Tech to the Rescue: Can Modern-Day Solutions Blaze the Trail to Congestion Relief?

INFRASTRUCTURE FOUNDATION FOR SUCCESS

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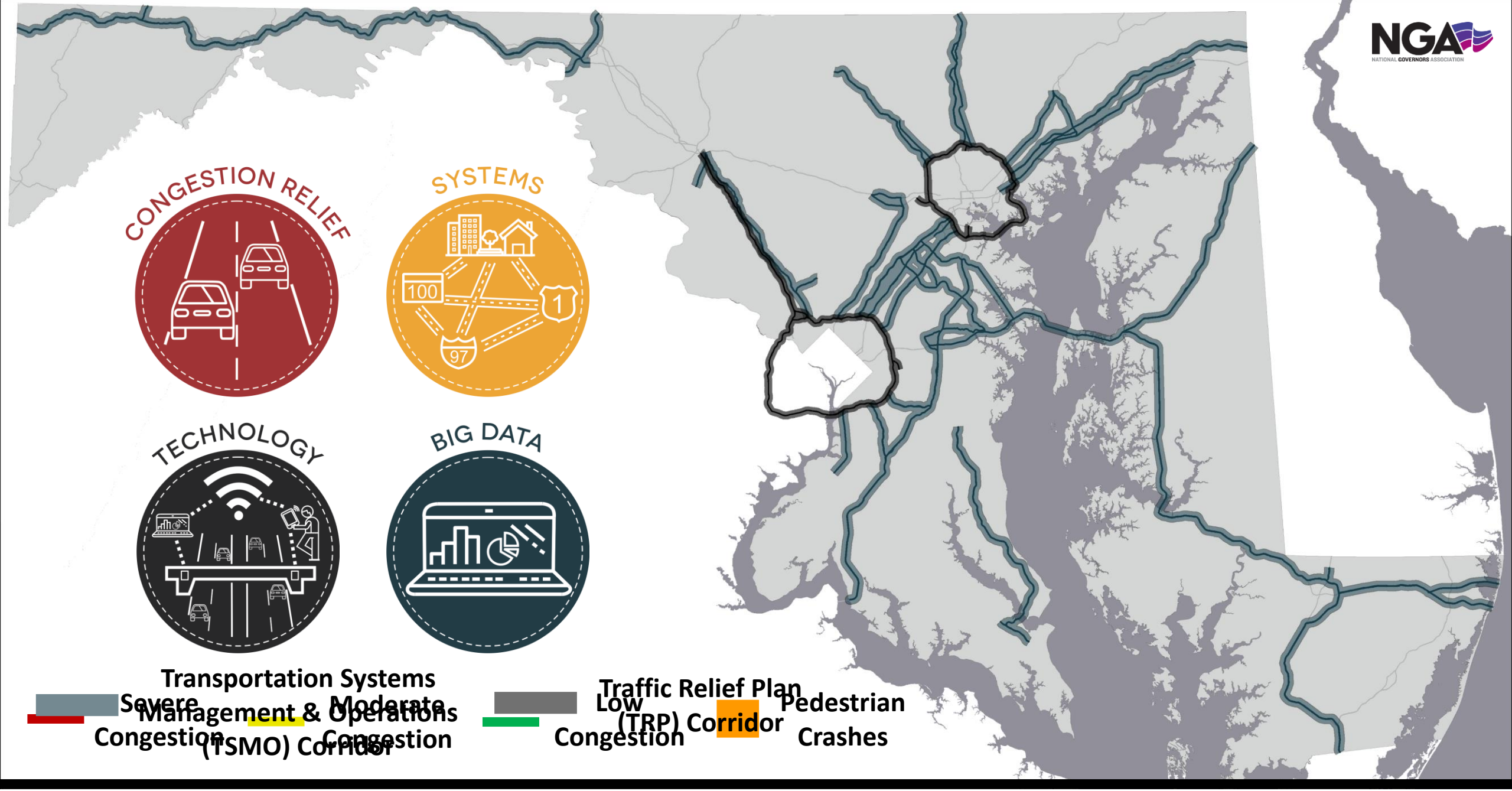

