OCP TRANSPORTATION COUNCIL WORKSHOP #2

City of Kelowna

2010 May 20

WORKSHOP AGENDA

a) Part 1 (1 – 1:45 p.m.)
   i. Purpose of Workshop
   ii. OCP/Transportation Vision & Guiding Principles
   iii. What's New?
   iv. Transportation Objectives & Policies

b) Part 2 (1:45 – 2:15 p.m.)
   i. Transportation Network Planning
   ii. Road Classifications

Break 2:15- 2:30 p.m.

c) Part 3 (2:30 – 3:30 p.m.)
   i. Active Transportation Network
   ii. Specific Road Network Changes

d) Part 4 (3:30 – 4:00 p.m.)
   i. Questions & Discussion

VISION & GUIDING PRINCIPLES

The draft OCP provides strong policy direction and urgency to create a more sustainable city:

- Compact urban form: – focus growth in compact, connected and mixed use urban centres.
  - Maximize use of existing infrastructure.
  - Support greater use of walking, cycling and transit.
  - Strengthen links between land use, density and mobility
- Environmental Protection: natural areas, air quality, greenhouse gas emissions.
- 'Complete communities': Support a mix of land uses and accessible services appropriate to neighbourhood scale.
- Increase and balance mobility choices: Diversified active transportation and transit infrastructure, focused on urban centres and supporting economic development.

VISION & GUIDING PRINCIPLES

- Sustainable Infrastructure Policy 352 - MBL benefit/$
- TDM measures to reduce SOV trips, particularly in urban centres.
- Context-sensitive roadway planning to support sustainability goals thru ROW sharing and aggressive SOV demand mgmt.
- Parking Management Strategies (supply and pricing) to reduce SOV trips and increase use of walking, cycling and public transit.
- Frequent and convenient transit service to service and connect urban centres.

EXTERNAL CHANGE FACTORS

- Climate Change Action Plans:
  - GHG reductions (Bill 44-2007), eco-densification, localization of economic production including food

KELOWNA COMMUNITY GHG REDUCTION CHALLENGE

Sector	Energy Type/ Unit	Consumption	Energy (GJ)	GHG Emissions (t CO2e)		Percent Emissions
		2007				
Residential Buildings	Elect	1,221,332,515 kWh	4,396,797	8,549	252,906	33%
	Nat Gas	4,777,313 GJ	4,777,313	244,357		
On Road Transportation	Gasoline	146,669,656 L	5,083,570	366,288	447,071	59%
	Diesel	28,080,975 L	1,086,172	78,049		
	Propane	1,798,667 L	45,524	2734		
Solid Waste	Mass	94,348 t	NA	60,660	60,660	8%
TOTAL		15,389,376 GJ		760,637 t		100%

KELOWNA ON-ROAD TRANSPORTATION GHG REDUCTION INITIATIVES

Reduction Scenario	Reduction Initiative	Level of Government	Reduction Quantity	
			GHGs (t CO2e)	Costs
One	Idle Free Legislation	Shared	5,066	$6,058,476
	Improve Vehicle Maintenance	Shared	5,066	$6,372,368
	10% VKT Reductions	Shared	67,245	$60,584,758
	Pavely II	Senior Government	8,787	-
	Increase Tailpipe Compliance	Senior Government	8,540	-
Two	20% VKT Reductions1	Shared	67,245	$60,584,758
	Right Sizing Vehicles	Shared	36,468	-

EXTERNAL CHANGE FACTORS

- Peak Oil & Increasing Fossil Fuel Prices
  - Local energy security, reduced auto-dependence, smaller/lighter vehicles
- Regional Growth
  - West Kelowna big box shifting transportation desire lines and box/boutique retail location preferences
- Demographic Options
  - Natural demographic trends-aging.
  - Targeted strategies to attract creative / young talent = sustainable prosperity.

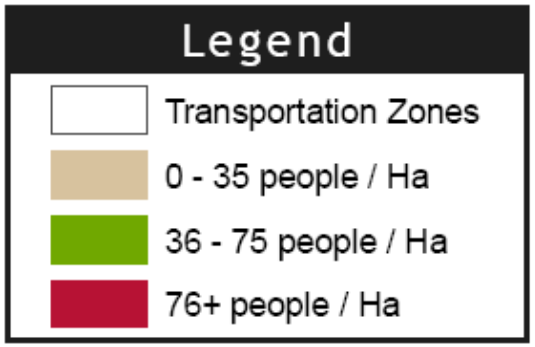
EXTERNAL FACTORS

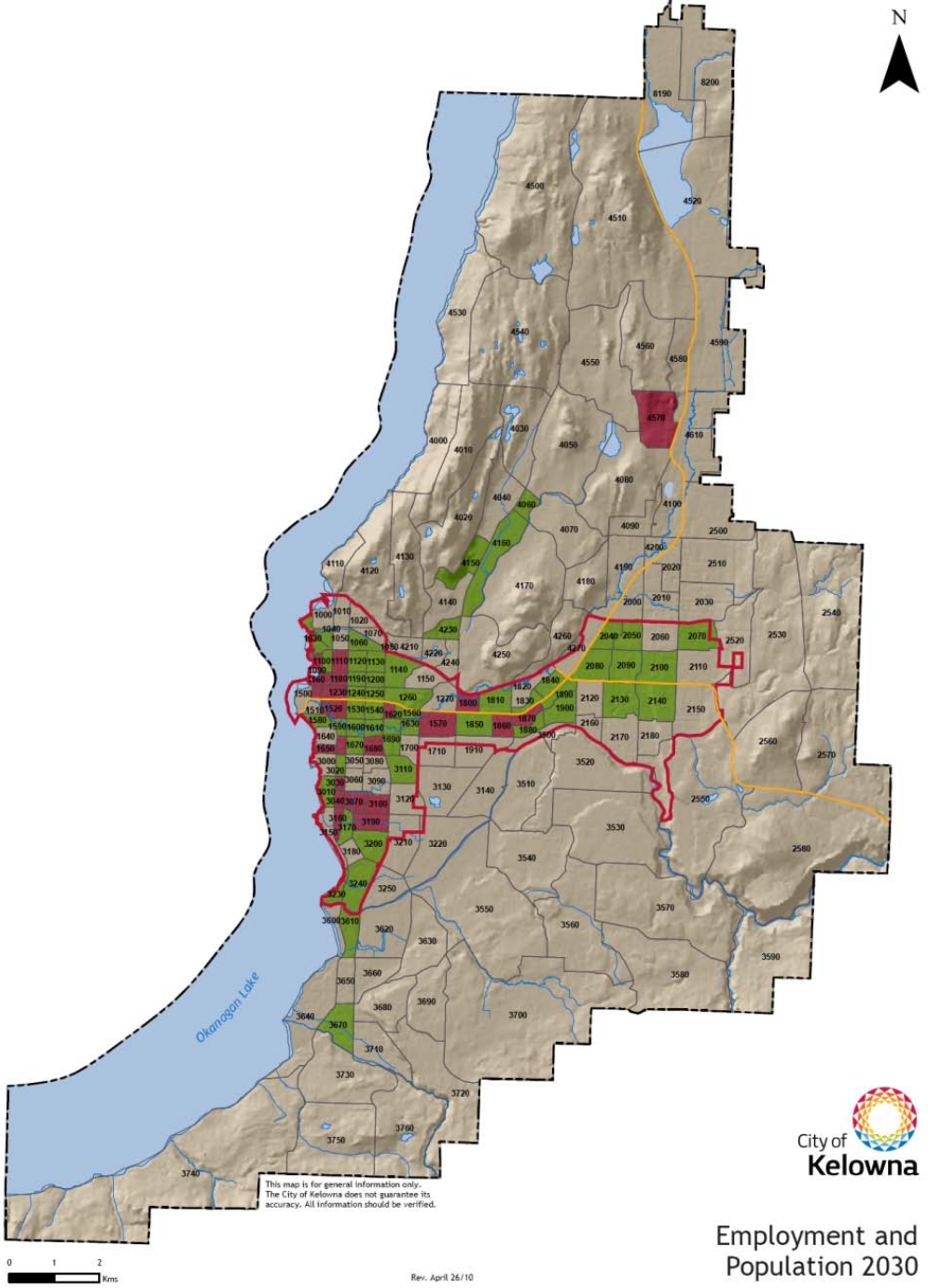
- Contractual obligations with Province re: Highways
- Expectation for measurable quality of life, sustainability and affordability.
- Asset Management Plan: investment pressures
  - $3.7 Billion CRV, good condition but aging
  - $25-$42M annual capital replacement funding gap
  - New infrastructure, increased life cycle financial obligations
- Responsible Decisions given Uncertainty

WHAT'S NEW - 2030 OUTCOMES?

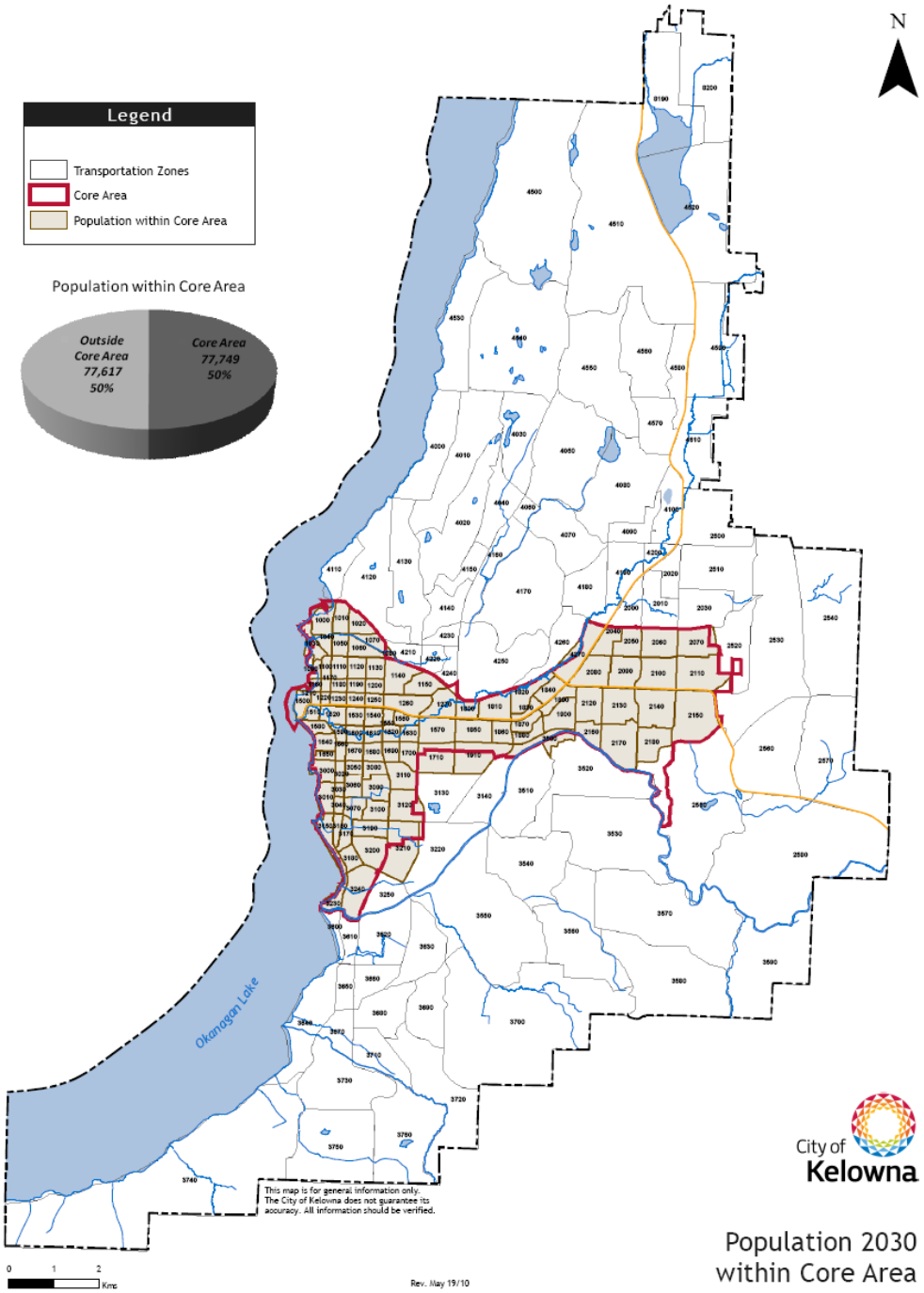
- Balancing Transportation Needs
  - Supporting densification and growth containment.
  - Increasing modal choice in urban areas.
  - People mobility versus auto mobility.
- Road Network
  - Removal of some links.
  - Multi-modal corridor protection (land acquisition).
- Financing Strategies
  - Provincial funding for COMC.
  - DCC's for Active Transportation & Neighbourhood Boulevards

2030 LAND USE INTENSITY

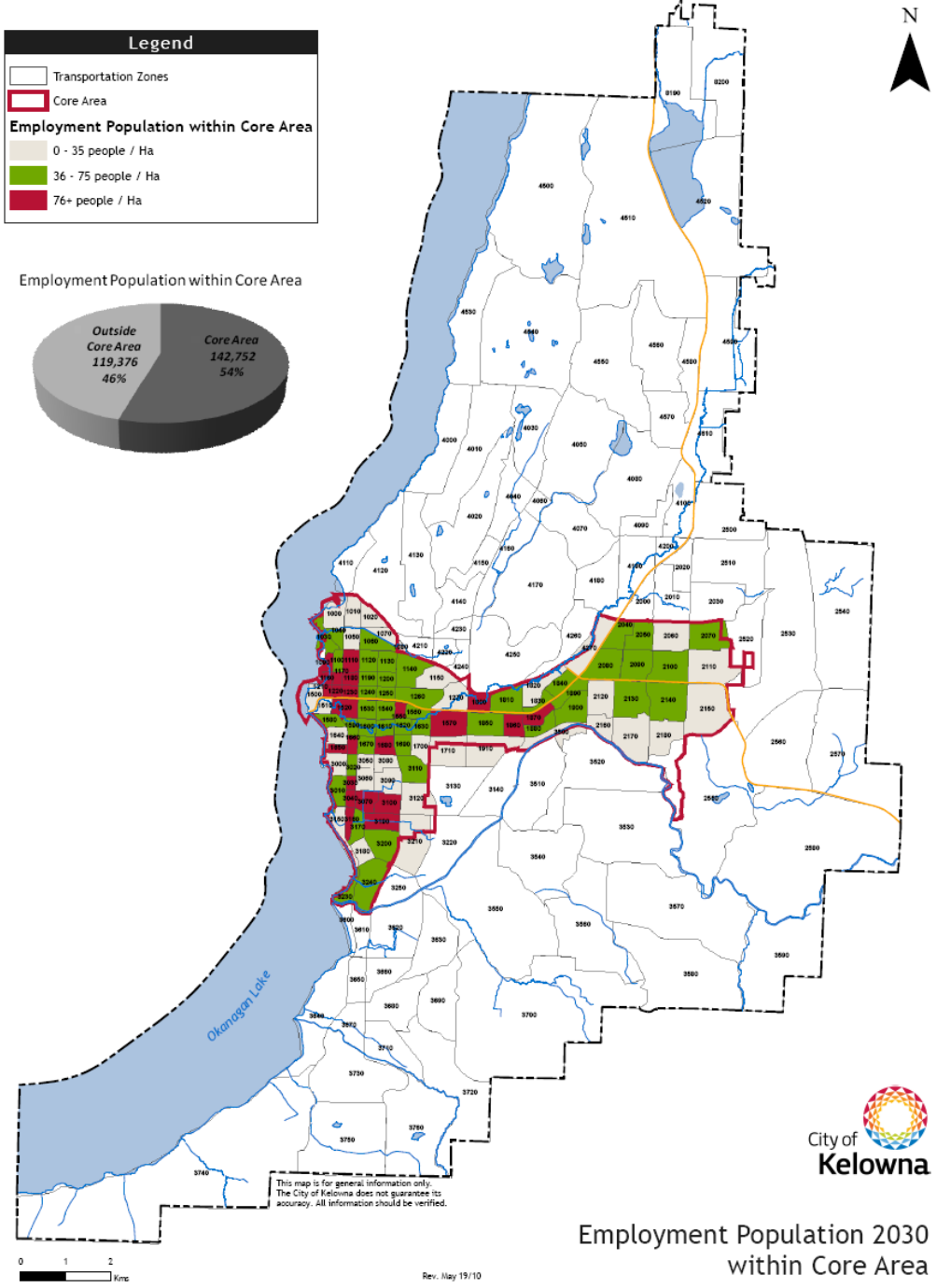




2030 POPULATION INTENSITY



2030 EMPLOYMENT INTENSITY



WHAT'S NEW - METHODOLOGY?

