



# MOVING FORWARD 2050

Preliminary Look

*CRTC Annual Meeting  
January 16, 2018*

# Building off of One Region Forward

## Regional Voices



### ONE REGION FORWARD A New Way to Plan for Buffalo Niagara



### MOVING FORWARD 2050 A New Way to Plan for Transportation



# 2050 Plan Intent



Develop and modernize a transportation system for the region over the next three decades that will:

- Strengthen our communities and focus growth where we have infrastructure
- Create economic growth through transportation investments and workforce access
- Preserve and improve our environment
- Improve mobility at lower costs through technology advancement



# The 2050 Approach

## Goals, Objectives and Performance Measures

- Operationalizes the vision
- Help to design investments
- Help to evaluate potential investments (based on how well investments meet objectives)

## Strategies

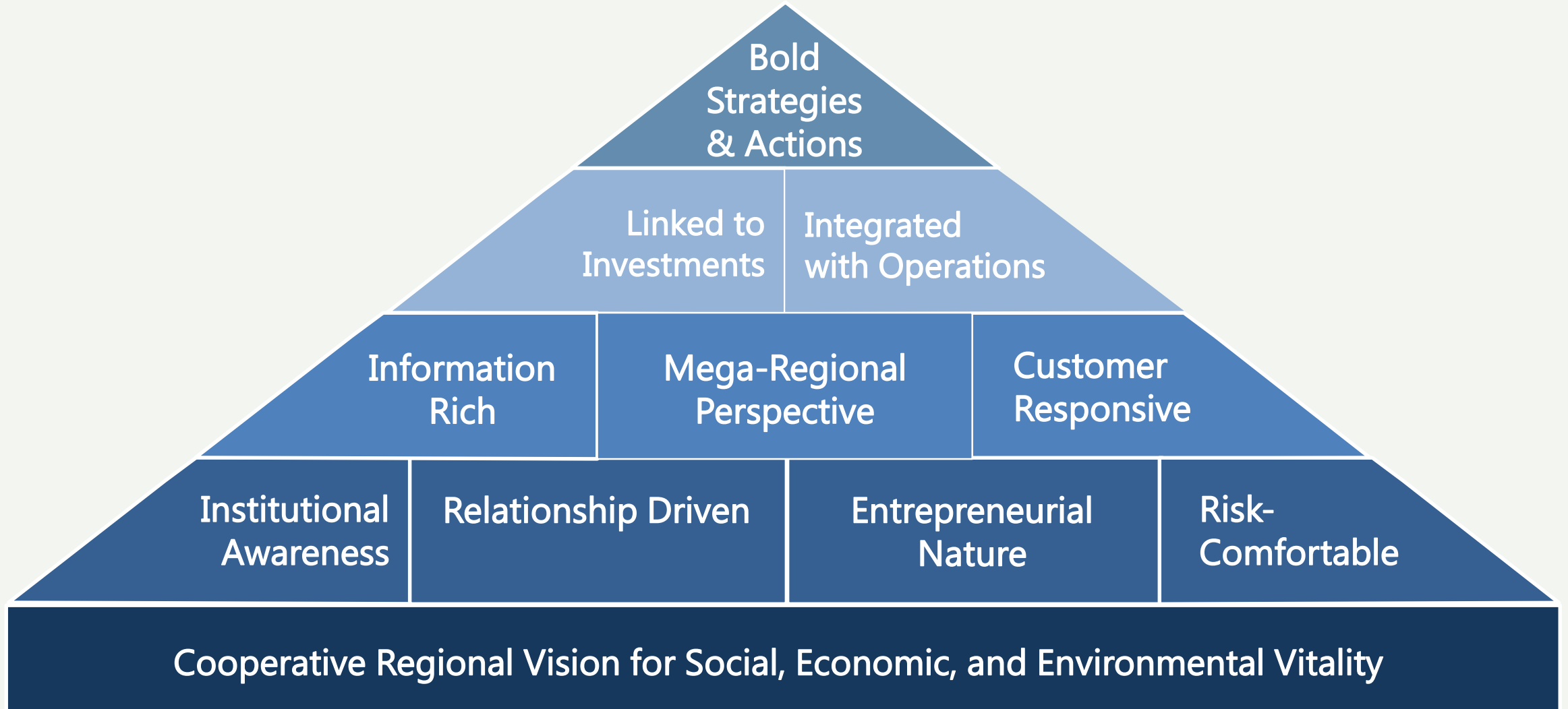
- High level ways to meet goals (e.g., complete streets, microtransit)
- Help provide guidance to then create localized projects/investments for the Buffalo Niagara region

## Investments

- Projects: specific, localized physical infrastructure
- Programs: technical assistance, TMAs
- Policies: AV regulation, new revenues, road re-classification