NGA
NATIONAL GOVERNORS ASSOCIATION

GREG SLATER *Administrator*

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Introduction to Deloitte's Global Future of Mobility Practice

Future of Mobility

Background

Convergence of industry-changing forces and mega-trends are disrupting existing markets and creating an **entirely new system of personal mobility**

The Future of Mobility offers an extraordinary promise, namely that more people and goods will be able to move faster, safer, cheaper, and cleaner than today

What We Do and Who We Serve

We work closely with the private sector, governments, civic leaders, unions, NGOs, technologists and universities globally to **shape the future of mobility ecosystem**

We help them **understand the disruption underway, imagine the future and "art of the possible"** to shape strategy, use cases, policy, restructure operating and business models, and adopt new technologies, mobility innovation, and digitization to **transform how their communities and organizations can succeed in the new mobility ecosystem**

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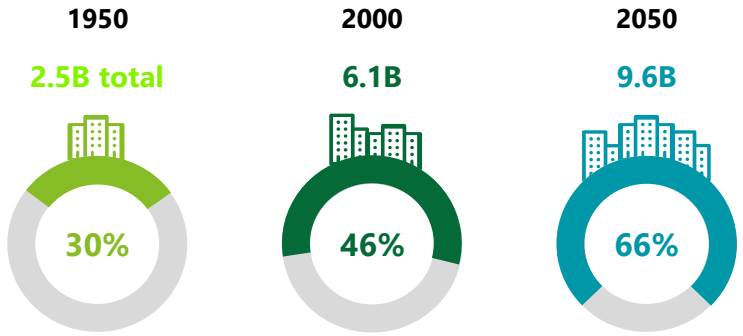
Cities around the world are straining to keep pace with rapid urbanization, population growth, and infrastructure demands

Future of Mobility

Global Population Relative Urbanization (%)

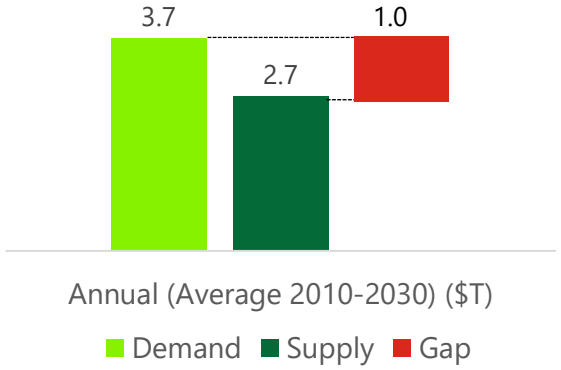


500 cities with populations over 1 million now exist around the world

41 mega-cities with populations over 10 million are expected by 2030

3.4B additional residents will be living in cities by the middle of the century

Shortfalls in Global Infrastructure Investments

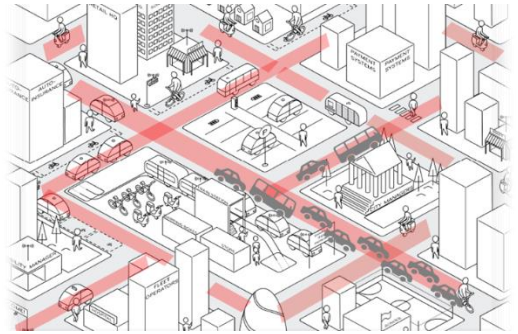


$1.2T could be lost in US GDP by 2025 due to transportation infrastructure deficiencies

73% of the metropolitan workforce commute for 90 minutes or more

30% of traffic in urban areas is caused by cars looking for parking

Implications for Future Urban Areas in the US



City infrastructure is incapable of growing at a rate comparable to urban population growth

Congestion will increase as new forms of transportation continue to develop and over-saturate existing infrastructure and capacity

Economic growth and overall quality of life will decrease as the vitality and attractiveness of a city is compromised