- Integrate infrastructure systems around *urban design*: consolidated Community Sustainability Division
- Achieve multiple bottom line goals at least life-cycle cost: GHG emissions reductions, ecological footprint & resource mgmt, optimize existing infrastructure, connectivity, affordability.
- Align public behaviour with sustainable infrastructure: civic engagement.

OCP OBJECTIVES & POLICIES

Chapter 5: Transportation infrastructure required from private developers

Chapter 7: Transportation infrastructure provided by City

- Supply side: investment redirection
- Demand side: enhanced management

GENERAL TRANSPORTATION OBJECTIVES

Objective 7.5 General Transportation

Maintain automobile, commercial goods and emergency vehicle mobility while placing increased emphasis on sustainable modes of transportation (walking, cycling, transit).

Objective 7.6 TDM

Reduce peak hour trips and the percentage of trips taken by single occupant vehicles, particularly in urban centres, in order to reduce or eliminate the need for new road links.

GENERAL TRANSPORTATION OBJECTIVES

Objective 7.7 Pedestrian & Cycling

Provide more active transportation infrastructure…

Objective 7.8 Transit

Ensure efficient and effective transit infrastructure and facilities…

Objective 7.9 Roadway

Ensure roadway planning supports sustainability goals

Objective 7.10 Parking

Implement parking management programs that promote reduced car ownership, reduced car trips and increased use of active modes of transportation

City of Kelowna

TRANSPORTATION NETWORK PLANNING

LAND USE & TRANSPORTATION

- Origins & Destinations (ie. home to work)
- Trip purpose
  - To access employment
  - To access commercial
  - To deliver goods and services
  - To attend school
  - To return home

TRANSPORTATION MODELING

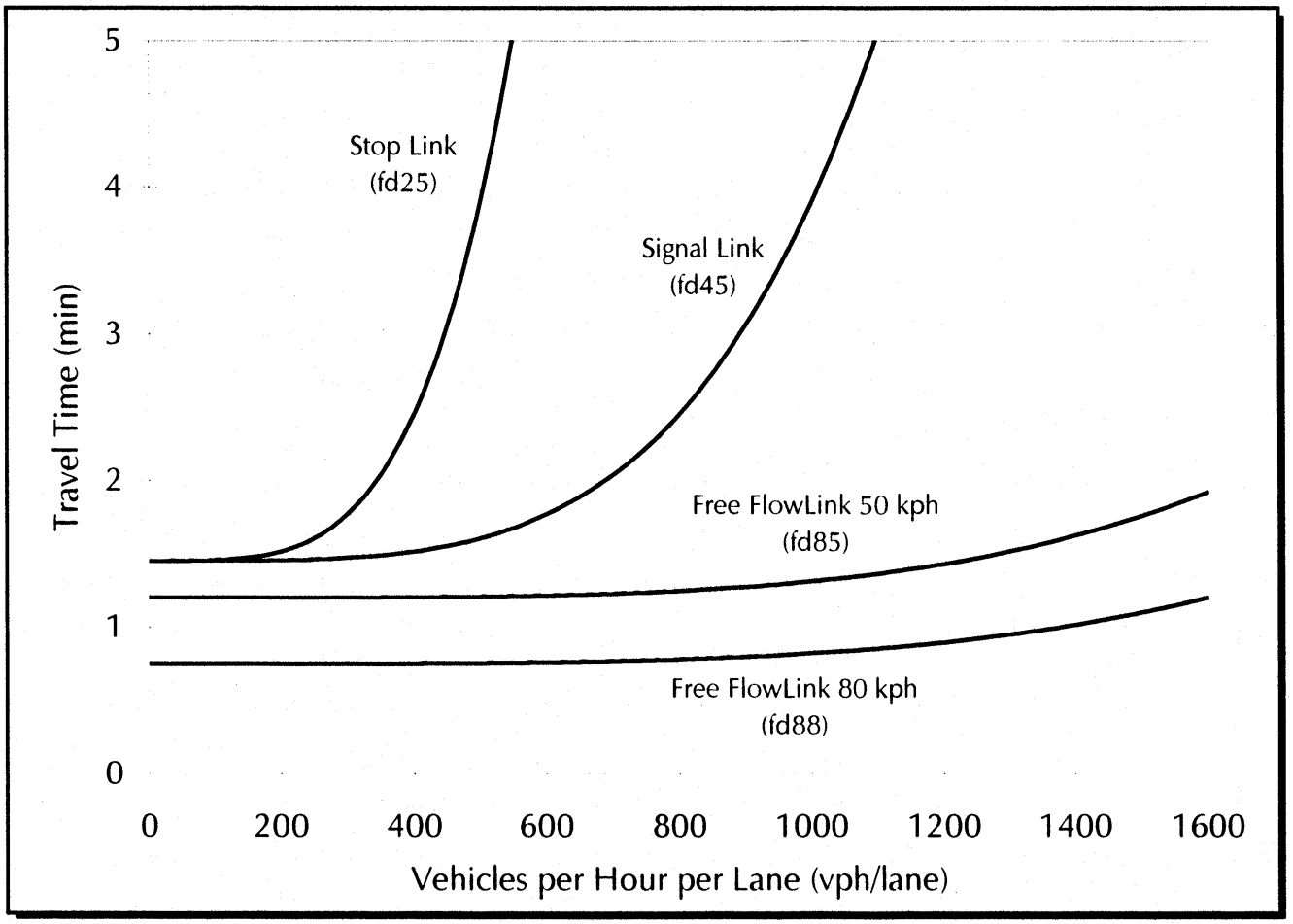
- Primary tool of transportation planning.
- Objectively takes into account differential rates of growth around municipality.
- Calibration to existing traffic counts.
- Provides forecasts of travel demands.
- Can model travel by automobiles, transit, and trucks.
- Model is used for various purposes.

TRANSPORTATION NETWORK CONDITIONS

- Peak weekday periods
  - Morning: 7-9am
  - Mid-day: 11am-1pm
  - Afternoon: 3-6pm
- Peak months
  - June & September
  - July & August (Tourism)

TRANSPORTATION NETWORK CAPACITY

Exhibit 16 - Volume Delay Function Plots for One Km Links



LIMITATIONS OF MODELING

- What's included (Preliminary 2030 Transit network)
  - Growth forecast for the Central Okanagan broken down into approx. 300 traffic zones.
  - Worst case modal split with exception of transit (BAU)
    - rerunning to reflect achievement of 45% non-SOV and network implications
    - Redundancy vs. Affordability
- What's not included:
  - Changing demographics
  - Price of fuel

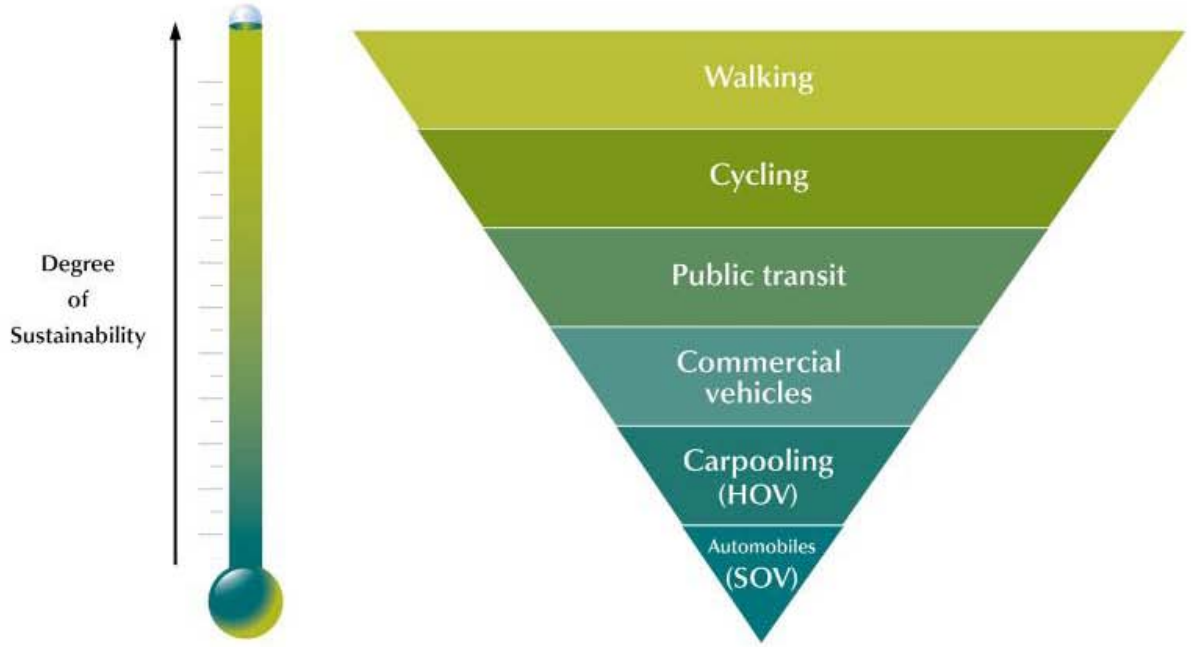
NEIGHBORHOOD ZERO EMISSION VEHICLES (NZEVS) - SR155512

- Municipal NZEV Bylaw- Motor Vehicle Act, 2008.06.06
- Accommodations:
  - NZEVs in right lane, displaying 'slow moving vehicle'
  - Recharging stations
  - Incentives for use in city limits
- Precedents: Vancouver, Port Coquitlam, Whistler, Oak Bay, Colwood, Sidney
- Modelling: Impact of reduced speeds to 40-50 kph not included in current model

ROAD CLASSIFICATIONS

- Council Workshop – May 20, 2010

TRANSPORTATION HIERARCHY



COMPLETE STREETS

What are 'Complete Streets?'

- Move people by foot, bike, transit & car.
- Places where people can live, work, shop & play.
- Support the natural environment.
- Facilitate movement of trucks & service vehicles to support our economy.

COMPLETE STREETS

Urban Arterials

- Facilitate movement of people & goods safely and efficiently with high standards.
- Primary function: accommodate auto mobility and goods movement.
- Active transportation & transit accommodated wherever feasible.
- Controlled access.
- Can contribute to 'place-making' if public realm enhancements (e.g., streetscaping) are incorporated.

COMPLETE STREETS

Neighbourhood Boulevards

- Provide high quality environment for all modes, emphasis on active transportation & transit.
- Form backbone of high density corridors & urban centres.
- Priority to walking, cycling & transit.
- Function as destinations, locally & regionally.
- Provide enhanced connectivity (access) to surrounding communities & destinations.
- Significant contribution to 'place-making.'

COMPLETE STREETS

Major Collector Roads

- Multi-purpose roads designed to accommodate walking, cycling & transit as well as private auto.
- Provide access to local development cells & strategic links between arterial roads.

FROM FUNCTIONAL ROAD WITH UNDERUTILIZED LAND USE . .

. . . TO ENHANCED ARTERIAL . . .

. . . TO THRIVING URBAN CORRIDOR

ROAD RIGHT OF WAY

73% of right of way for motor vehicles

55% if bike lanes added

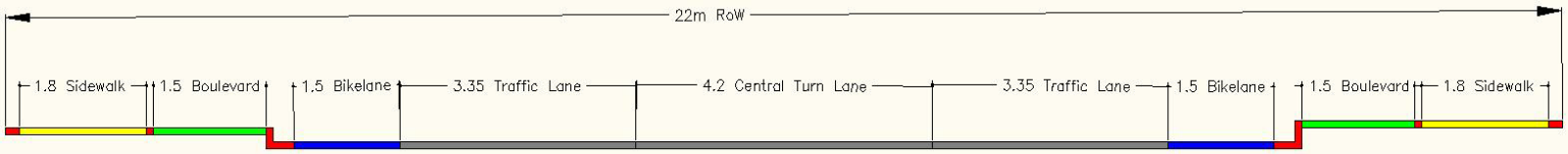
ROAD RIGHT OF WAY

65% of right of way for motor vehicles

47% if bike lanes added

ROAD RIGHT OF WAY

Typical Cross Section of a Two–lane
Road (Right of Way = 22 m)



Active Transportation RoW %: 30 (Collector)
Auto Transportation %: 50 (Arterial/Collector)
Boulevard/Utilities/Others RoW %: 20

LAKESHORE RD BETWEEN KLO RD & LANFRANCO RD

- Row = 25m; Classification: **Major Arterial** # of Traffic Lanes = 5; Bike Lanes: No, Sidewalk: Both Sides; On-Street Parking: No
- Active Transportation RoW = 20%; Boulevard/Utilities/Others RoW = 0%; Auto Transportation RoW = **80%**

ELLIS ST BETWEEN

BERNARD AVE & DOYLE AVE

- Row = 20m; Classification: Major Arterial; # of Traffic Lanes = 2; Bikelane: No, Sidewalk: Both Sides; On-street Parking: Both Sides;
- Active Transportation RoW = 24%; Boulevard/Utilities/Others RoW = 6%; Auto Transportation RoW = **70%**

SPRINGFIELD RD BETWEEN GERSTMAR RD & HOLLYWOOD RD S

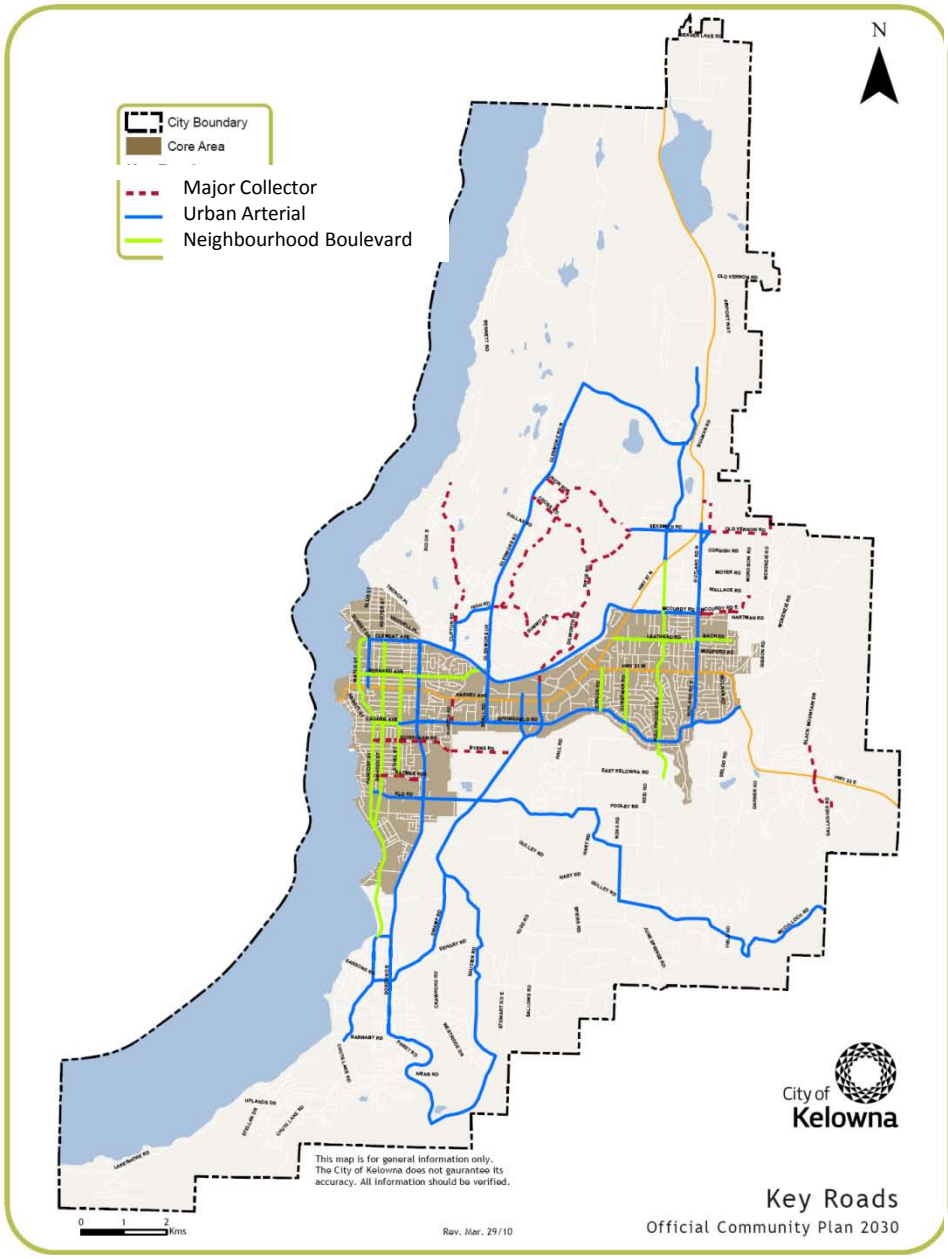
- Row = 26m; Classification: **Major Arterial**; # of Traffic Lanes = 5; Bike Lanes: Yes, Sidewalk: Both Sides; On-street Parking: No
- Active Transportation RoW = 23%; Boulevard/Utilities/Others RoW = 15%; Auto Transportation RoW = **62%**

