



Transportation Innovation Zones

A real-world testing site for Toronto

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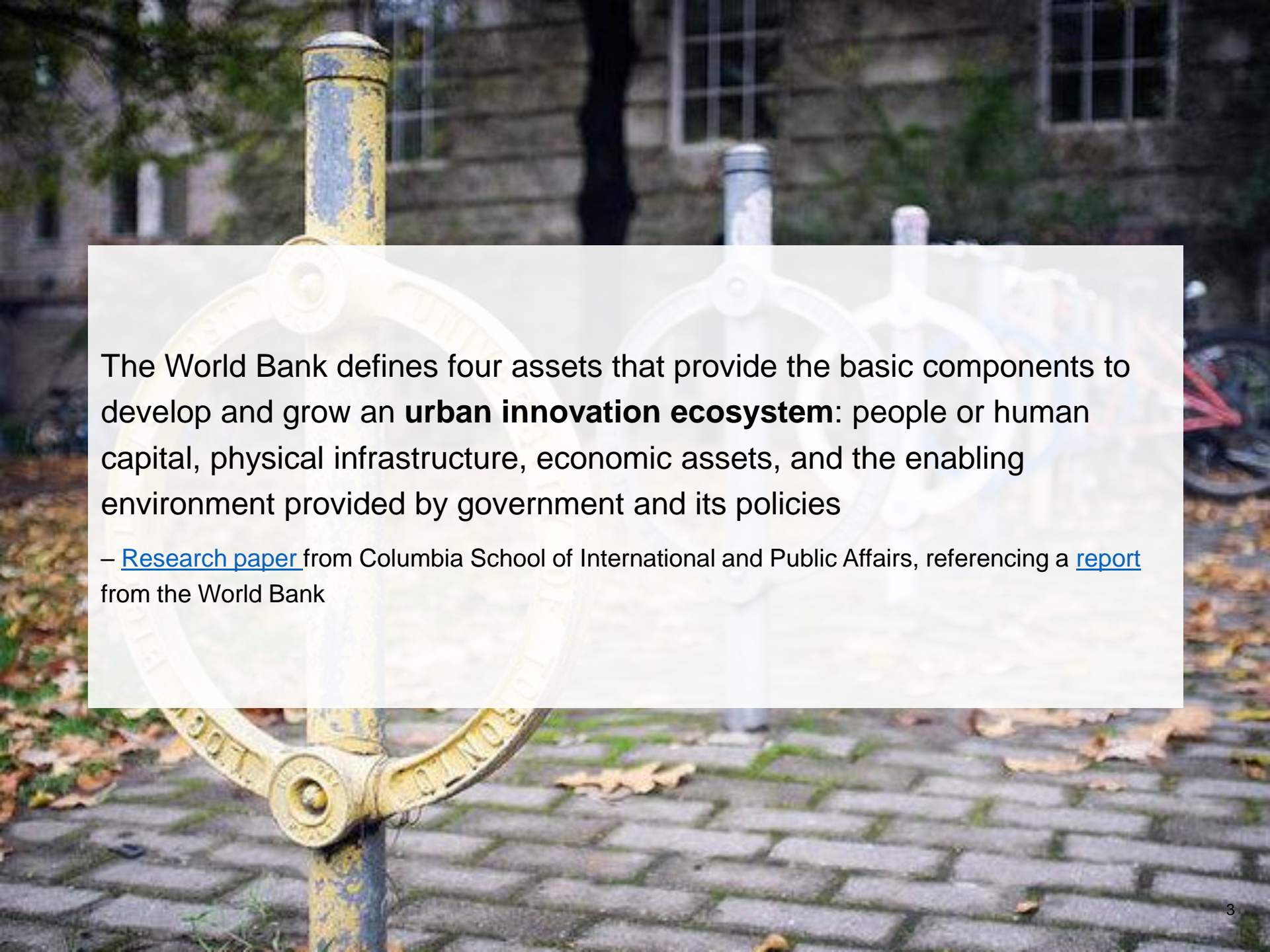
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Innovation is the process of using ideas and knowledge to develop new or improved **products, services, or processes** that generate value.