Existing transportation systems fall short of meeting current and future demand

Source: "Smart City Challenge," U.S. Department of Transportation; 2015 Urban Mobility Report, Texas A&M Transportation Institute; "Smart Cities Readiness Guide," Smart Cities Council; TomTom Traffic Index; World Economic Forum, Strategic Infrastructure report; Deloitte Analysis

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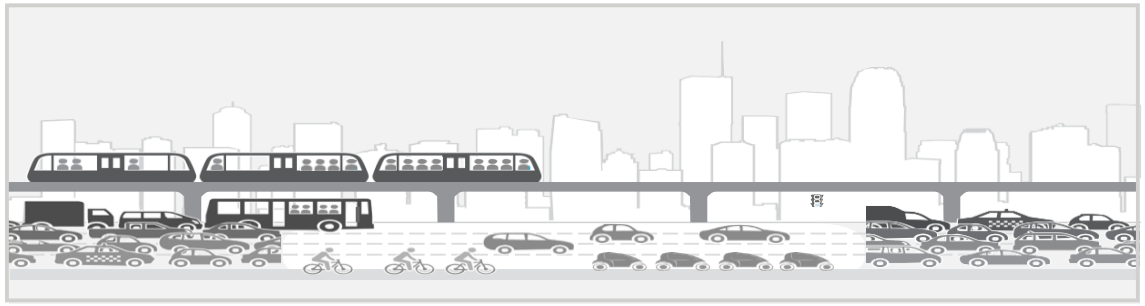
Cities need digital platforms and solutions to connect users, service providers, and infrastructure to greatly improve the flow of people and goods



Mobility Demand

Mobility demand from across the entire transportation ecosystem

TRAVEL PLANNING APPS

REAL-TIME TRAVEL INFORMATION

City Management & Policy

Policy guidance and oversight across entire transportation system

ROAD USAGE CHARGING

REAL-TIME TRAFFIC MANAGEMENT

INCENTIVES (DISCOUNTS, TRAVEL VOUCHERS, ETC.)

Transportation Supply

Supply of city's transportation vehicles and assets

BIKE SHARING

RIDE SHARING

P2P CAR RENTAL

MICRO TRANSIT

AUTONOMOUS VEHICLES

PRIVATE VEHICLE

PUBLIC TRANSIT

FREIGHT SHIPPING

LOGISTICS& DELIVERY

SMART PARKING

Integrated Mobility Platform

Digital platform that overlays and connects disparate physical transportation systems

City & Citizen Engagement

Modules

Mobility Market Optimization

Infrastructure Management

Mobility Management

Foundational Platform

Source: Deloitte analysis

Deloitte.

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Reducing Congestion Through On-Demand Transit