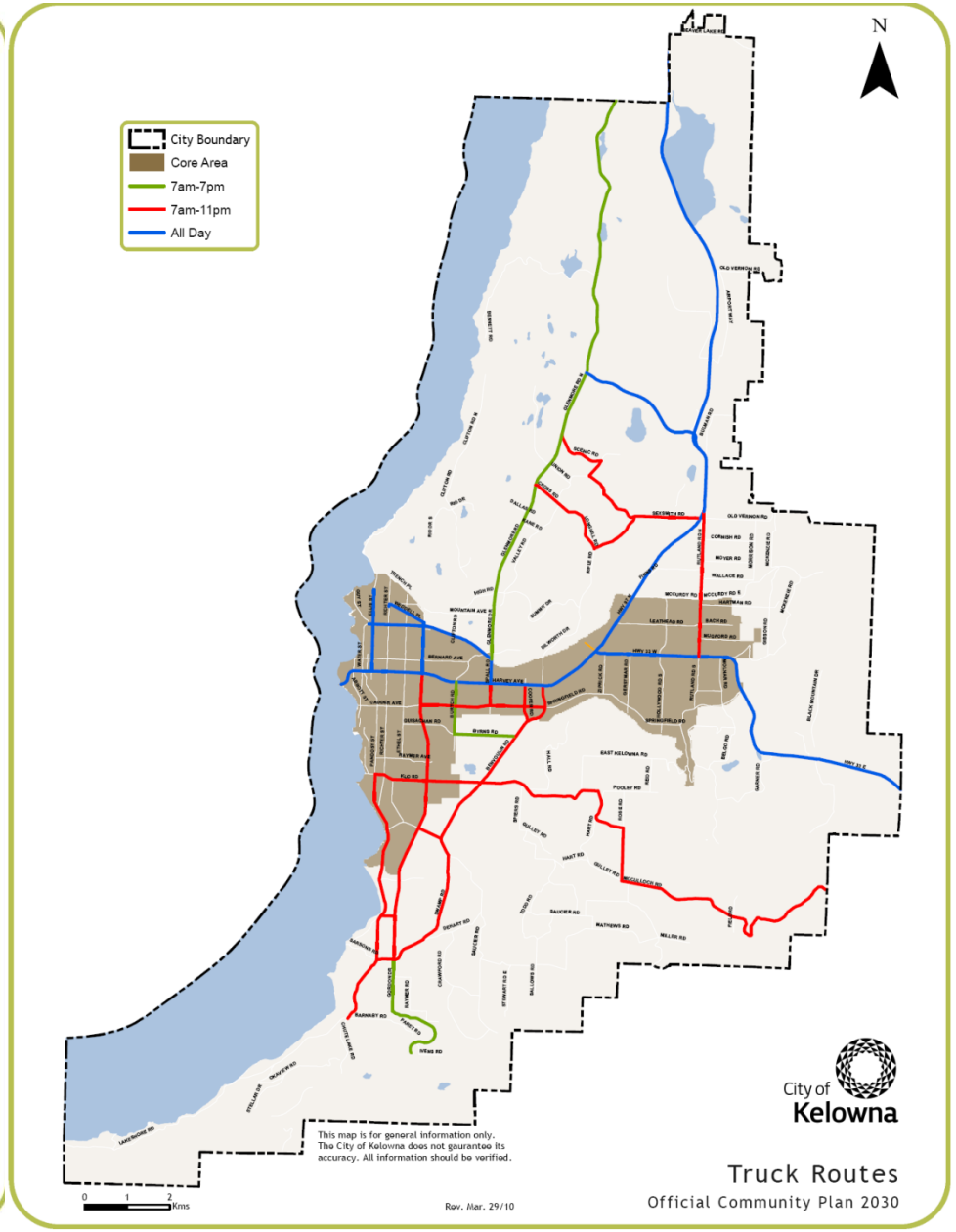
ABBOTT ST BETWEEN

LAKE AVE & RIVERSIDE AVE

- Row = 20m; Classification: **Major Collector**; # of Traffic Lanes = 2; Bikelane: Off-Road Bikeway, Sidewalk: One Side; On-street Parking: One Side
- Active Transportation RoW = 30%; Boulevard/Utilities/Others RoW = 25%; Auto Transportation RoW = **45%**

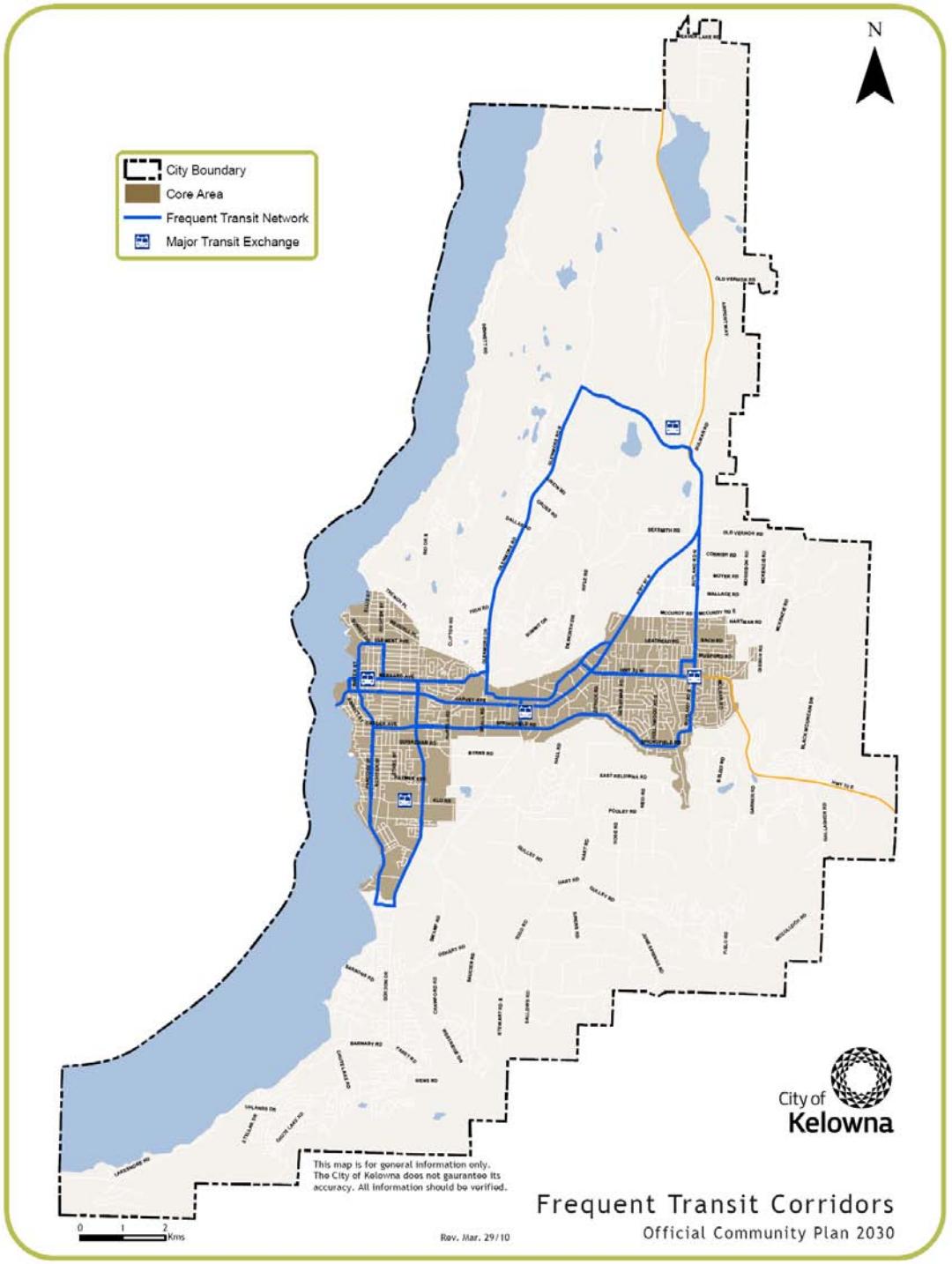
KEY ROADS & TRUCK ROUTES





FREQUENT TRANSIT NETWORK (FTN)

- FTN: minimum headway of 15 minutes, 15 hours/day; 7 days/week.
- Service hierarchy:
  - Rapid bus – Hwy. 97
  - Regular service in other corridors.
- Linked to land use: urban corridors & centres.
- Reliable, fast, convenient & comfortable.



City of Kelowna

ACTIVE TRANSPORTATION NETWORK PLANNING

OCP SURVEY RESULTS

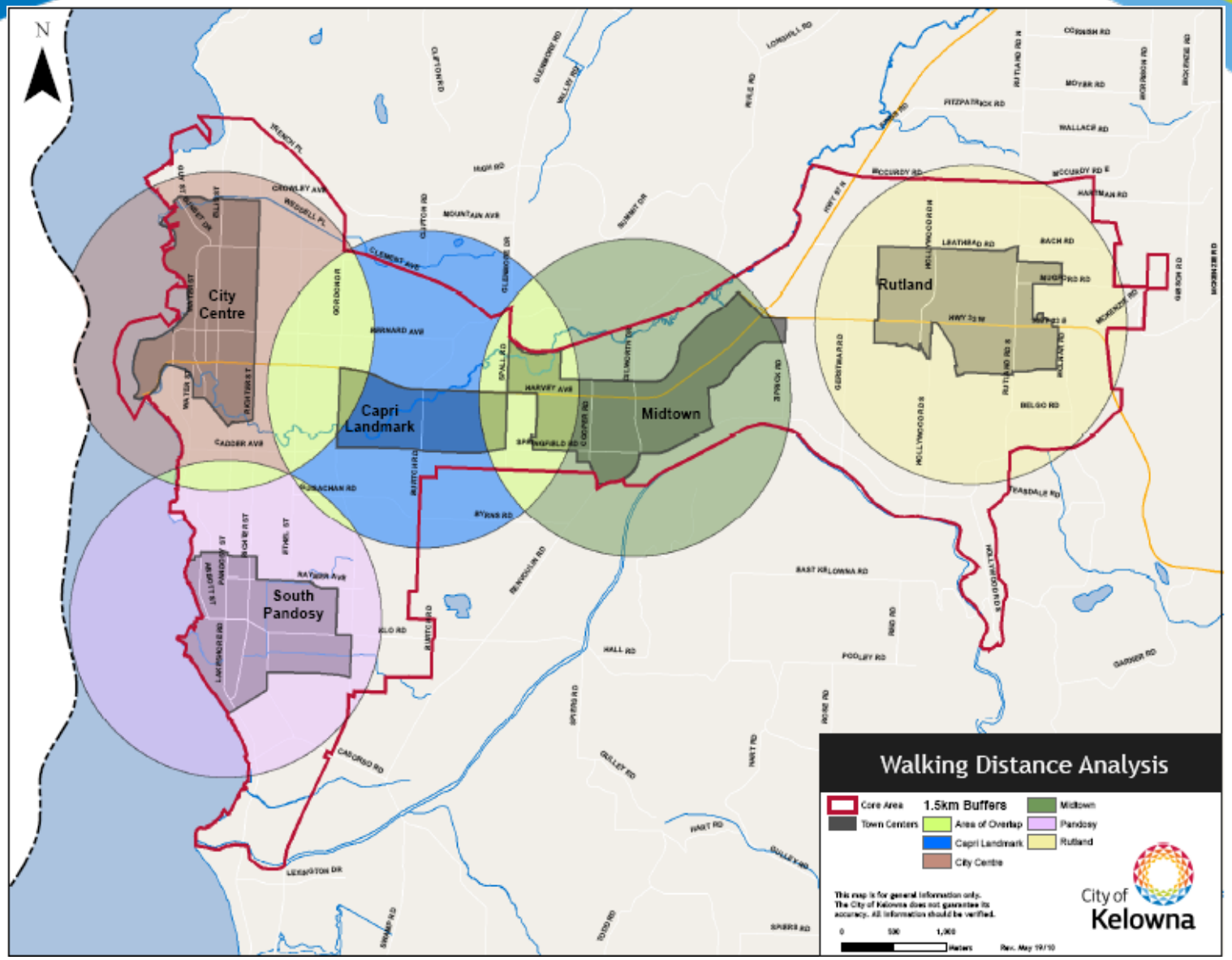
Residents value active transportation.

- 80 percent of respondents indicate that access to bicycle routes is somewhat or very meaningful to them.
- 90 percent support providing connections for pedestrians & cyclists away from major roads in new subdivions.

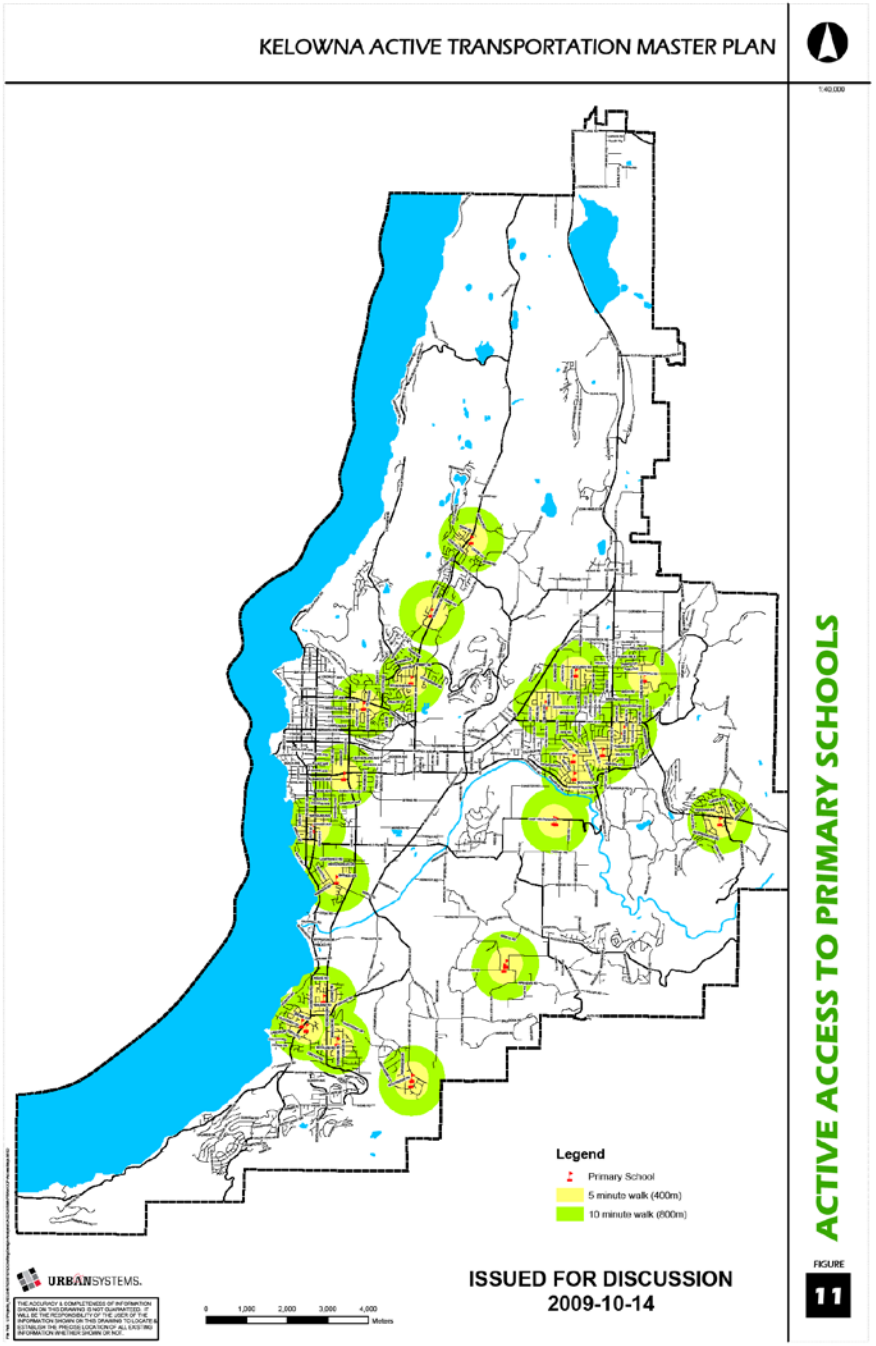
OCP SURVEY RESULTS

Residents are prepared to walk.

