

ELA



Dan Finley – Pacific Western

Safely Managing Emerging Technology



Wendy Doyle – Alberta Transportation

“The Future of Transportation”

This session

- **ELA**
- **Pilots – Complete**
 - Calgary, Edmonton, Wetaskiwin, Surrey, Vancouver
- **Pilot – In Progress**
 - Beaumont
- **HAVs in Alberta**



- Mid-Size Autonomous Vehicle – 12 PAX
- Worked with all 3 major manufacturers of Autonomous Shuttles and determined Easy Mile is best in class.
- **There are several reasons why:**
 - Alignment with PWT's most important core value
 - SAFETY
 - Customer Service
 - Reputation / Referral
 - Cost effective

ELA SPECIFICATIONS

CAPACITY: 12 Persons (6 seating, 6 standing)

CRUISING SPEED: 10 - 20 km/h

MAX SPEED: 40 km/h

PROPULSION ENGINE: Electric asynchronous

AUTONOMY: Up to 12 hours of operation

BATTERY: Lithium-ion (LiFeP04)

REDUCED MOBILITY: Fully Accessible

BATTERY CHARGER: 230V 16A

AIR-CONDITIONING & HEAT: Yes

LENGTH: 3.928m

WIDTH: 1.928m

HEIGHT: 2.750m

WHEELBASE: 2.800m

FULLY LOADED: 2750kg

ELA DEPLOYMENTS



CALGARY, AB

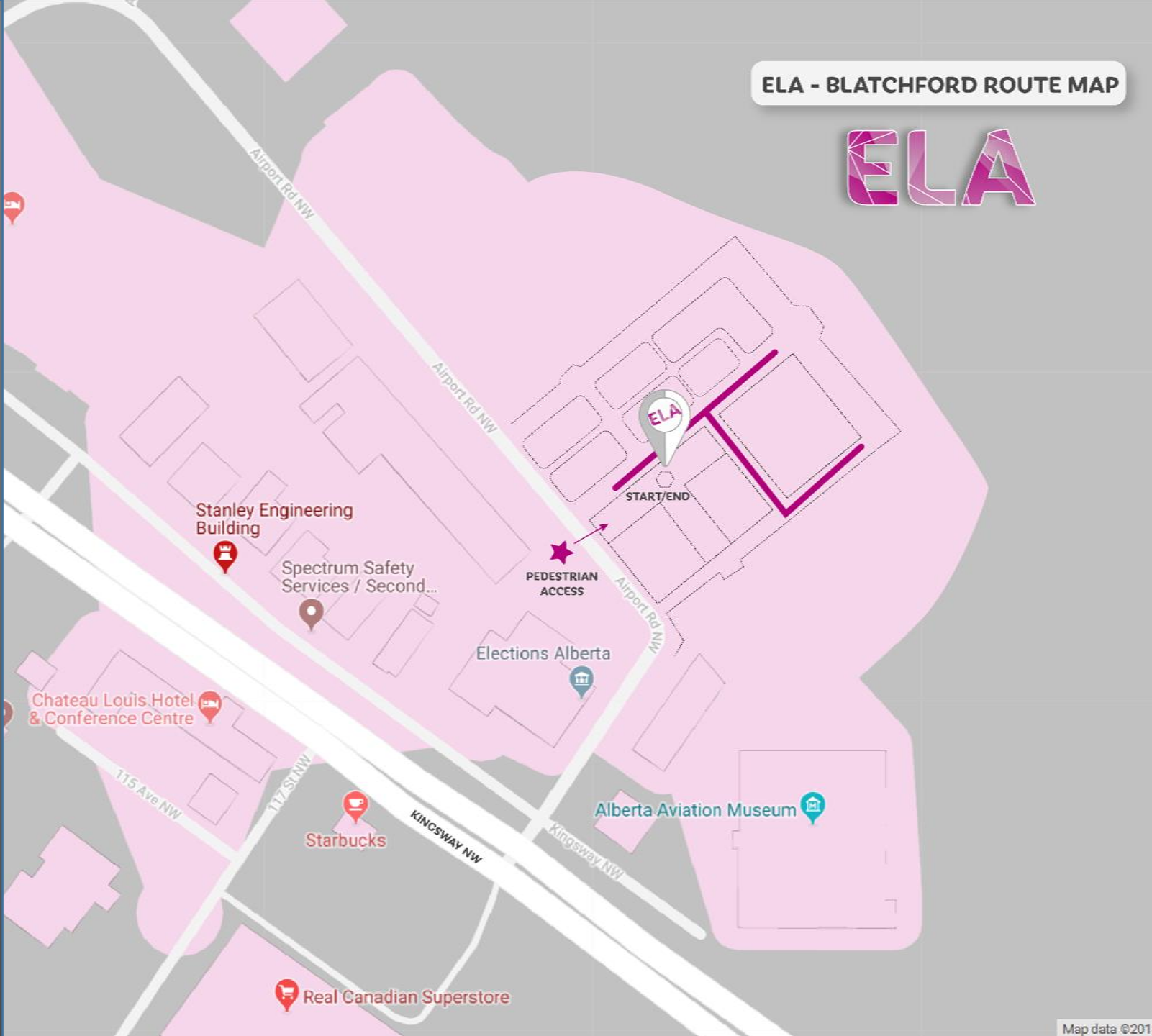
Andrew Sedor



EDMONTON, AB

Blatchford

Edmonton City Centre Airport , also called Blatchford Field, was an airport located within the city of Edmonton. It was the first licensed airfield in Canada and served as a military airbase during World War II. The airport was closed in November 2013, and in 2018, planned for redevelopment. This construction will repurpose the area into a mixed-use urban community, called “Blatchford”.



EDMONTON, AB

Blatchford

....”Blatchford is a statement about putting life first when developing a community. Whether it means putting emphasis on a more active life or a more sustainable life.”



EDMONTON, AB

Strathcona

It was inevitable that ELA would face snowy conditions. During the Strathcona pilot it sank to -15 with snow fall. This didn't stop ELA or over 1000 passengers from experiencing AV technology. The shuttle was able to navigate through cold wind and snow, and not only remain functional but exceeding expectations.



University of Alberta

The ACTIVE-AURORA

Connected Vehicle Test Bed is a flagstone project of the Centre for Smart Transportation.

ACTIVE-AURORA is a network of on-road test beds that provide a harsh winter climate to test Connected Vehicle systems for traffic, transit, goods movement, and active transportation.