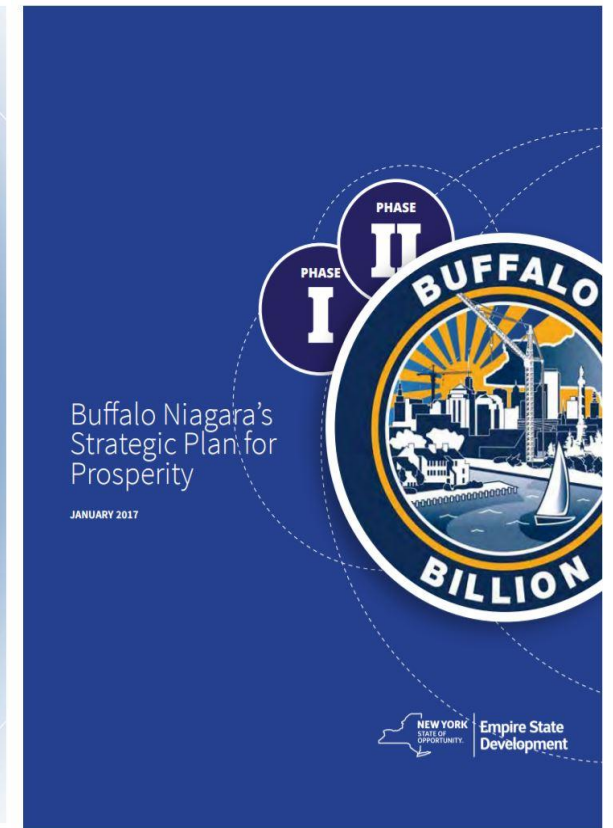
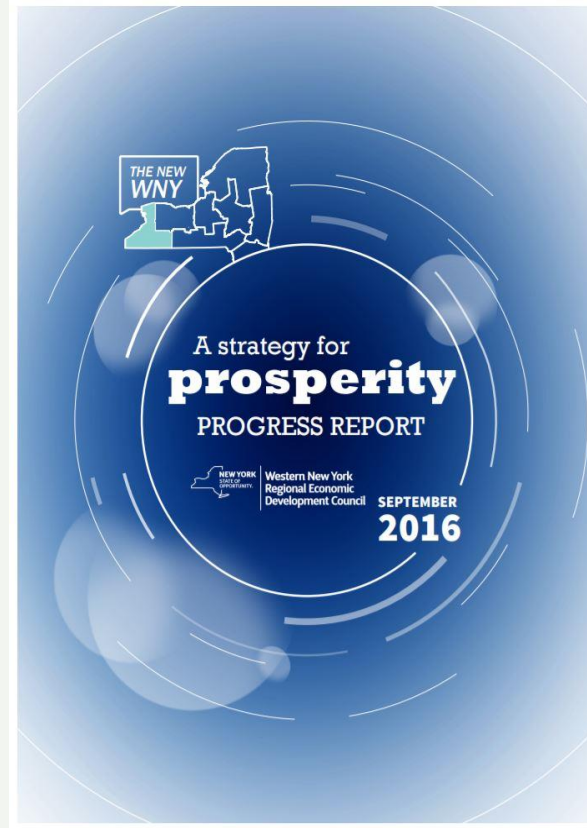
# Metropolitan Transportation Planning Pyramid of Success



# Metropolitan Transportation Planning Pyramid of Success

## Relationship Driven

- Elected & Appointed Leaders
- Peers at Relevant Agencies
- Involved in Long Range Transportation Planning Process and vice versa



# Metropolitan Transportation Planning Pyramid of Success

## Entrepreneurial Nature

- We live in an era of disruption and that is not going to change any time soon
  - Disruptive has a negative connotation for a reason
- New ways of viewing current and future opportunities and challenges

Morgan Stanley

## Addressable Market: **Traditional**



# Metropolitan Transportation Planning Pyramid of Success

## Risk-Comfortable

- Neither Risk-Friendly nor Risk-Averse
  - Simply part of doing business in an environment of rapid change
- Key is managing it cost-effectively