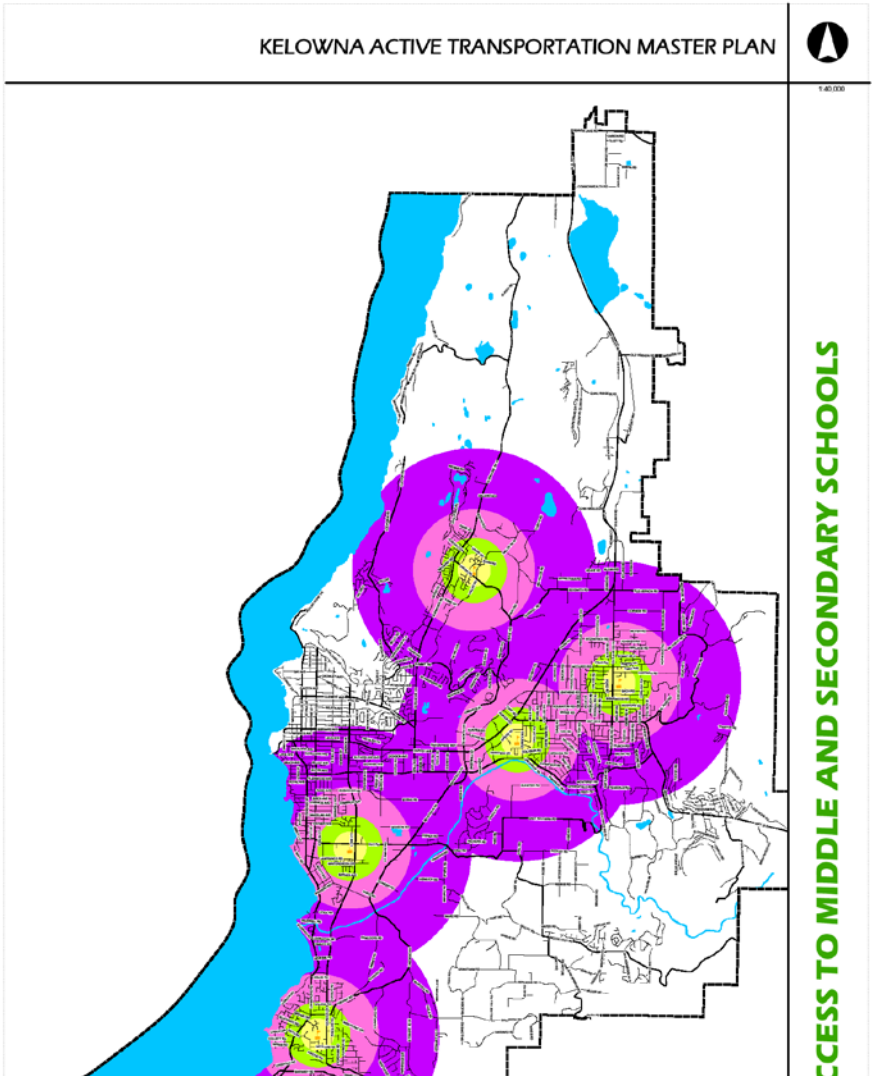
- 73 percent of respondents are prepared to walk at least 15 minutes to access neighbourhood facilities (e.g., recreation, stores, transit, restaurants)


N
City Centre
Capri Landmark
Midtown
Rutland
South Pandosy
Walking Distance Analysis
Core Area
Town Centers
1.5km Buffers
Area of Overlap
Capri Landmark
City Centre
Midtown
Pandosy
Rutland
This map is for general information only.
The City of Kelowna does not guarantee its accuracy. All information should be verified.
City of Kelowna

ACTIVE TRANSPORTATION NETWORK



ACTIVE TRANSPORTATION NETWORK



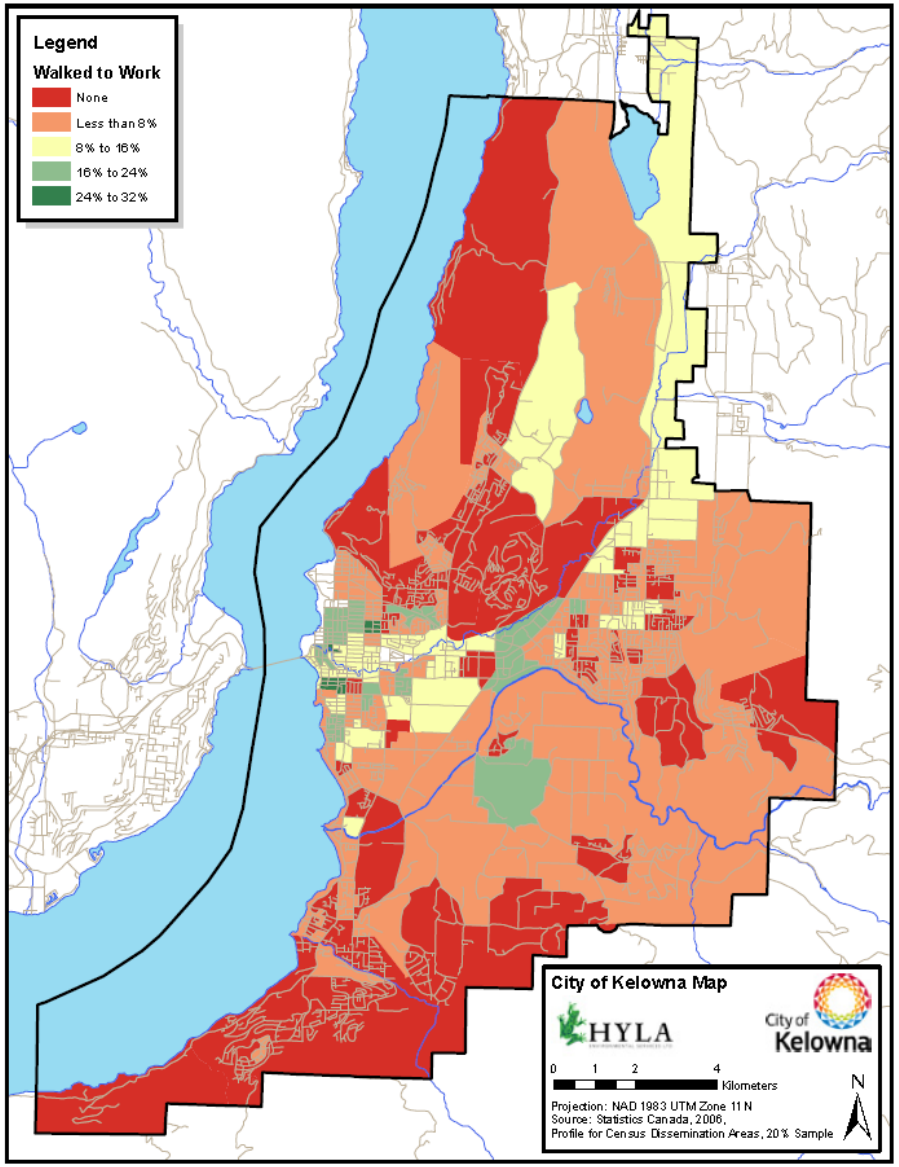


Figure 3.19 - Percentage of People Who Walk to Work
This map shows the percentage of people who walk as their primary method of getting to work. Unsurprisingly, there is a much higher percentage of people living near the downtown area of Kelowna who walk to work then there are in residential areas further from the City's centre. Improving sidewalks and pedestrian facilities is one way of encouraging more people to walk to work.

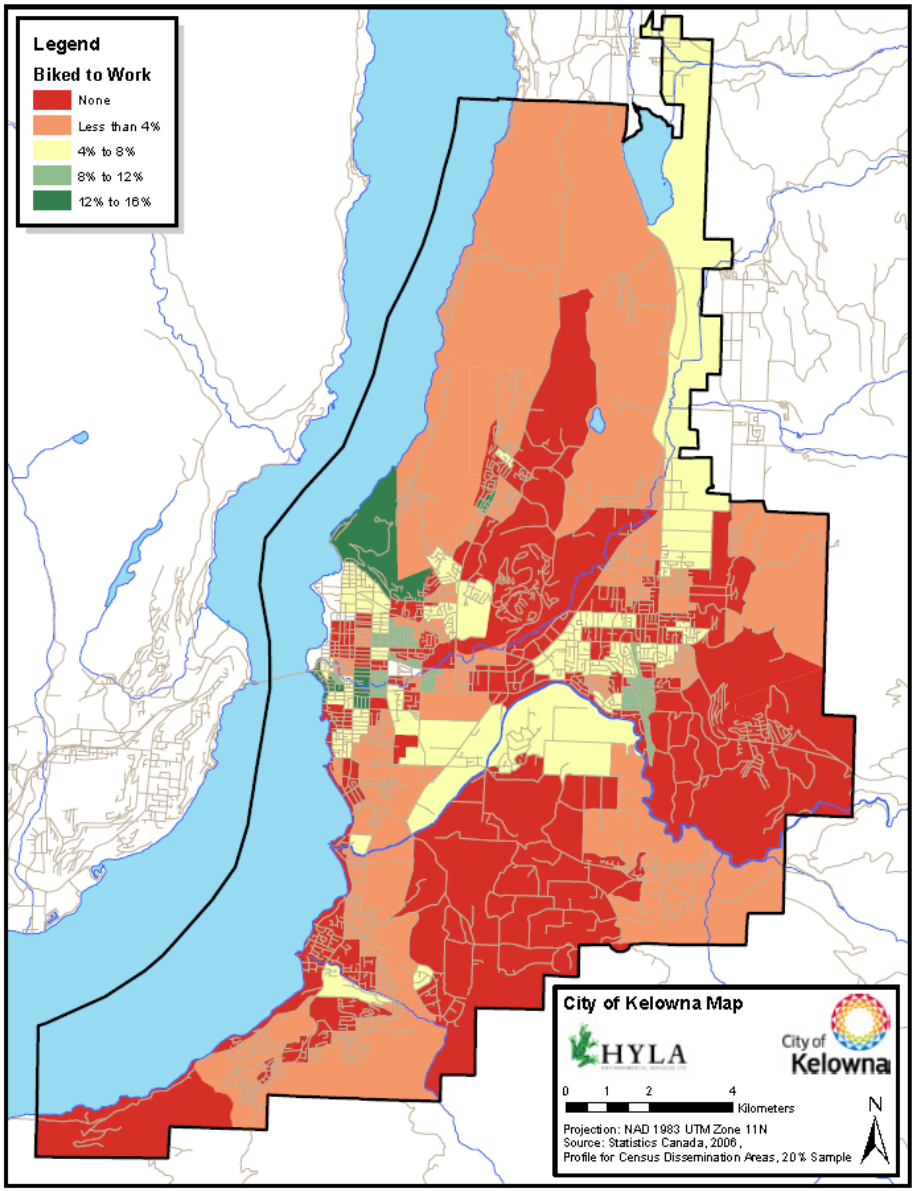
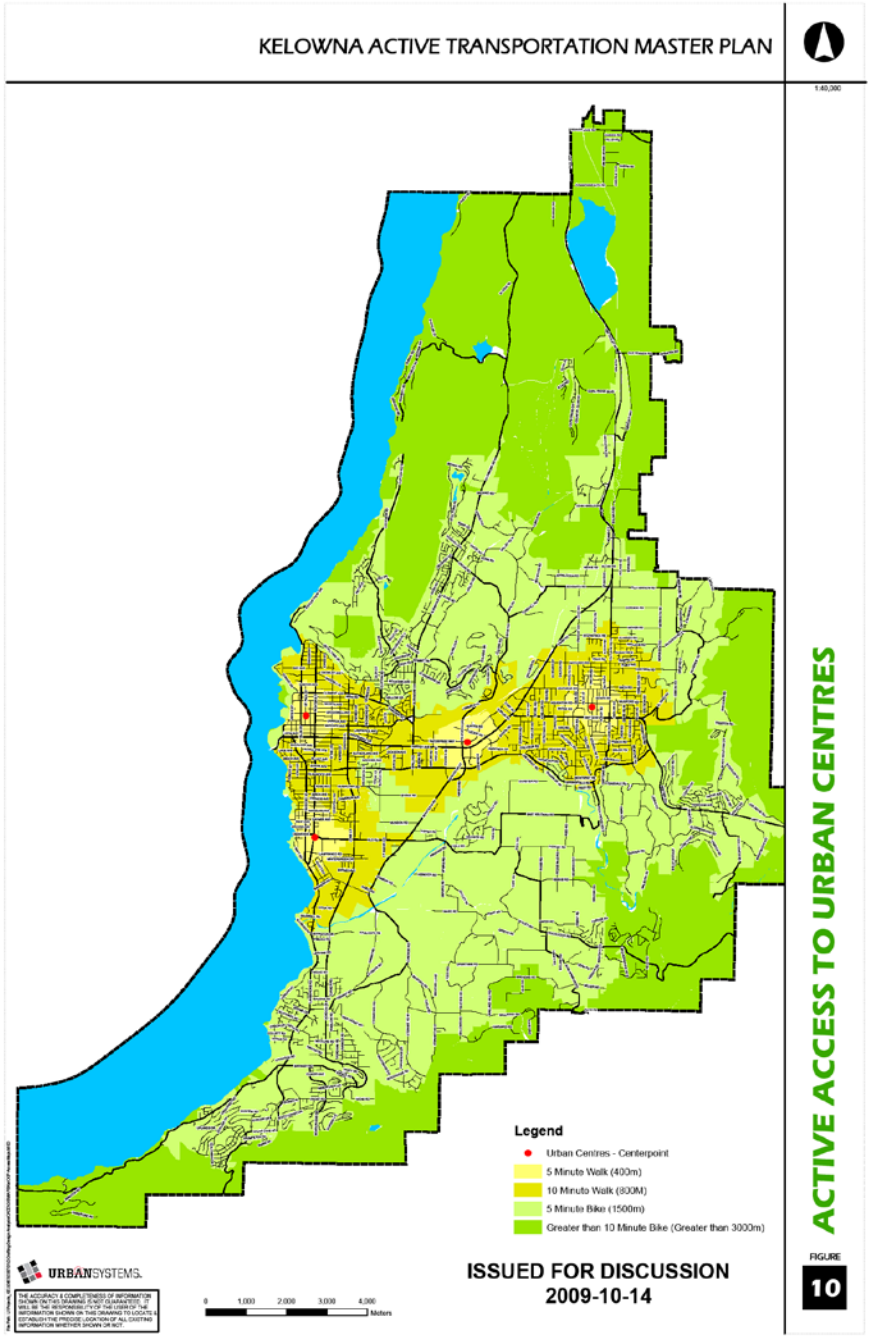


Figure 3.18 - Percentage of People Who Cycle to Work
Cycling is one of the best ways to get around without using fossil fuels. This map shows the percentage of people in each census dissemination area who use a bike as their primary method of getting to work. Cycling is a good way for people too far from transit service to get around quickly without using a car.