ELA - UNIVERSITY OF ALBERTA
ROUTE MAP



122 ST NW

Northern Forestry Centre

Prairie Urban Farm

Green and Gold
Community Garden

START/END

60 Ave NW

60 Ave NW

59 Ave NW

58 Ave NW

114 St NW

114 St NW

114 St NW

114 St NW

114 St NW

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114 St NW

114 St NW

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WETASKIWIN

Reynolds Car Museum



SURREY, BC

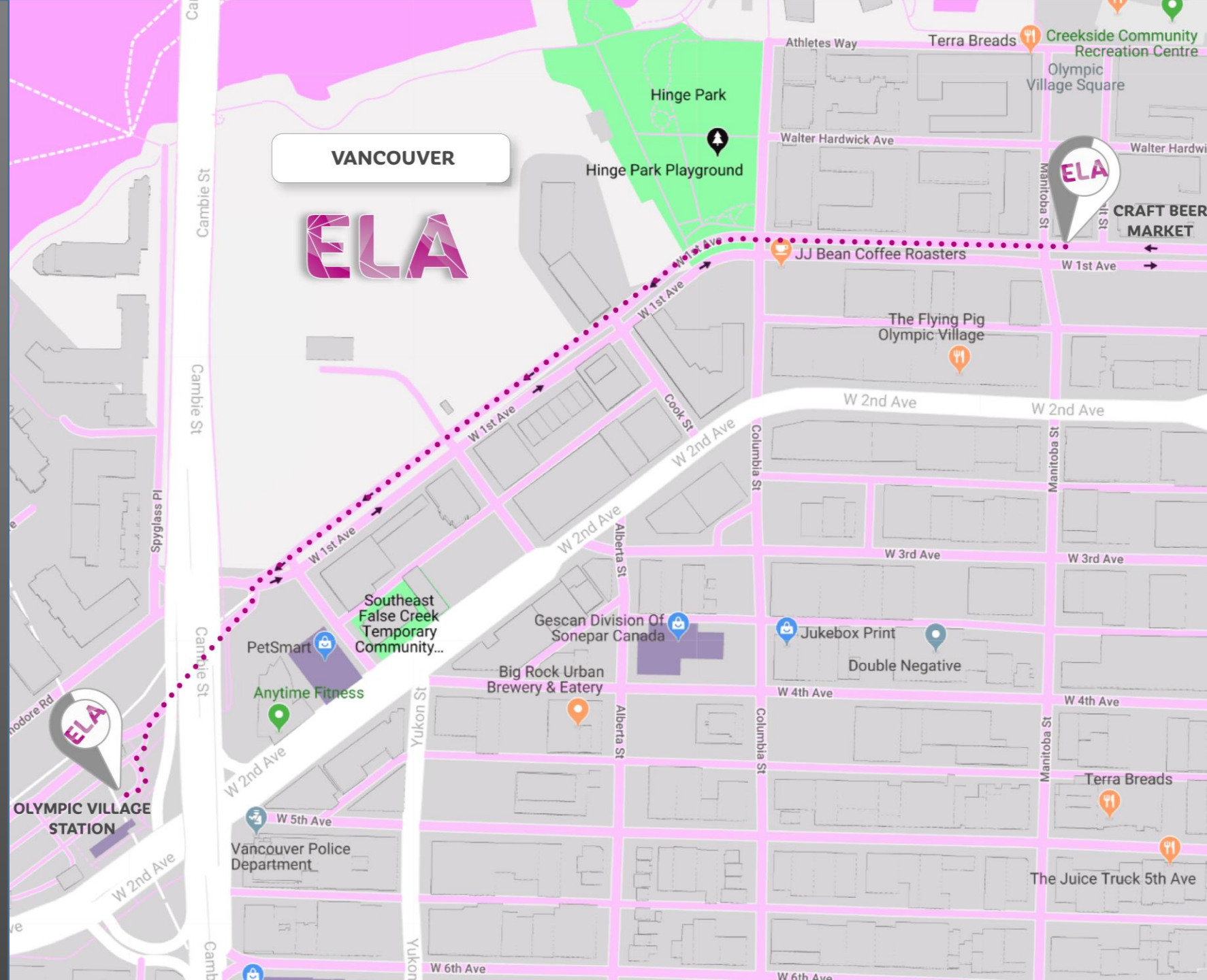
ELA at the Vision Zero Summit 2019 in Surrey, BC.

Pictured here is ELA next to a Tesla (right) and two Hyundai's (left) all of which are 100% Electric!