This includes both the development and diffusion of innovations, covers both **economic and social value**, and applies to activities conducted by individuals, firms, communities, and/or economies as a whole.

– [Brookfield Institute for Innovation and Entrepreneurship](#)



The World Bank defines four assets that provide the basic components to develop and grow an **urban innovation ecosystem**: people or human capital, physical infrastructure, economic assets, and the enabling environment provided by government and its policies

– [Research paper](#) from Columbia School of International and Public Affairs, referencing a [report](#) from the World Bank

➤ Innovation Zones: Jurisdictional Scan

CALGARY LIVING LAB



- **Test sites:** Use variety of indoor and outdoor city-owned assets
- **Applications:** Rolling applications
- **Selection process/criteria:** Still developing and refining selection process; criteria for approving a project is unclear
 - **Example:** AV shuttle between Calgary Zoo and TELUS park
 - **Key Feature:** Uses filming regulations to get approval for testing

CITY OF TORINO



- **Test sites:** City-wide
- **Applications:** Rolling and challenge-based
- **Selection process/criteria:** Must be a “frontier” technology and in the case of a challenge, it must aim to solve the problem described
- **Conditions for operation:** must enter into a data-sharing agreement
 - **Key feature:** Space for researchers and industry to research and collaborate

SAN JOSE



- Based on the City’s overall **Demonstration Framework**
- **Test sites:** Delineated zone in San Jose
- **Selection process/ criteria:** Must demonstrate a public benefit that outweighs costs
- **Conditions for operation:** Must provide performance measures and report against them
 - **Key feature:** Test site includes 11 miles of roadway, 600+ streetlights, intersections, sidewalk and 21 traffic signals

➤ Innovation Zones: Jurisdictional Scan

SINGAPORE



- **Test sites:** Enclosed test circuit is currently being developed
- **Applications:** Challenge-based procurement
- **Selection process/criteria:** Must offer a solution to a current problem in Singapore and must be scalable
 - Example: Auto Number Plate Recognition (ANPR) camera for enforcement
 - Key Feature: Government-built test circuit

SAN ANTONIO



- **Test sites:** 3 established Innovation Zones – each with identified challenges or themes derived through public consultation
- **Applications:** Call for submissions after identification of problems in zones
- **Selection process/criteria:** Must be trying to solve an identified problem in a zone
 - Example: installation of Wifi in a zone to give the campus district greater connectivity

LOS ANGELES



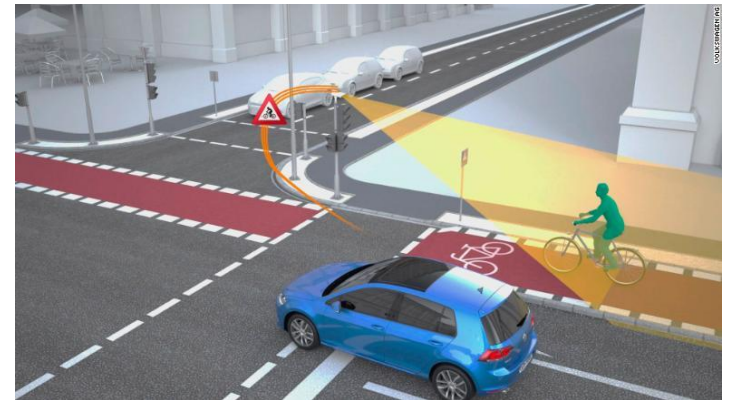
- **Test sites:** To be determined, but with identified zone typologies – closed campus, semi-open zone, high density urban, low density residential
- **Unsolicited proposal policy:** companies can present ideas to the City for evaluation
- **Selection process/criteria:** Must try to solve an urban mobility problem
 - Key feature: Aims to grow L.A. startups, bring multiple stakeholder groups together and measure the success of trails



A Transportation Innovation Zone (TIZ) will be a geographic area within the City of Toronto that hosts flexible testing of transportation and public realm approaches and technologies.