ACTIVE TRANSPORTATION NETWORK



OCP SURVEY RESULTS

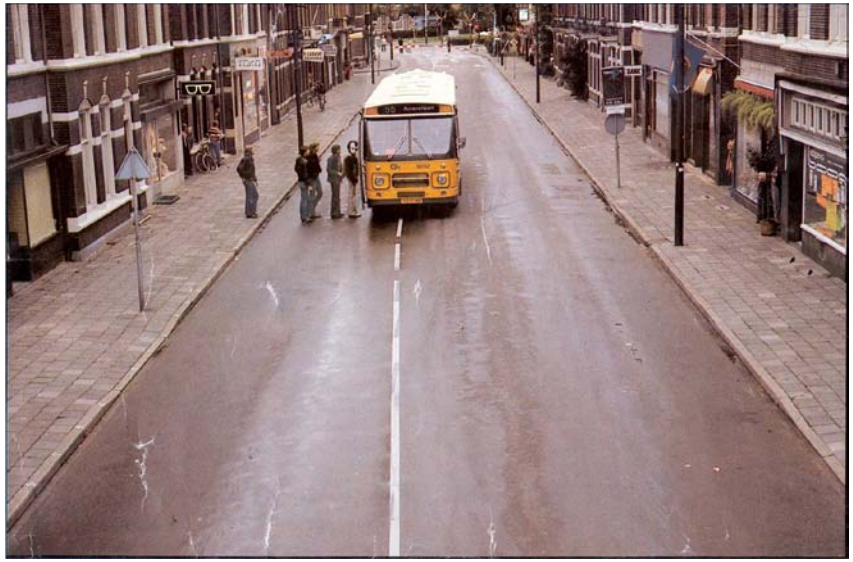
If you had $100 to spend on transportation related improvements, how would you allocate your money?

❑ Sidewalks	16 %	
❑ Bike lanes on road	17 %	
❑ Pedestrian paths/Cyclists' off road lanes	26 %	59%
❑ Better/more transit	25 %	84%
❑ New/widened roads	16 %	

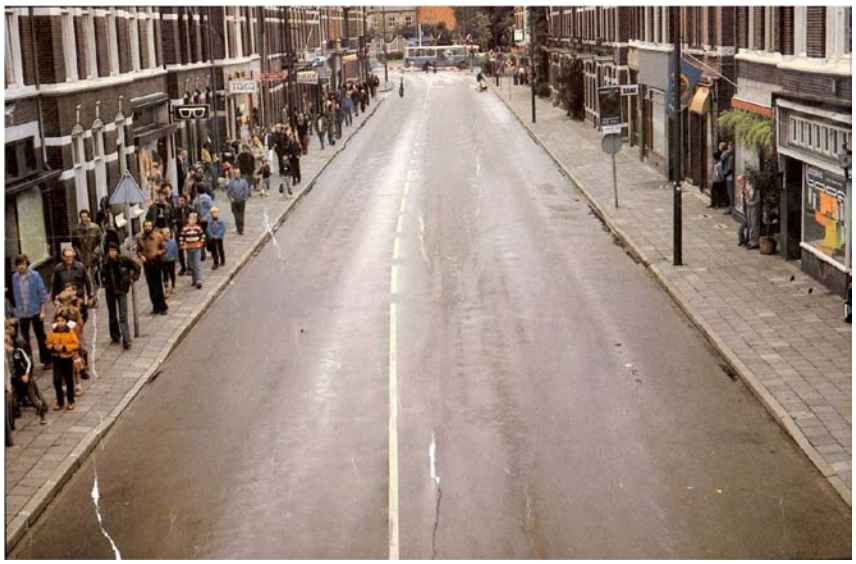
Public desire supported by investment preference

STREET CAPACITY FOR SOV

STREET CAPACITY BY BUS

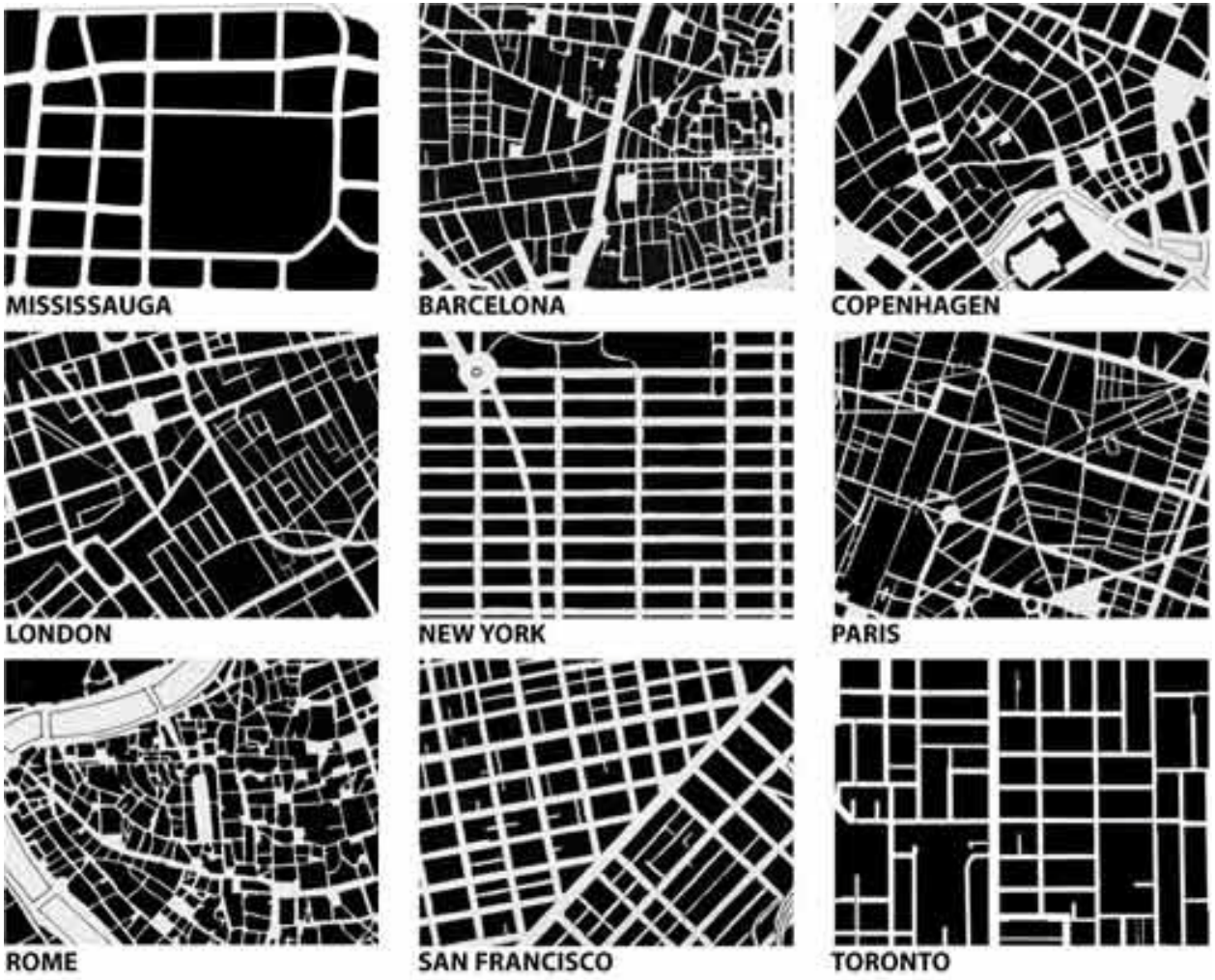


STREET CAPACITY FOR PEDESTRIANS OR CYCLISTS



Arterial capacity-free flow: 2000 vehicles/hour (3.5m), 7800 cyclists/hr (3.0m)
Goal: Optimize the multi-functional utilization & integration of transportation infrastructure

WALKABLE URBAN ENVIRONMENTS: NETWORK GRAIN



Goal: Diversify and intensity transportation network

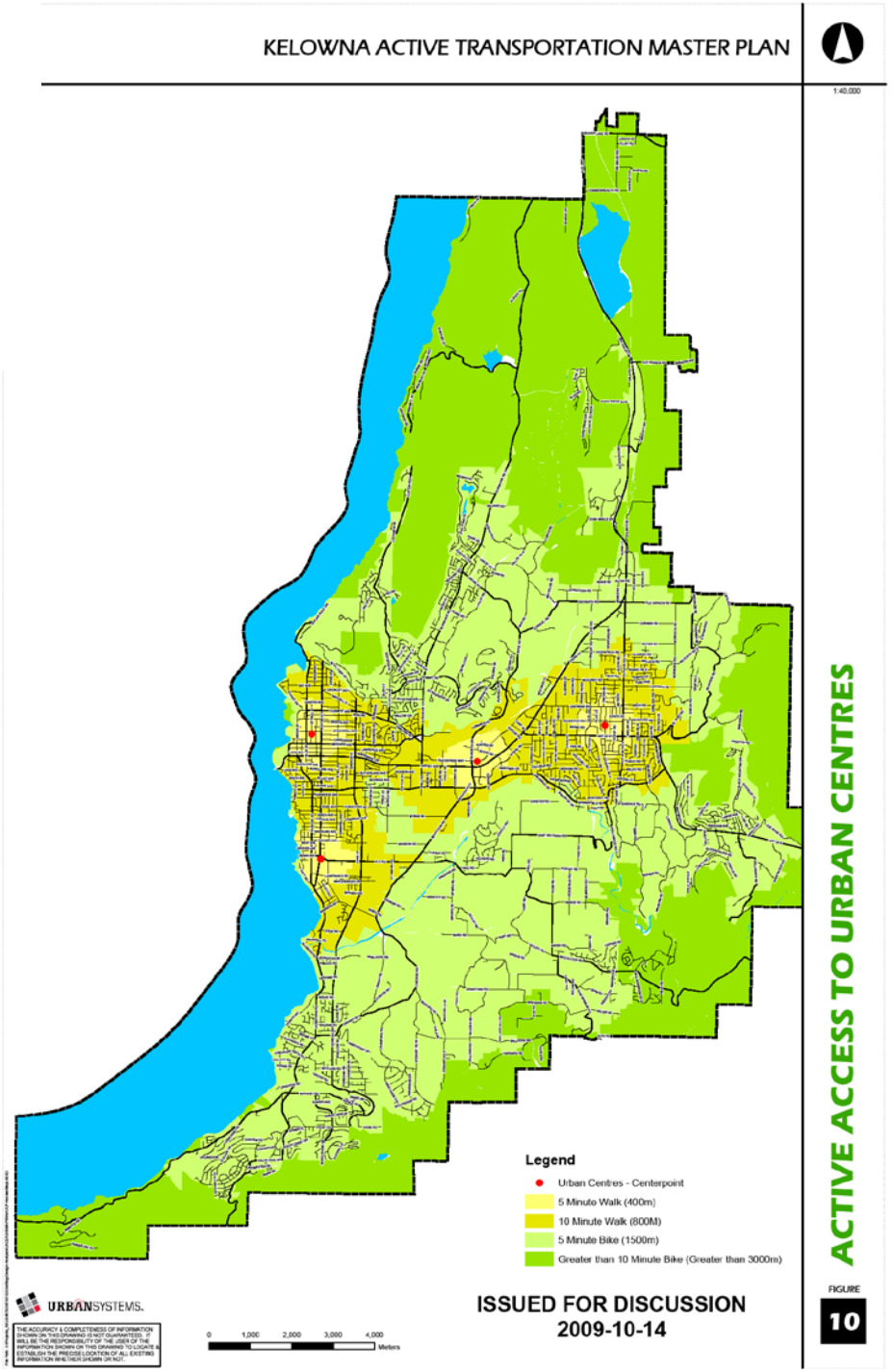
ACTIVE TRANSPORTATION PLANNING

- Assumptions: Behaviour change with functional infrastructure: connected, safe, comfortable
  - Criteria for Creative/Productive Talent migration
- Network Plan: Arterial and Collectors, Priorities favour employment, destinations, density, and connectivity
- Local level improvements for primary school trips and local services (Glenmore 'cool ways to school') outside DCC