Vancouver, BC

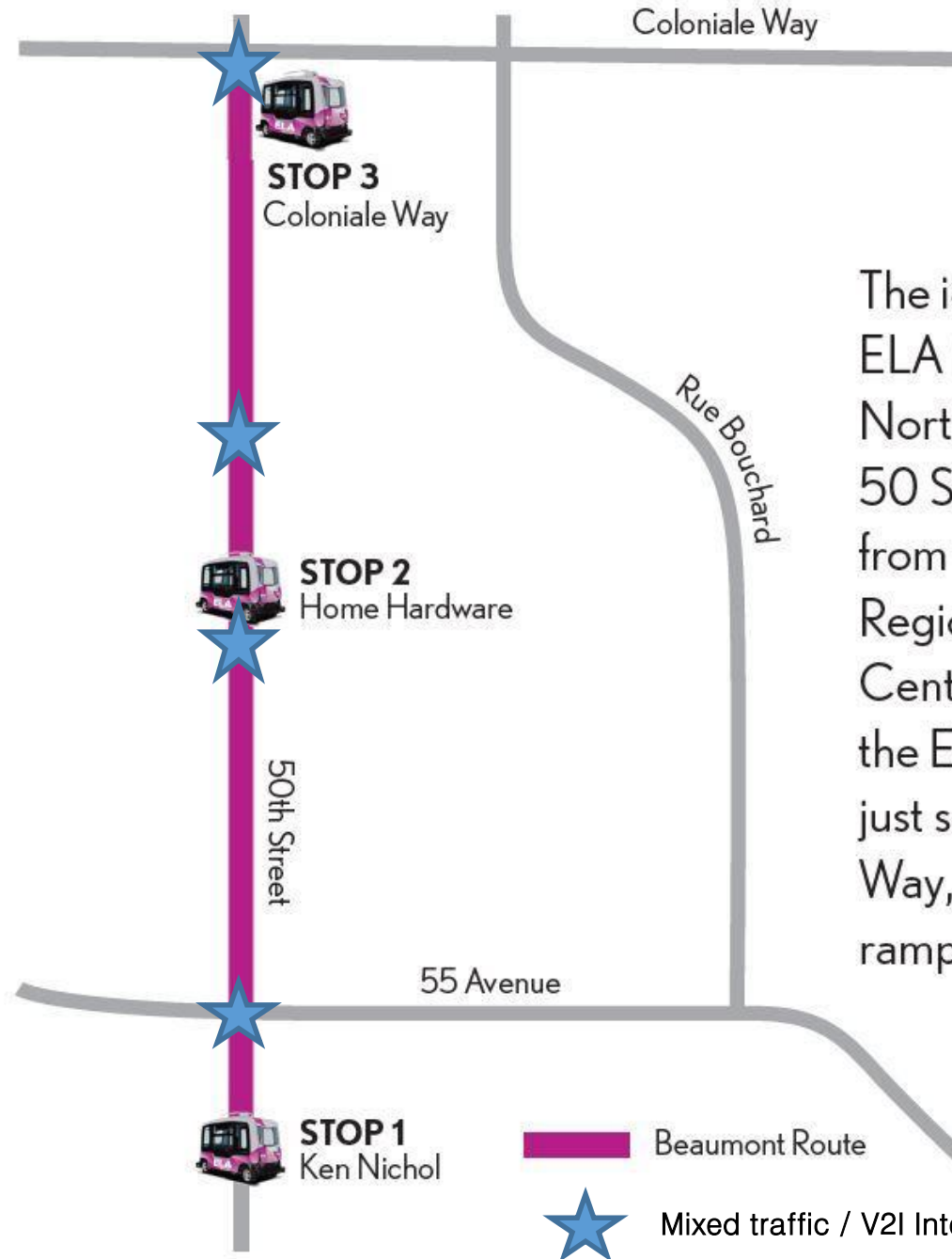
Smart City Challenge bid to create Canada's first collision-free multimodal corridors using smart mobility technologies. Together, Surrey and Vancouver hope to "set the standard for other cities in Canada" to follow their lead into utilizing smart technology in transportation, and Pacific Western is helping to make that happen.



Beaumont, AB

Beaumont and PWT are studying how we – as citizens – react, interact and respond to autonomous vehicles. With Beaumont being Canada's first city to pilot the integration of ELA into mixed-use traffic scenarios that encompass traffic signalling and human interaction, it is exciting progress to see how this technology can impact our everyday lives and how it can potentially build connectivity with the region.