Identify Risks

Screen Risks Qualitatively

Analyze Risks Quantitatively

Develop and Implement Responses

Monitor Outcomes



# Metropolitan Transportation Planning Pyramid of Success

## Mega-Regional Perspective

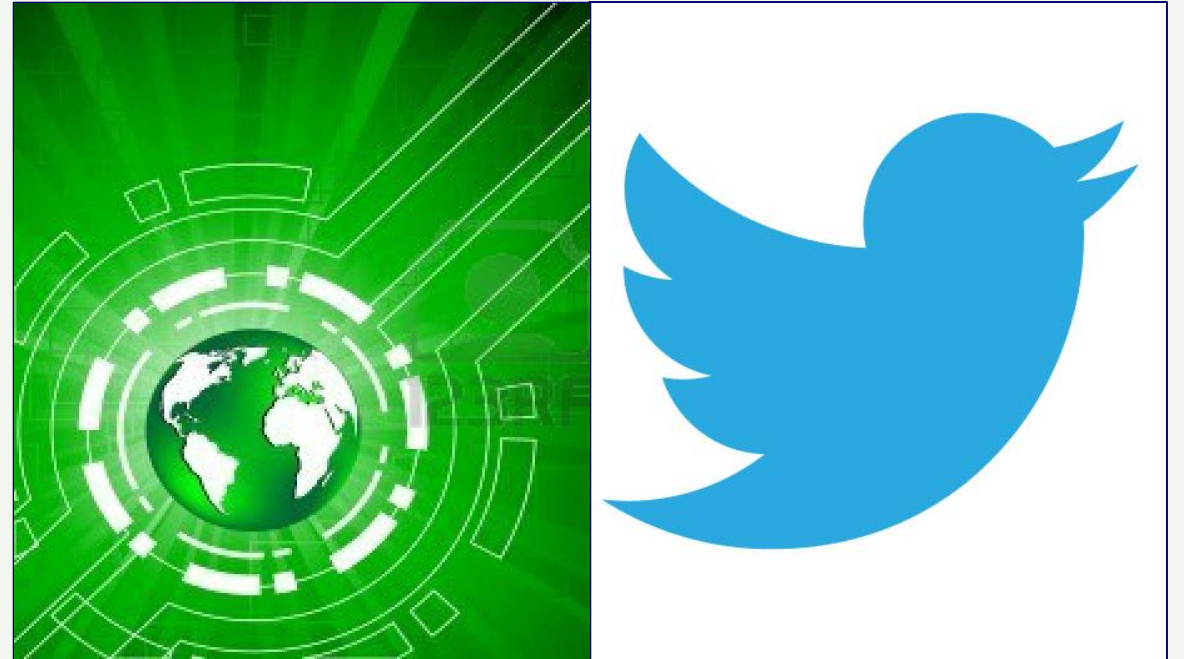
- Agglomeration Economies
  - Availability of Customers
  - Requisite Labor Force
  - Clusters/Connected Industries
- Bi-National with the Buffalo Niagara Region as a key hub and connected to the Greater Toronto Area



# Metropolitan Transportation Planning Pyramid of Success

## Customer Responsive

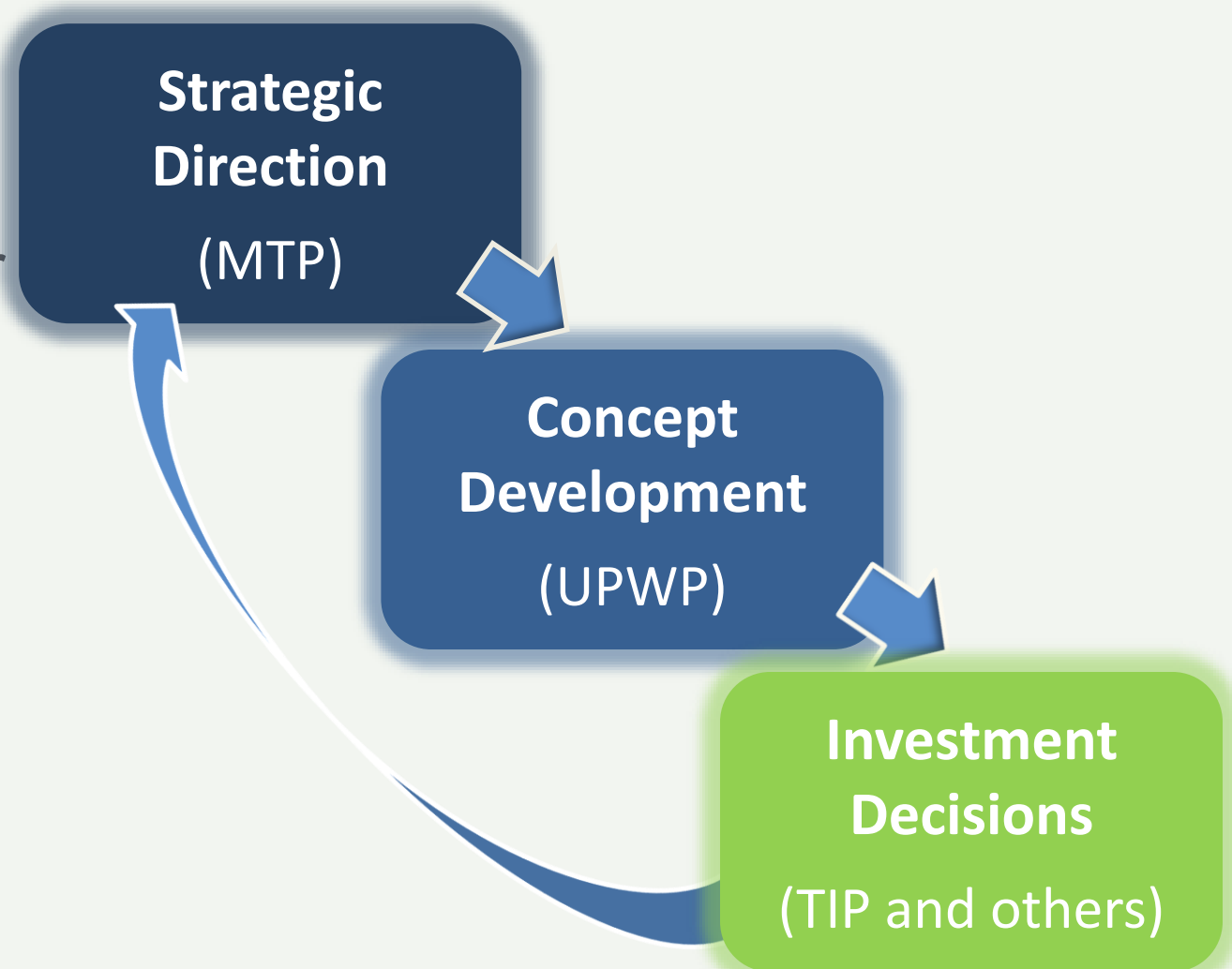
- Nearly 90 percent of Americans are online
  - Almost 80 percent own smartphones
- Completely new set of expectations
  - Communicate with and involve differently