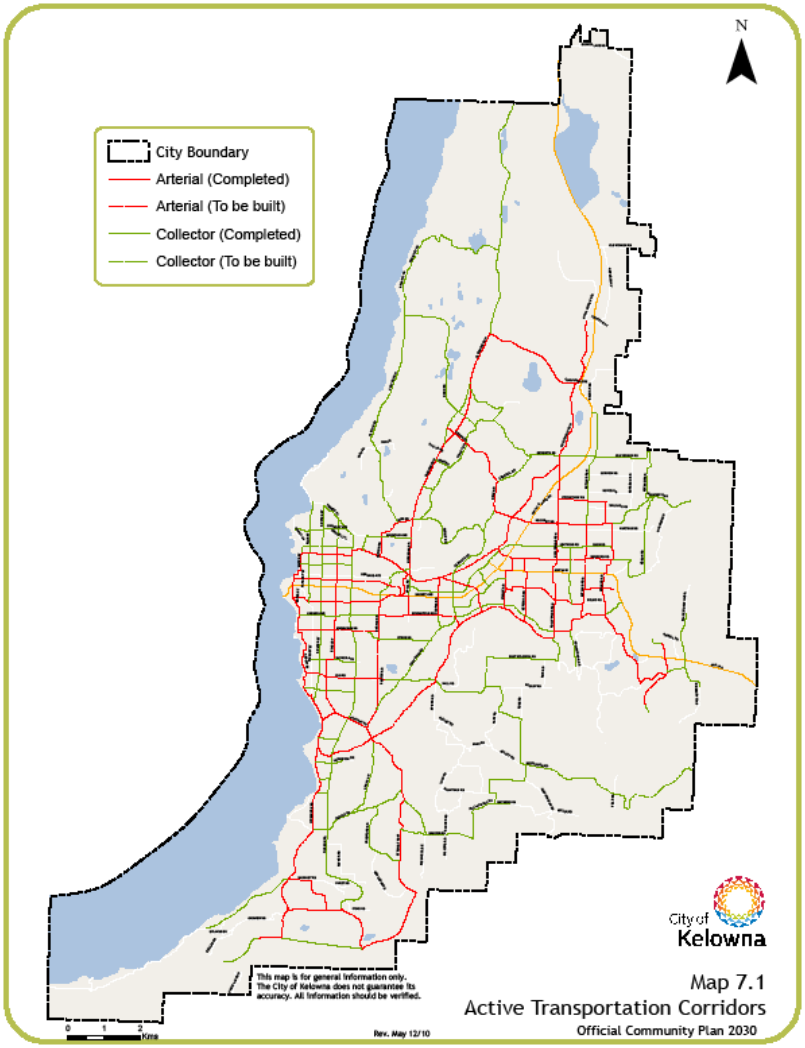
ACTIVE TRANSPORTATION NETWORK

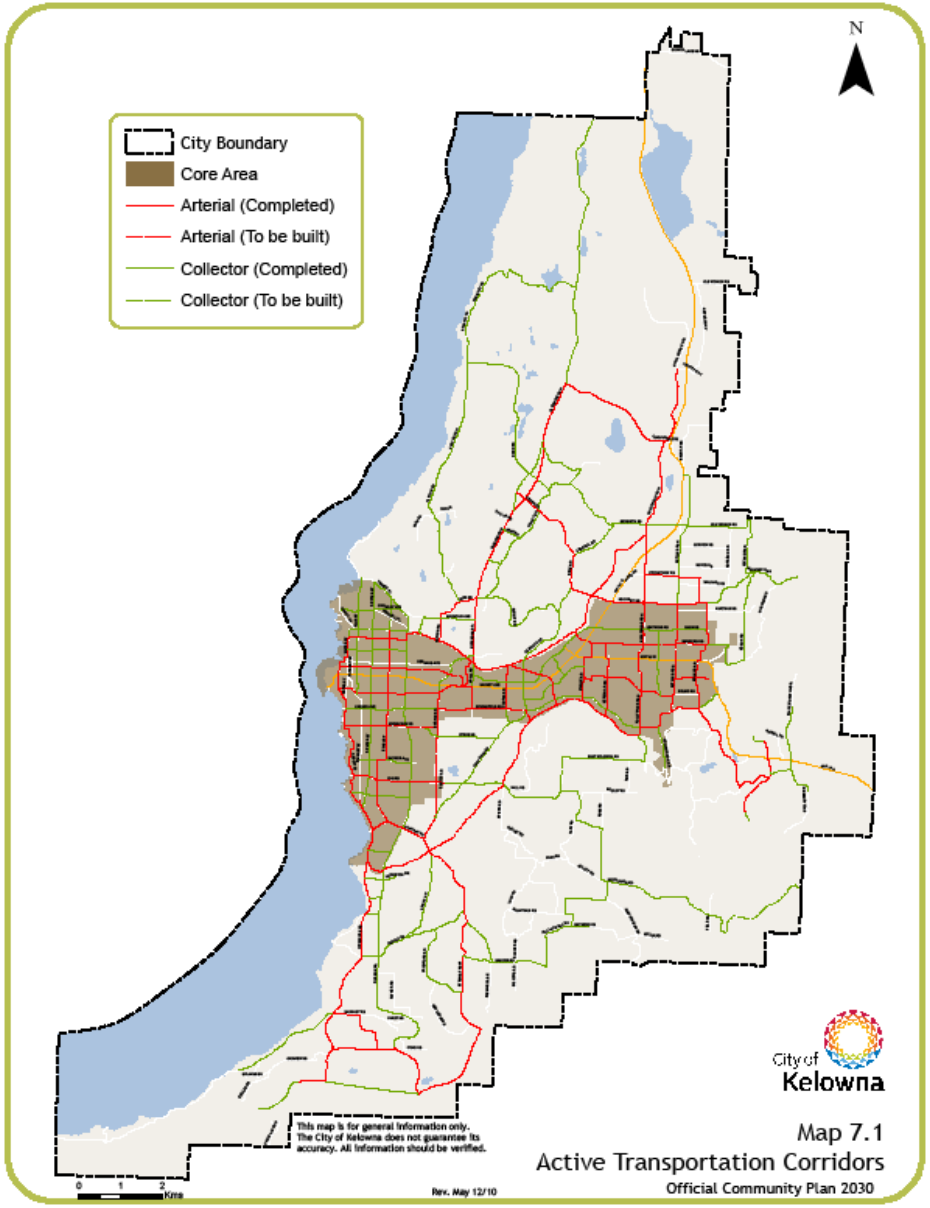
Legend

- Urban Centres - Centerpoint
- 5 Minute Walk (400m)
- 10 Minute Walk (800M)
- 5 Minute Bike (1500m)
- Greater than 10 Minute Bike (Greater than 3000m)



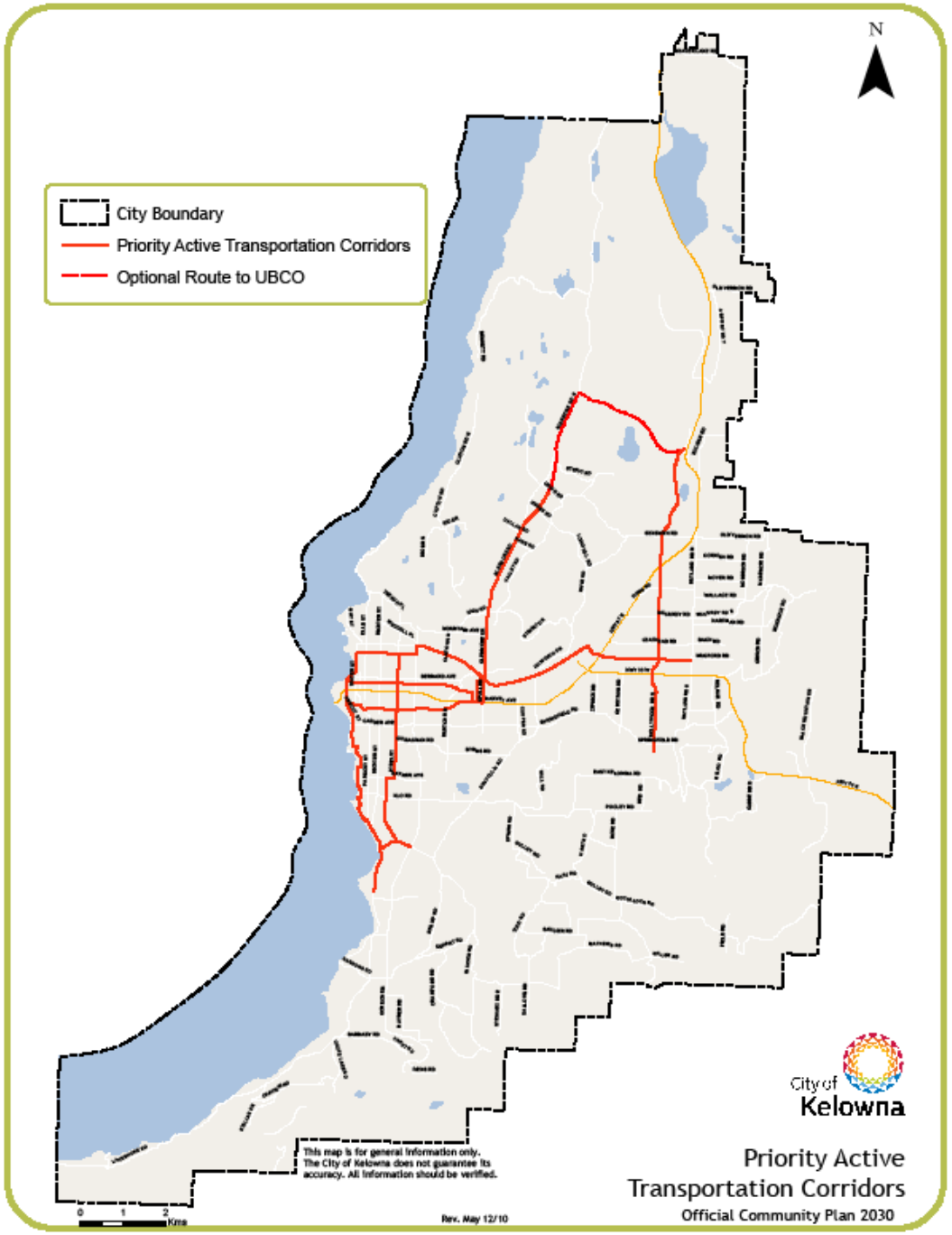
ACTIVE TRANSPORTATION NETWORK





ACTIVE TRANSPORTATION NETWORK PRIORITIES

1. Waterfront from Cultural District to Mission Creek Greenway
2. Downtown to Pandosy Town Centre & OC
3. Downtown to Rutland via Rails w/Trails
4. Rutland to UBCO
5. Hwy 97 Alternatives: Downtown to Ped-pass
6. Downtown to Glenmore Town Centre



PROPOSED DCC ROAD WIDENING THAT COULD BE REDUCED TO ACCOMMODATE ACTIVE TRANSPORT

1. Burtch : (4-2) Springfield to Harvey
2. Bernard: (4-2) Burtch to Richmond St
3. Rutland : (4-3) Old Vernon to Hwy 33
4. Springfield: (4-3) Hollywood to Hwy 33
5. Spall: (4-3) Springfield to Harvey
6. McCurdy: (4-3) Hollywood to Hwy 97

Note: Model rerun to confirm

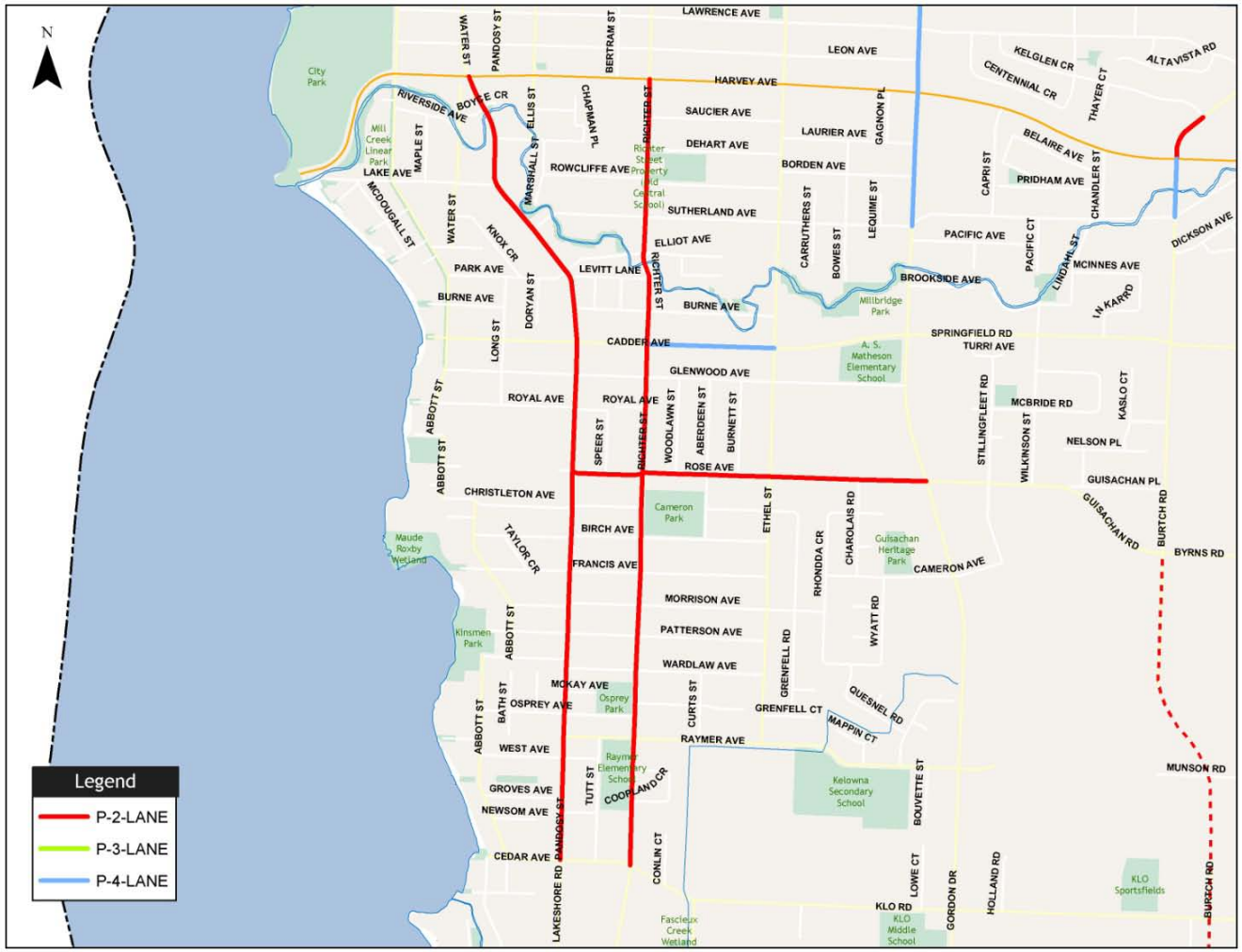
ACTIVE TRANSPORTATION RECOMMENDATIONS

- Balance network thru strategic investments in key active transportation (AT) corridors.
- Include AT off-street arterials in DCC bylaw.
- Intensify social marketing around sustainability and health to promote AT.
- Allow congestion on Neighbourhood Boulevards at peak times to alter discretionary travel habits.