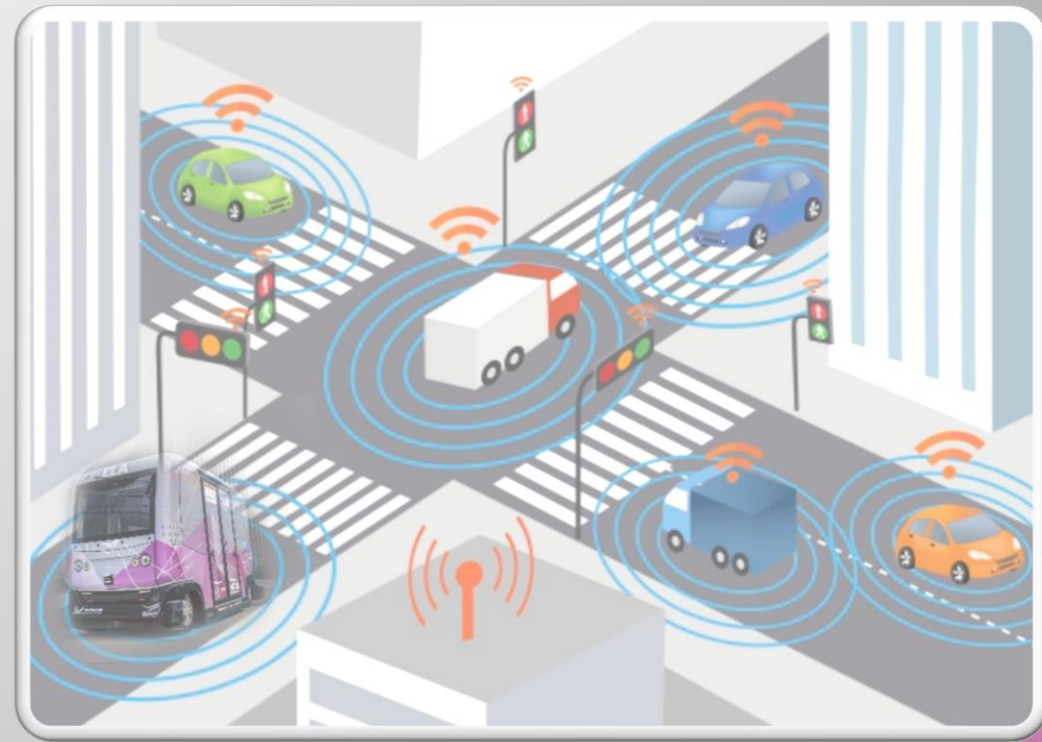
- First deployment integrated within a community – not an “attraction”
- Mixed interaction
 - Partially segregated lane
 - Mixed Traffic through intersections and crosswalks
- First Autonomous Vehicle deployment integrating V2I Connectivity (Phase 2)



The identified route for ELA is traveling in the Northbound lane of 50 Street running from the Ken Nichol Regional Recreation Centre stopping in the Eastbound lane just south of Coloniale Way, by the access ramp.

ELA does V2I

- First Autonomous Vehicle supporting V2I Integration operating in Canada
- Basic communication requirements all operating to existing industry standard
- Light controllers provide light status to vehicle commanding go / no-go
- Vehicle responds to command provided by light controller to action proceeding or coming to a controlled stop



DEPLOYMENT STATS

Key Statistics			
Operational Days	108	Average Pax per Day	110.22
Passenger trips	11,904	Average Pax per KM	7.07
Kilomteres travelled	1,683	Energy used per KM (khw)	1.13
Energy used (kWh)	1,488	Operator Man Hours	864

Highly Automated Vehicle Testing in Alberta



HAVs in Alberta

- Alberta has been participating at the national level for years through the CCMTA.
- We follow CCMTAs Jurisdictional Guidelines for the Safe Testing and Deployment of HAVs.

HAVs in Alberta

- In Alberta, we do not explicitly prohibit HAVs by provincial regulations.
- In order to test in Alberta:
 - Advise the Registrar of intention and scope of testing
- Based on scope, an exemption issued by the Registrar from may be required for applicable regulations to operate on public roads.
 - E.g. *Vehicle Equipment Regulation*

HAVs in Alberta

- Province is working with industry and municipal partners on connected vehicle and automated driving system initiatives.
- Calgary and Edmonton developing long-term transportation plans.
 - Strategies for automated driving systems, shared mobility
- The department assessing proposals for testing on a case-by-case basis.

Current Status in Alberta for HAVs

- Currently developing an application process for testing HAVs on public roads.
- Some HAVs may still require an exemption issued by the Registrar from any applicable regulations to operate on public roads.
 - Public roads are any place where the public is ordinarily entitled or permitted to operate (pedestrians, vehicles, cyclists, etc.)

Thank you

Dan Finley
VP Business Development
Pacific Western Transportation
403-248-4300

Wendy Doyle, Executive Director
Office of Traffic Safety
Alberta Transportation
780-427-6588

Alberta
Transportation

ELA

**PACIFIC
WESTERN**
GROUP OF COMPANIES
safely
home