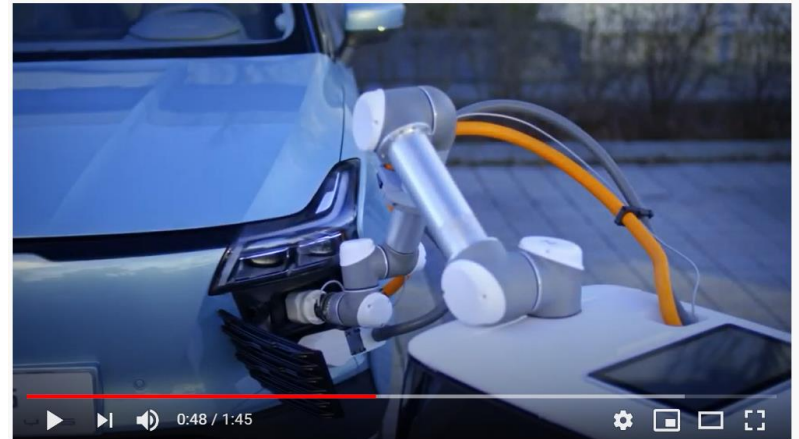
➤ Purpose

1. Leverage a real-world test environment
2. Boost homegrown innovators and attract new ones
3. Accelerate great transportation ideas
4. Generate new knowledge together



➤ Benefits to participants

1. Access to a “real-world” environment for testing
2. Demonstrate value & track record to investors, other businesses, City, public
3. ‘Pivot’ technology to respond to a post-COVID world



Meet 'CARL' - the Autonomous EV Charging Robot

➤ Transportation Innovation?

- Automated vehicles
- Smart lights and traffic sensors
- New roadway signage solutions
- Automated traffic enforcement systems
- IoT solutions for parking accessibility & enforcement
- Delivery robots
- Micro-mobility solutions
- Automated snow ploughs and mowers
- Modular streetlights / poles, sidewalks
- Materials, e.g. Silva cells
- Monitoring & counting devices

The program will target solutions at Technology Readiness Levels 3-8 (Innovation Canada)