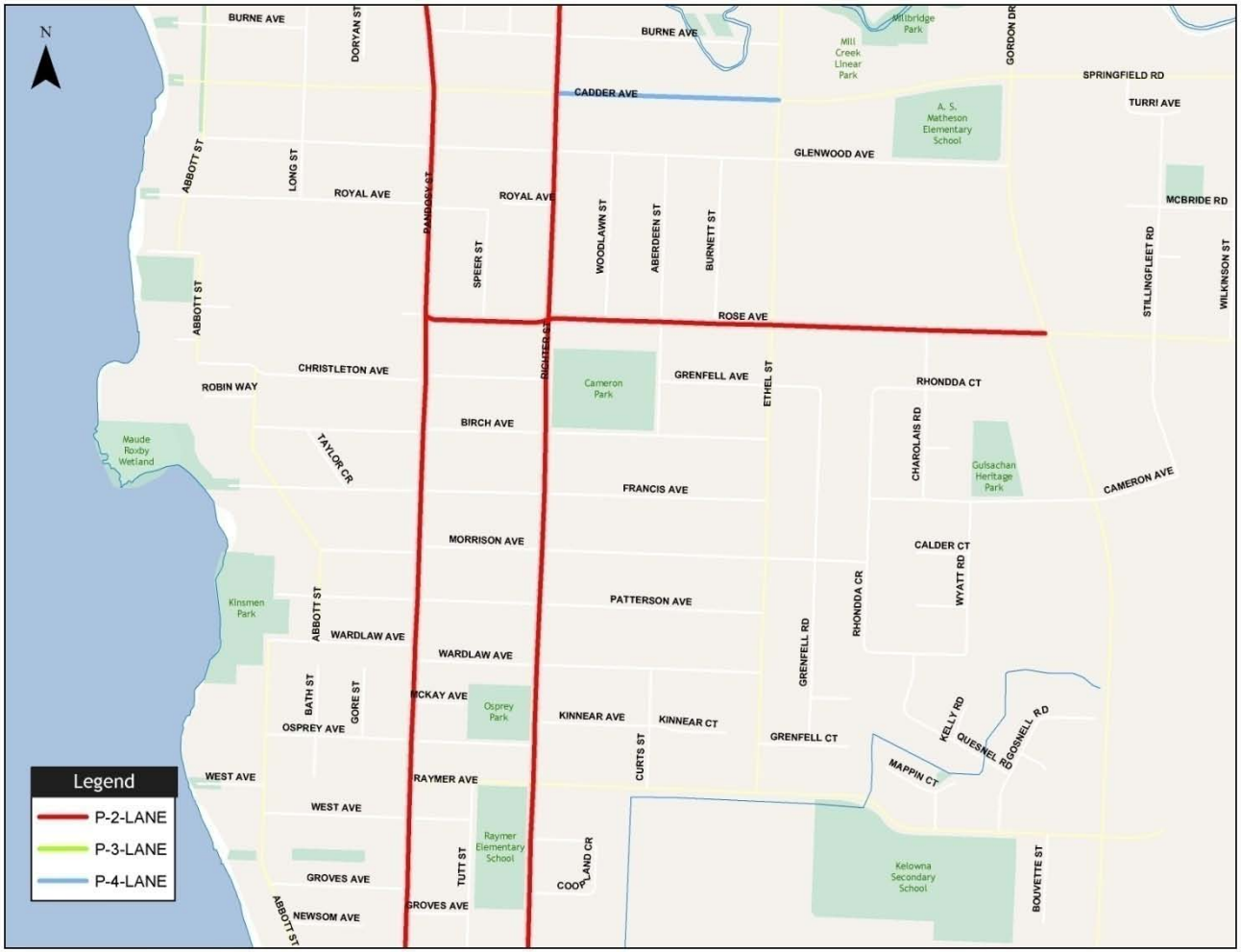
City of Kelowna

SPECIFIC NETWORK CHANGES

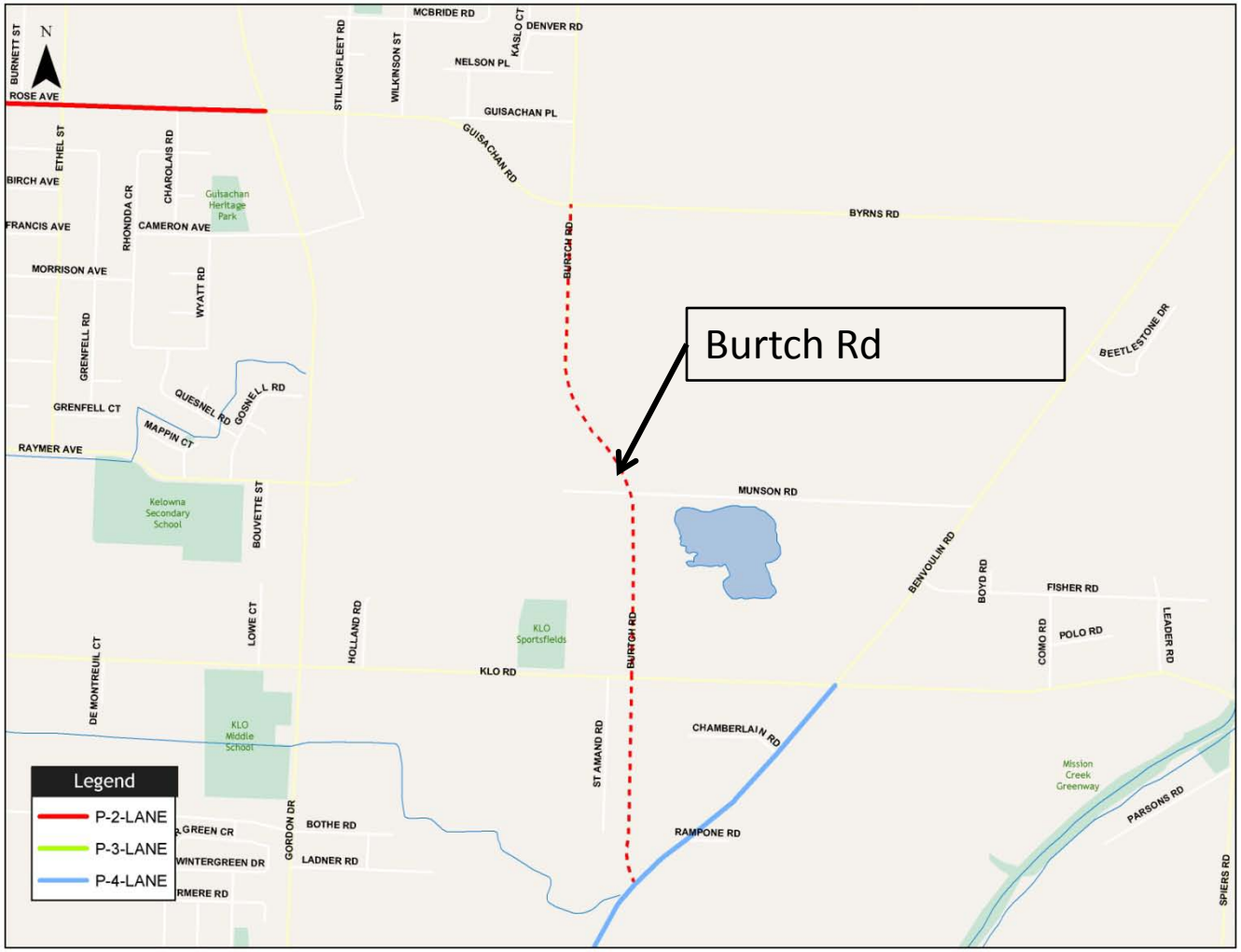
RICHTER ST./PANDOSY ST.



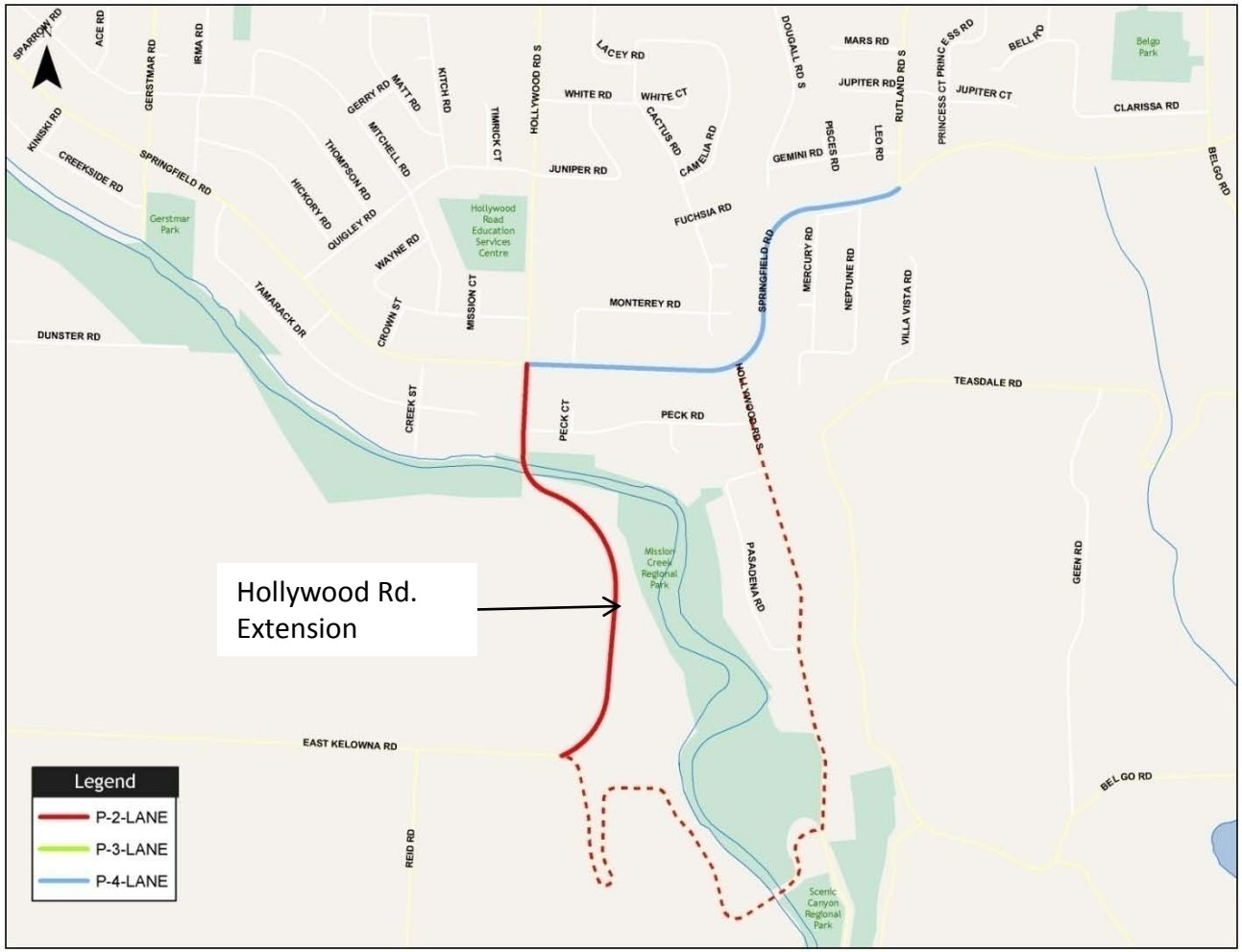
ROSE AVE./GUISACHAN RD.
CADDER AVE./SPRINGFIELD RD.



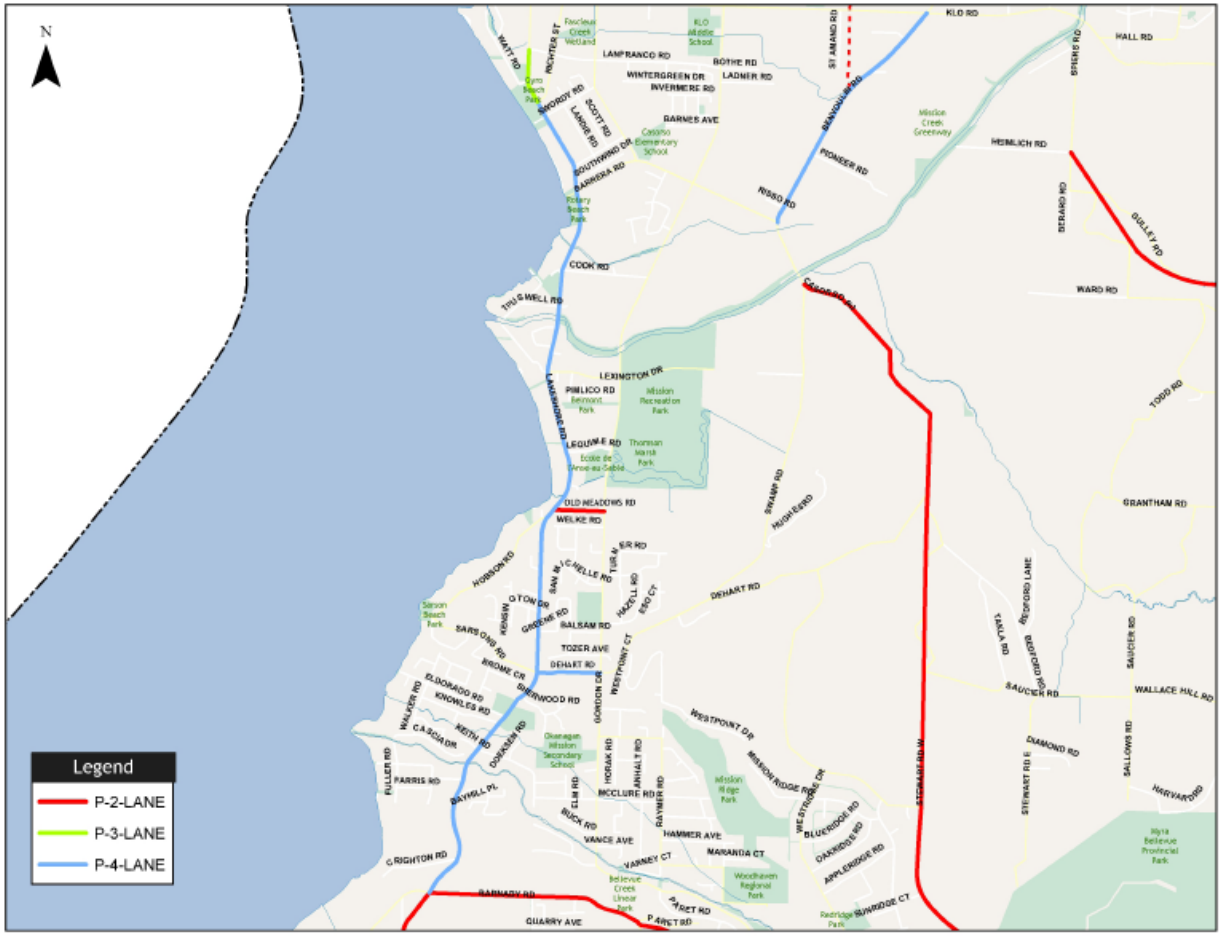
BURTCH RD.


Burtch Rd
N
BURNETT ST
ROSE AVE
MCBRIDE RD
STILLINGFLEET RD
WILKINSON ST
KASLO CT
DENVER RD
NELSON PL
GUISACHAN PL
GUISACHAN RD
BYRNS RD
BURTCH RD
ETHEL ST
BIRCH AVE
FRANCIS AVE
RHONDDA CR
CHAROLAIS RD
Guisachan Heritage Park
CAMERON AVE
MORRISON AVE
WYATT RD
GRENFELL RD
GRENFELL CT
QUESNEL RD
GOSNELL RD
MAPPIN CT
RAYMER AVE
Kelowna Secondary School
BOUVETTE ST
MUNSON RD
BEETLESTONE DR
BENVOULIN RD
BOYD RD
FISHER RD
COMO RD
POLO RD
LEADER RD
LOWE CT
HOLLAND RD
KLO Sportsfields
KLO RD
DE MONTREUIL CT
KLO Middle School
ST AMAND RD
CHAMBERLAIN RD
Mission Creek Greenway
PARSONS RD
SPIERS RD
GORDON DR
BOTHE RD
LADNER RD
RAMPONE RD
WINTERGREEN DR
Legend
P-2-LANE
P-3-LANE
P-4-LANE

HOLLYWOOD RD EXTENSION



LAKESHORE RD.
RICHTER ST TO DEHART RD.

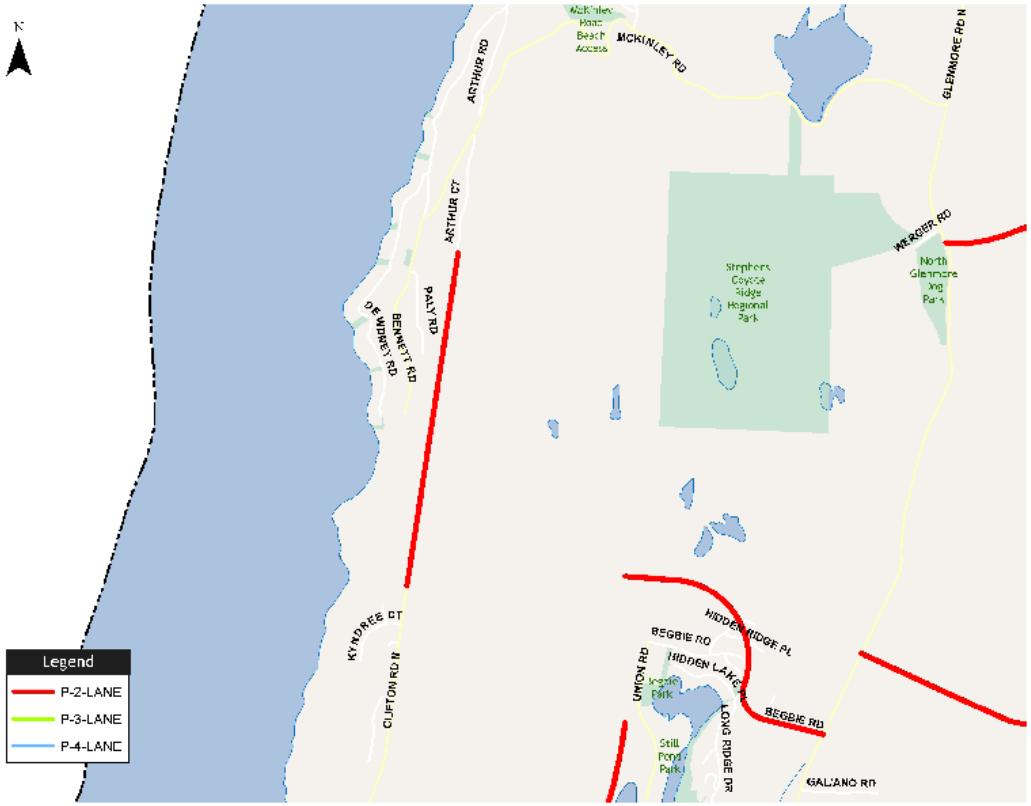


LAKESHORE ROAD 2030 DRAFT LAND USE

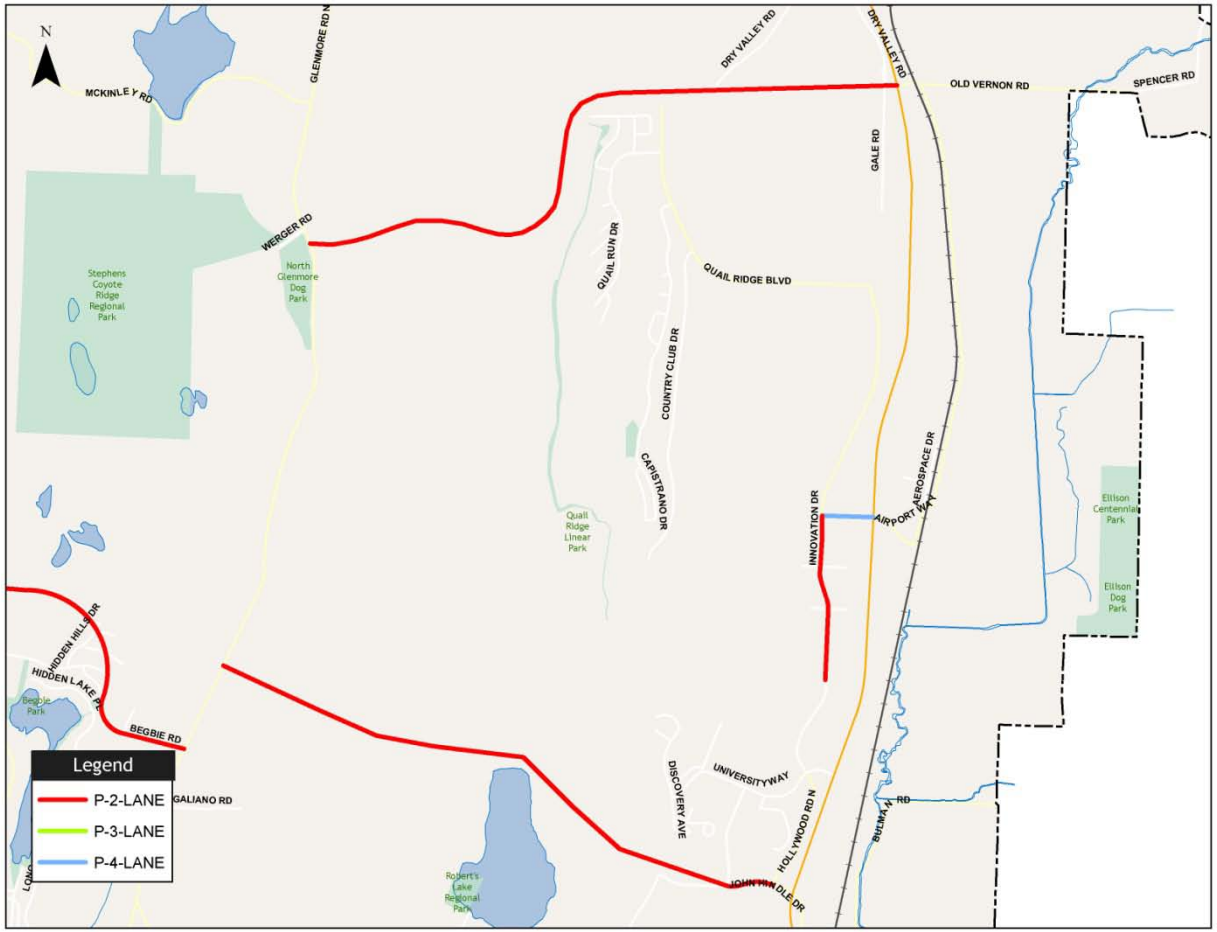
FORECAST TRAFFIC VOLUME PROJECTIONS:
2030 TRANSPORTATION NETWORK

		Northbound AM	Southbound PM
Lakeshore Rd. @ Dehart	North of Dehart South of Dehart	1069 1829	1334 1400
Lakeshore Rd. @ Cook	North of Cook	874	1234
Lakeshore Rd. @ Richter	North of Richter	529	748