August 2019

Ya-Ting Liu | Director of Government Affairs & Policy

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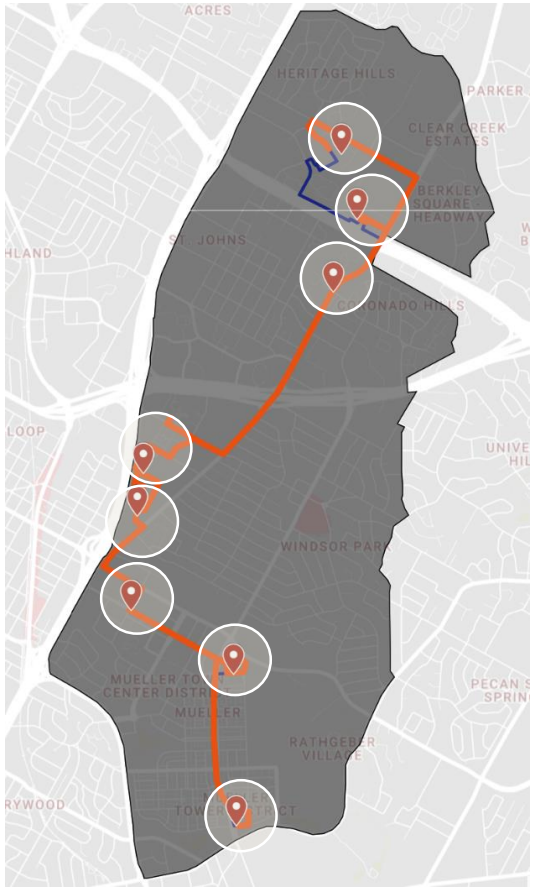
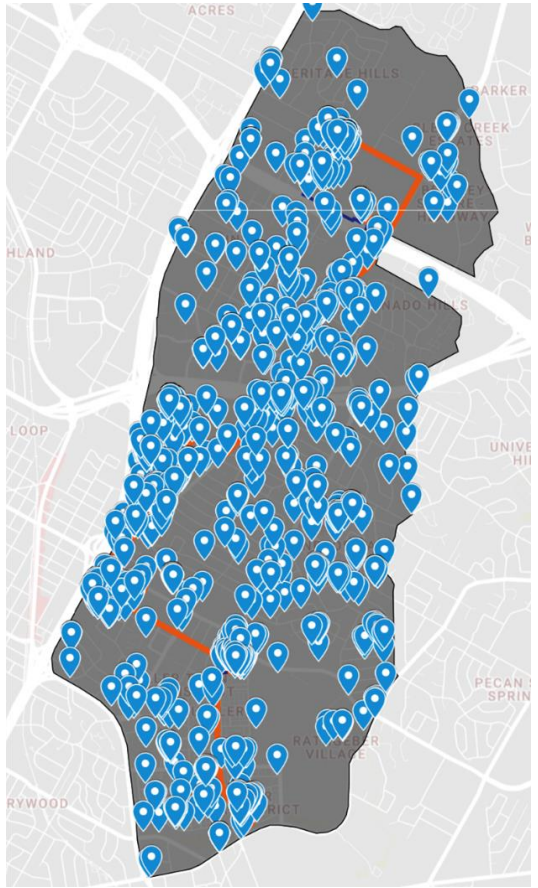
On-demand, dynamic shuttle networks: efficient, affordable, accessible transit

Traditional bus systems

- Long walks to and from bus stops
- Expensive, slow-moving vehicles
- Unpredictable and often long wait times
- Fixed routes that can't adjust to traffic