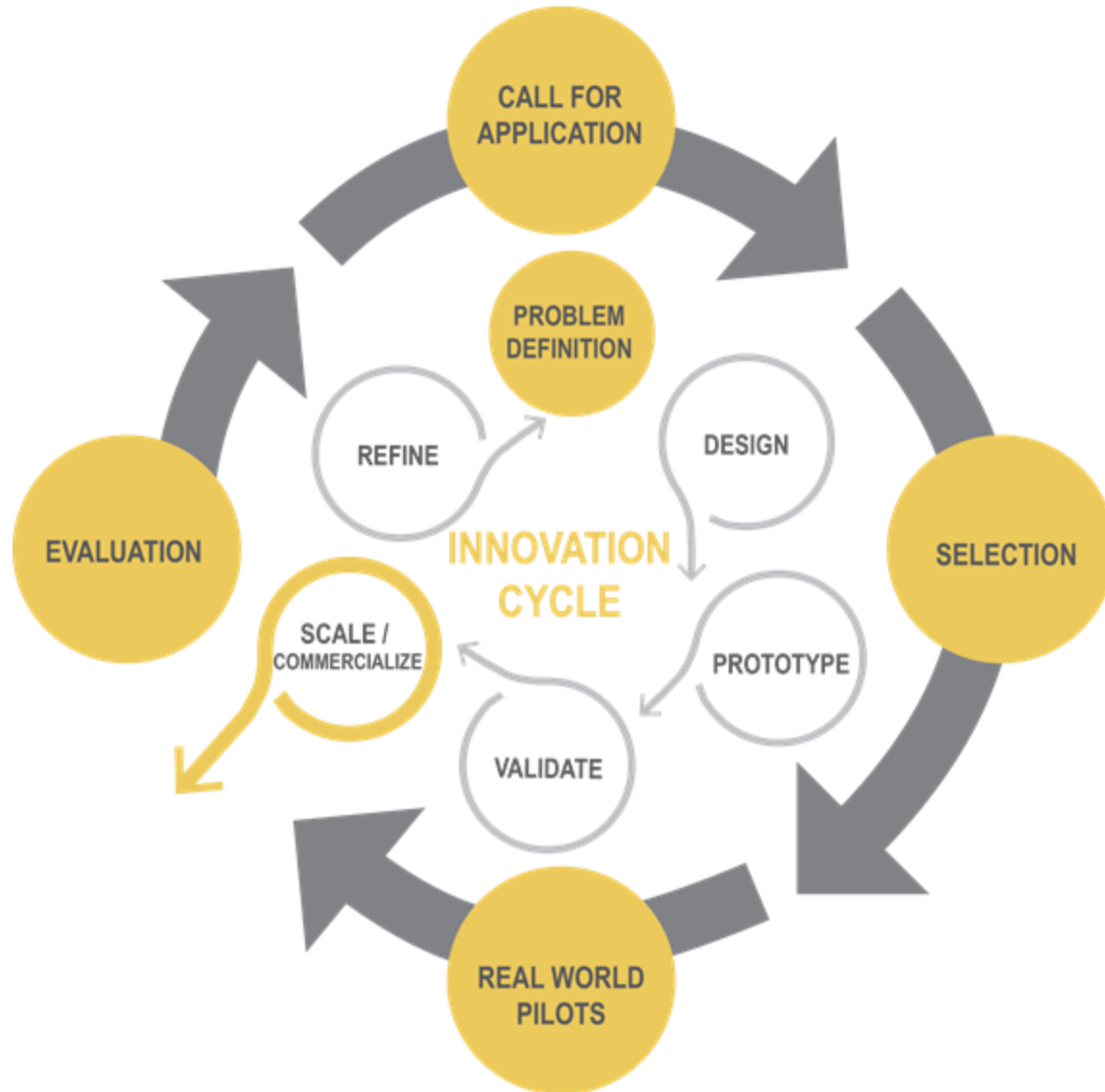
➤ Approach

- Start small & build on the program
- Use existing policies and programs where possible
- Build in flexibility
- Keep the process simple and transparent
- Include the public and stakeholders, including in monitoring & evaluation



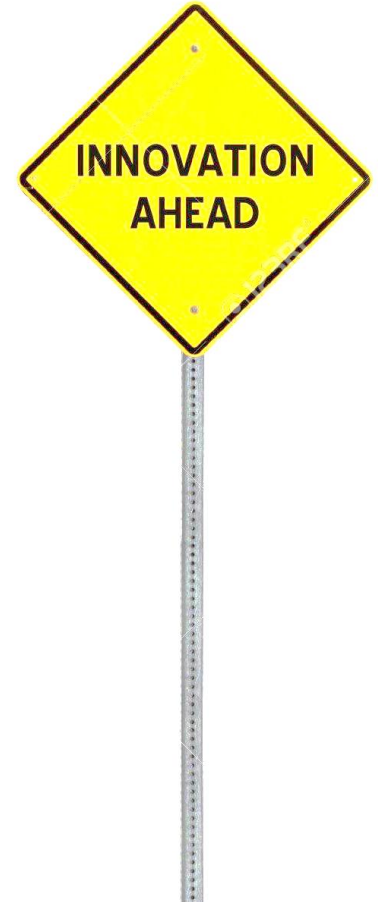
Use the TIZ program as a “regulatory sandbox” for our learning and to inform future regulation, policy development and improve mobility

TRANSPORTATION INNOVATION ZONES



➤ Timeline

- Stakeholder Engagement Round 1
 - Framework Draft
 - Stakeholder Engagement
 - Recommend TIZ Framework to City Council
 - Launch First Zone
 - Annual Evaluation Report
- Sep-Dec 2019
Jan-Feb 2020
Summer 2020
Q3/4 2020
Q3/4 2020
Q4 2021





Questions?

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