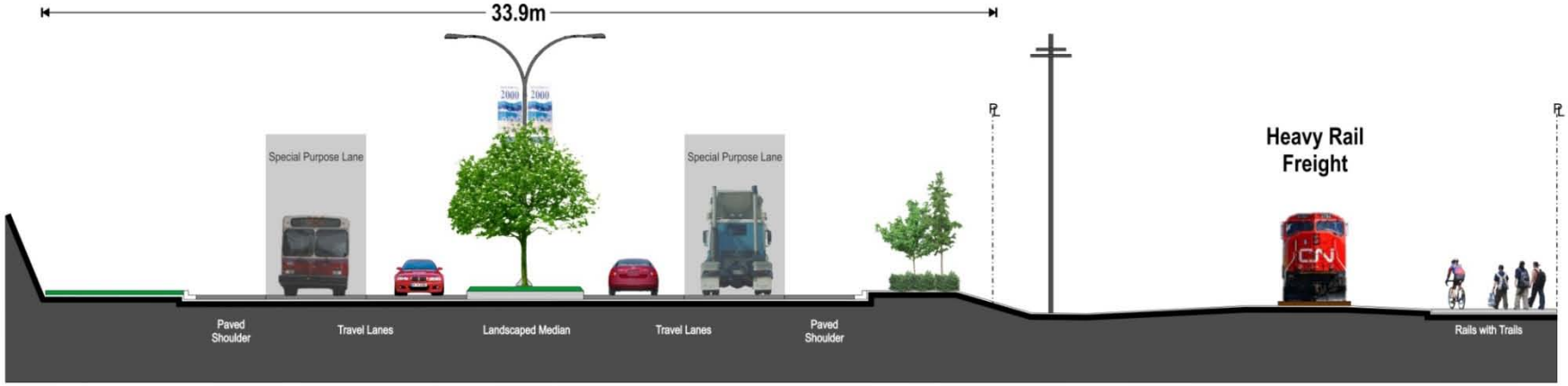
CLIFTON/MCKINLEY CONNECTOR



GLENMORE CONNECTOR



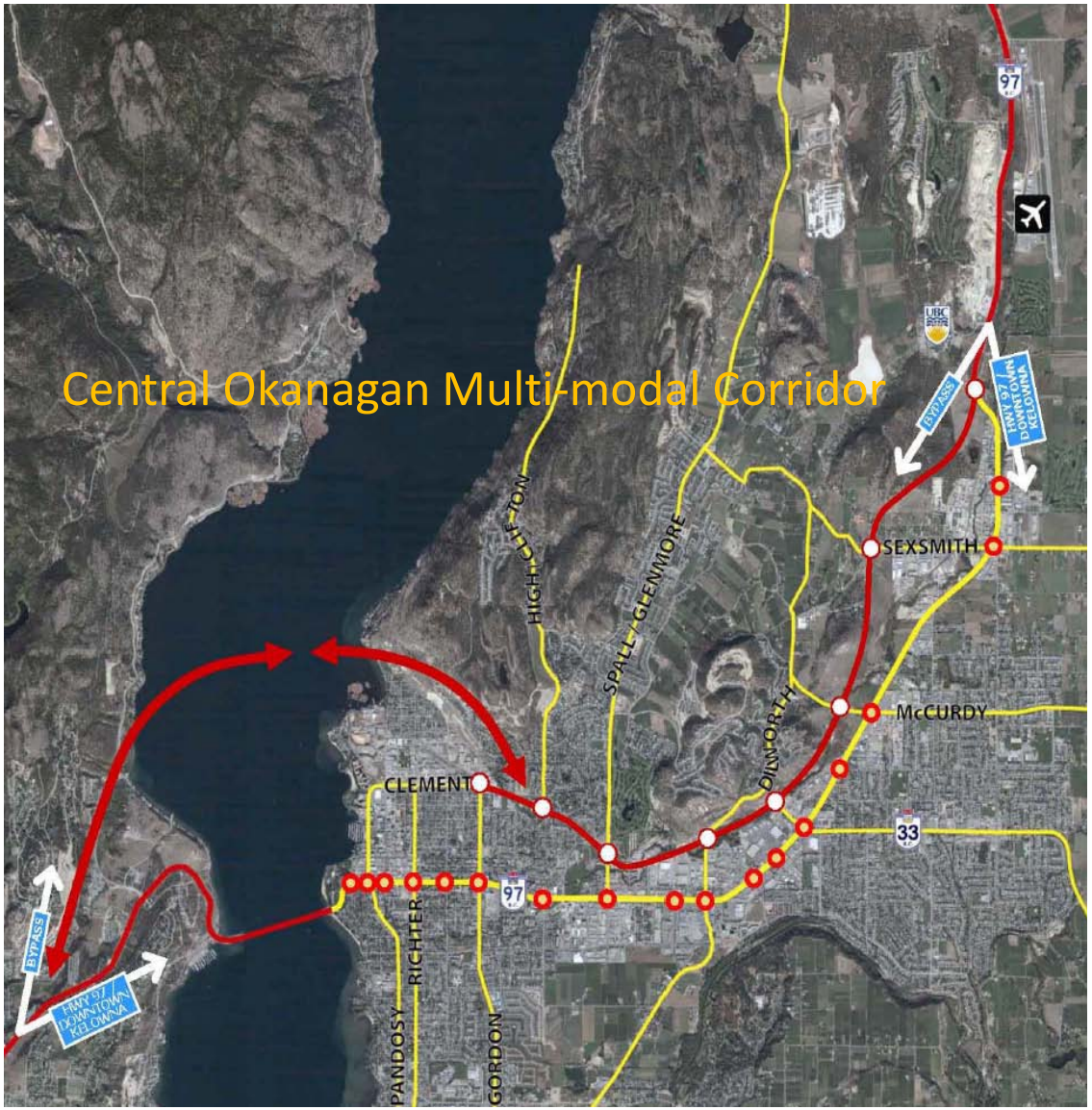
CENTRAL OKANAGAN MULTI-MODAL CORRIDOR



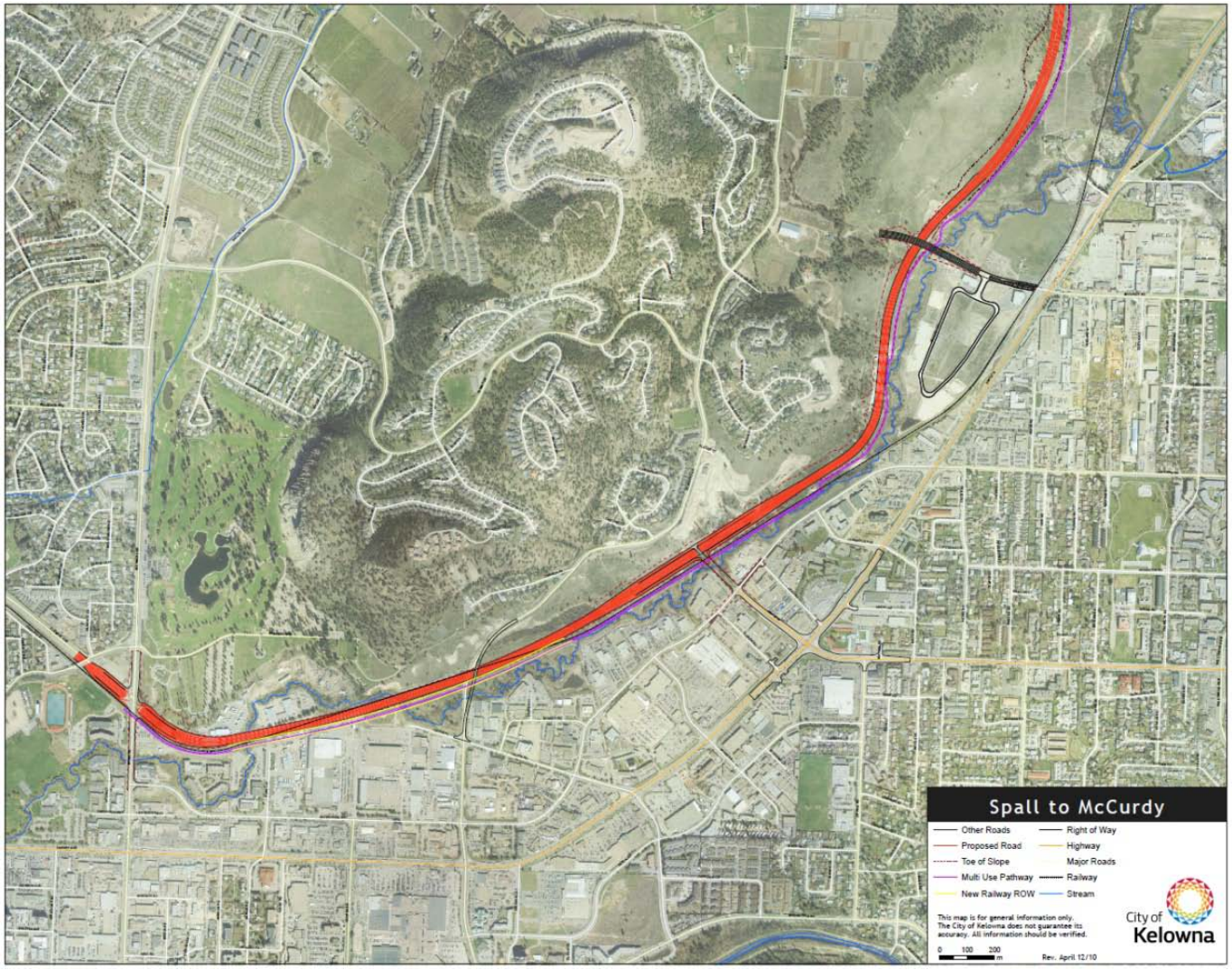
POLICY DIRECTION (KEY ROADS)

- Provide safe and efficient movement of goods and services.
- Provide improved mobility through Kelowna for all modes of travel including rail, pedestrians, cyclists, trucks and passenger cars.

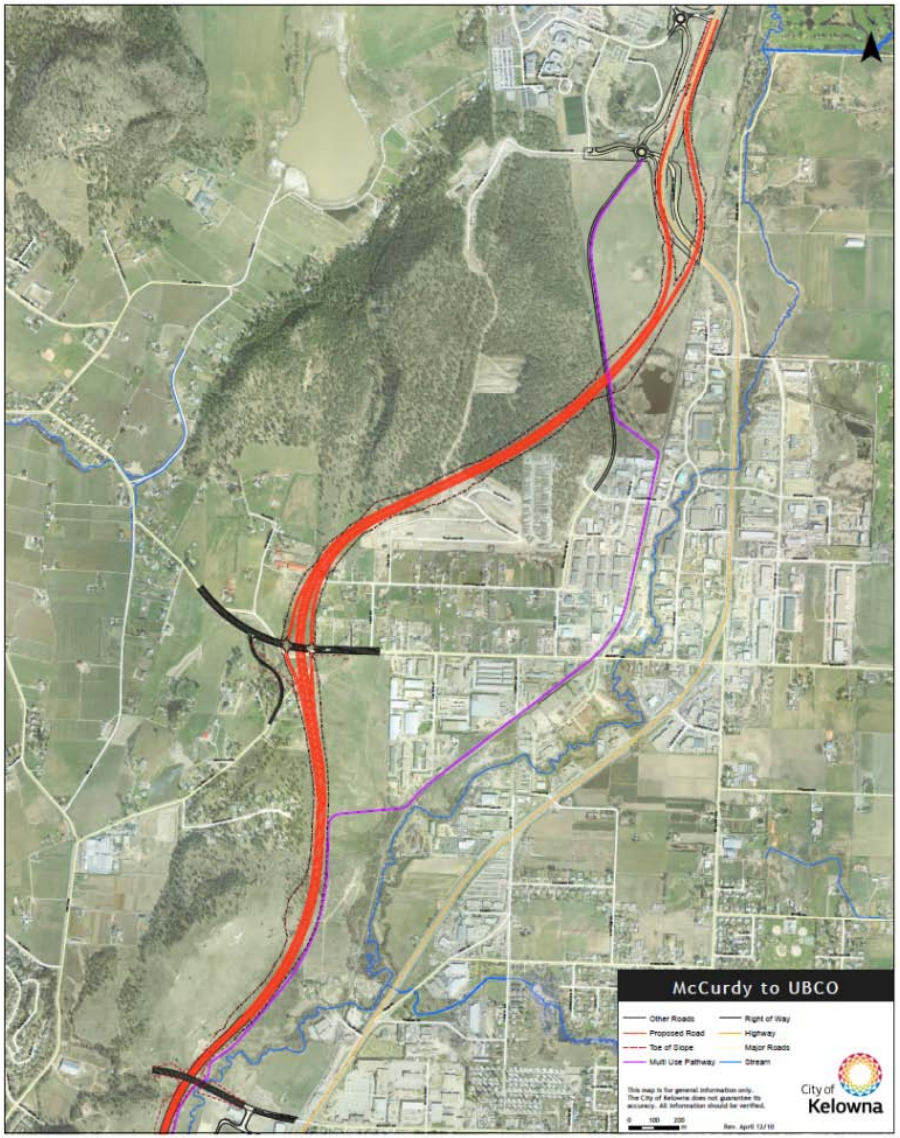
Central Okanagan Multi-modal Corridor


Central Okanagan Multi-modal Corridor
HIGHLIFTON
SPALL/GLENMORE
DILWORTH
SEXSMITH
McCURDY
CLEMENT
PANDOSY
RICHTER
GORDON
BYPASS
HWY 97 DOWNTOWN KELOWNA
97
33

SPALL RD TO MCCURDY RD



MCCURDY RD TO UBC OKANAGAN



CENTRAL OKANAGAN MULTI-MODAL CORRIDOR RECOMMENDATIONS

Spall to McCurdy

- Include as a network improvement by 2030 subject to a funding partnership with Province.

McCurdy to UBCO

- Include corridor protection in 2030 OCP.

PUBLIC OPEN HOUSE

- Parkinson Recreation Park Multi-use Trail, Dayton Street Overpass, and Transit Infrastructure projects underway.
- Tuesday, May 25, 4 to 6:30 p.m. Parkinson Recreation Center, Pool Viewing Room 1800 Parkinson Way

QUESTIONS & DISCUSSION?