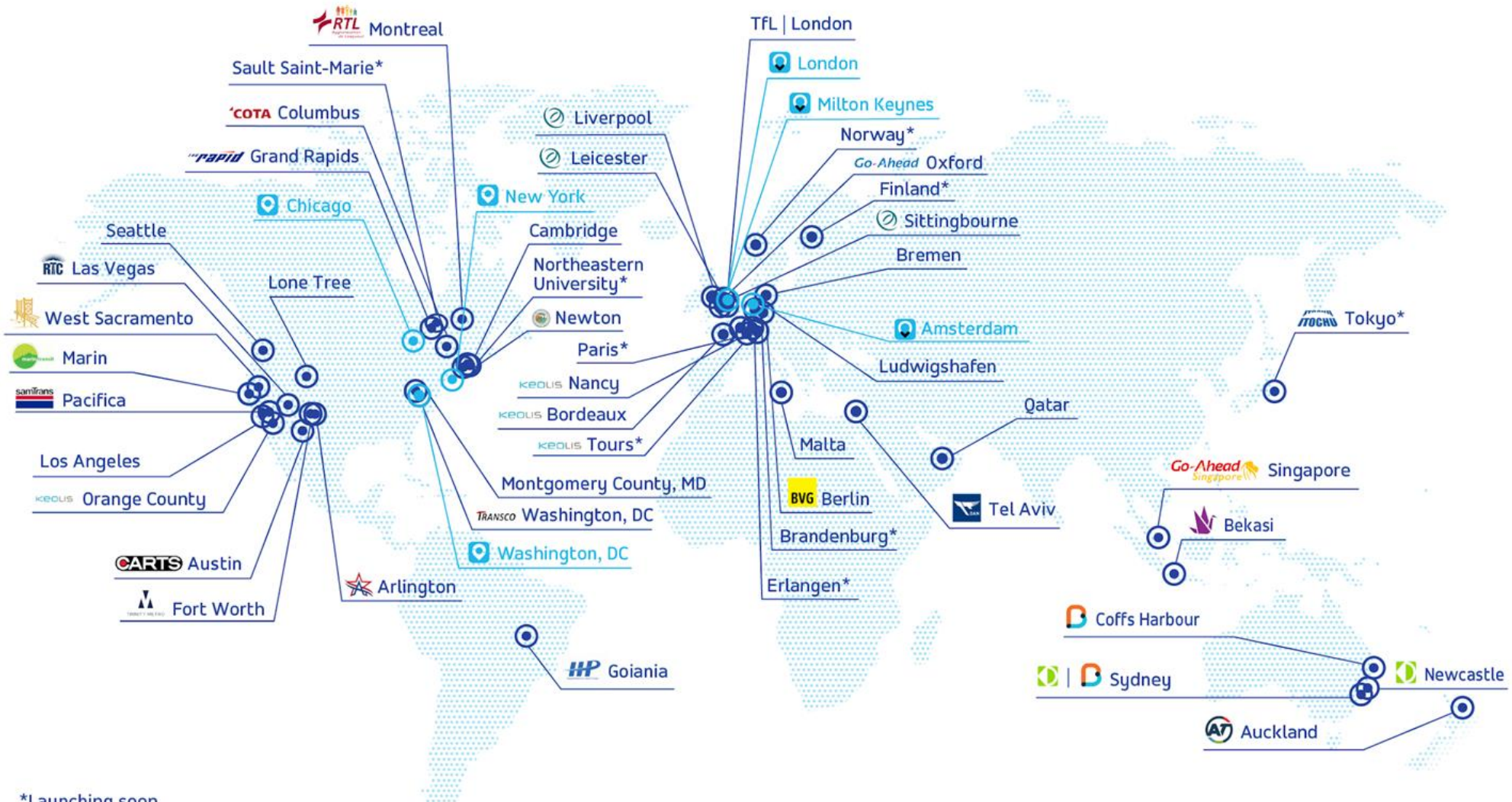




Via: on-demand public transit

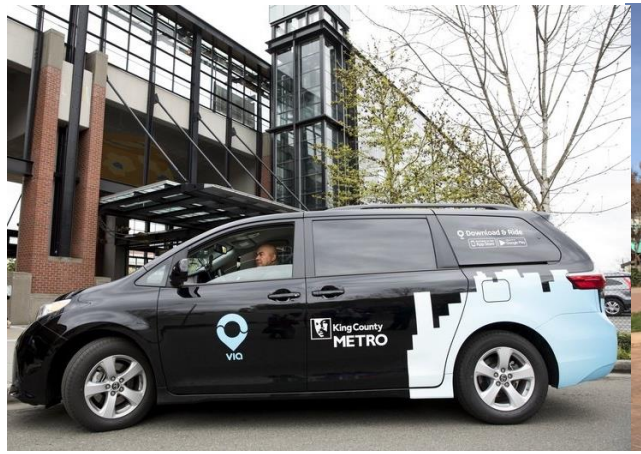
- Corner-to–corner trips with same quality of service throughout whole zone
- Dynamic routes adapt to real-time traffic + demand
- Lower operating cost and higher ridership
- Includes WAVs, solutions for unbanked, call dispatch

The world's first on-demand transit system operating at scale on a global basis



*Launching soon

Via's partnerships with cities, transit agencies, and operators cover a wide variety of use cases



Metro
King County

Los Angeles + Seattle

First/last mile service to transit hubs with focus on low-income neighborhoods

ARLINGTON
THE AMERICAN DREAM CITY

Arlington, TX

The only public transit service in a city that for decades was largest in U.S. with no transit

arriva click

Sittingbourne, UK

Connecting people to jobs and a rail station in a suburban/rural area

BVG Berliner Verkehrsbetriebe

Berlin

A mainly electric fleet of of 150 vehicles (growing to 300) - largest on-demand public transit deployment in world

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