provide more frequent service and carry more people than typical local bus service.

Induced Demand
Traffic congestion tends to maintain equilibrium (traffic volumes increase until congestion delays discourage additional driving). When new road capacity is added to try to alleviate congestion, people often quickly adapt by changing their travel behavior – e.g., driving more, changing routes, leaving at different times, or living further away. The end result is roads fill back up quickly, often in just five to ten years[1]. A more effective long-term solution to traffic congestion is to reduce car-dependence by concentrating growth, shortening trip distances, and providing more transportation options for residents besides driving.

Major Roads
Major and minor arterials whose primary function is mobility.

[1] Ewing, R. & Proffitt, D. (2016). Improving Decision Making for Transportation Capacity Expansion: Qualitative Analysis of Best Practices for Regional. Transportation Research Record, 2568, p.1

Multiple Account Evaluation
Multiple account evaluation (MAE) is a decision-making tool designed to compare the performance of alternatives against multiple criteria to assess performance, identify trade-offs and inform decision-making.

Multi-Use Pathways
Off-street pathways that are physically separated from motor vehicle traffic and can be used by people walking, bicycling, and using other forms of active transportation such as skateboarding, kick scootering, and in-line skating. Small electric vehicles such as e-bikes, e-scooters and mobility devices are also accommodated.

Neighbourhood Bikeways
Streets with low motor vehicle volumes and speeds that have been reduced through traffic calming to prioritize bicycle traffic. Because motor vehicle volumes and speeds are low, neighbourhood bikeways can be comfortable facilities for people of all ages and abilities.

Neighbourhood Streets
Local and collector streets that prioritize access to residences and businesses and provide connections from neighbourhoods to the major road network.

People-moving capacity
The ability of a street to move people using all modes of transportation, not just automobiles.

Quick-build infrastructure
A transportation facility that can be constructed relatively quickly using 'interim' materials that are typically significantly less expensive that permanent infrastructure. An example is using portable concrete barriers rather than cast-in-place concrete curb for a protected bike lane.

Retail Street
Streets identified in Urban Centres that will require retail commercial uses at grade.

Shared Spaces
Roads very low motor vehicle speeds and volumes in which the living environment dominates over the through movements. A Shared Space functions first as a meeting place, residence, playground, and pedestrian area. The road may be shared among people walking, cycling, and/or driving.

Transit Supportive Corridors
Streets that are identified in the 2040 Official Community Plan to support a higher density and greater mix of uses in the Core Area that can be accommodated with and support increased transit service.

Travel Demand Management (TDM)
Programs and strategies that help to reduce peak-hour single occupancy vehicle trips.

Unbanked Residents
Adults who do not have their own bank account.

Vehicle Kilometres Travelled (VKT)
A measure of how much distance is driven by a motorist or many motorists (i.e. all motorists within a city) in a given time period.