# Metropolitan Transportation Planning Pyramid of Success

Linked to  
Investments

- Put your money where your plan is
- Cooperation and critical thinking are key
- Quantitative does not equal objective
- Reassessment is required



# Long Range Planning Pyramid of Success



Bold  
Strategies  
& Actions

*If you limit your choice only to what seems possible or reasonable, you disconnect yourself from what you truly want, and all that is left is a compromise. The human spirit will not invest itself in a compromise.*

-- Robert Fritz



# Long Range Planning Pyramid of Success



Bold  
Strategies  
& Actions

*Make no little plans; they  
have no magic to stir men's  
blood...Make big plans; aim  
high in hope and work.*

-- Daniel Burnham







## OUR COMMUNITY

In 2050, our communities will be brimming with opportunities, providing residents with various lifestyle choices and attracting new, diverse residents, businesses, and investments from all over the world.



## OUR ECONOMY

In 2050, our economy will be globally-competitive with shared prosperity that spreads economic opportunities and benefits to all residents in all neighborhoods.



## OUR ENVIRONMENT

In 2050, our environment will be ecologically healthy and easily accessible so that all residents and visitors have abundant opportunities to enjoy our region's world class waterways and open spaces.



## INNOVATION

By 2050, we will be making transformative changes to the way we plan, fund and implement the region's transportation investments will harness technological advances, making data-driven decisions, and utilizing creative and diverse partnerships and funding sources.



# *Moving Forward 2050* Goals

# ***Moving Forward 2050 Strategies***

- Next Generation Freeways
- External Connections
- Commuter Shed
- Transit + New Mobility
- Smartly Enhanced Multimodal Arterials
- Secondary Arterials
- Small Cities + Village Centers
- Rural Roadways
- Regional Cycle Network
- Freight
- Infrastructure for Reconsideration
- External Opportunities



# Regional Highway System

Next Generation Freeway  
Commuter Shed  
External Connections

These three systems distribute traffic around and into the metro area, accommodate interregional traffic (especially trucks), and experience rush hour congestion in some locations







# **New numbers show Buffalo to be a commuter's paradise**

- Business First isolated the 53 metros with populations above 1 million. (The Buffalo area, which includes Erie and Niagara counties, has 1.13 million residents.)
- They then compared the groups with the shortest and longest commutes within each market.
- The figures for the Buffalo metro are 149,759 persons who get from home to work in less than 15 minutes, compared to 38,479 who take 45 minutes or more.
- The resulting ratio of 3.89 short commutes per 1 long commute is the second-best among the 53 metros

# Regional Highway System

- 
- **Improved real-time traffic monitoring** to detect congestion and incidents, and re-route vehicles
  - System-wide **electronic tolling**
  - **Reconfigure on and off-ramps** to improve traffic flow and safety where appropriate
  - Complete construction of **additional lanes and lane reconfigurations** as needed
  - Implement **variable speed limits** (displayed on electronic signs) to improve traffic flow by adjusting speed limits based on traffic volumes and conditions
  - **Accommodate autonomous vehicles (AVs)** in dedicated/managed lane
  - Utilize **innovative road surfaces, paints and lane-marking** solutions to more efficiently and cost-effectively manage traffic
  - Incorporate **alternative fuel services** like charging stations, as well as potential roadway electrification for electric vehicles

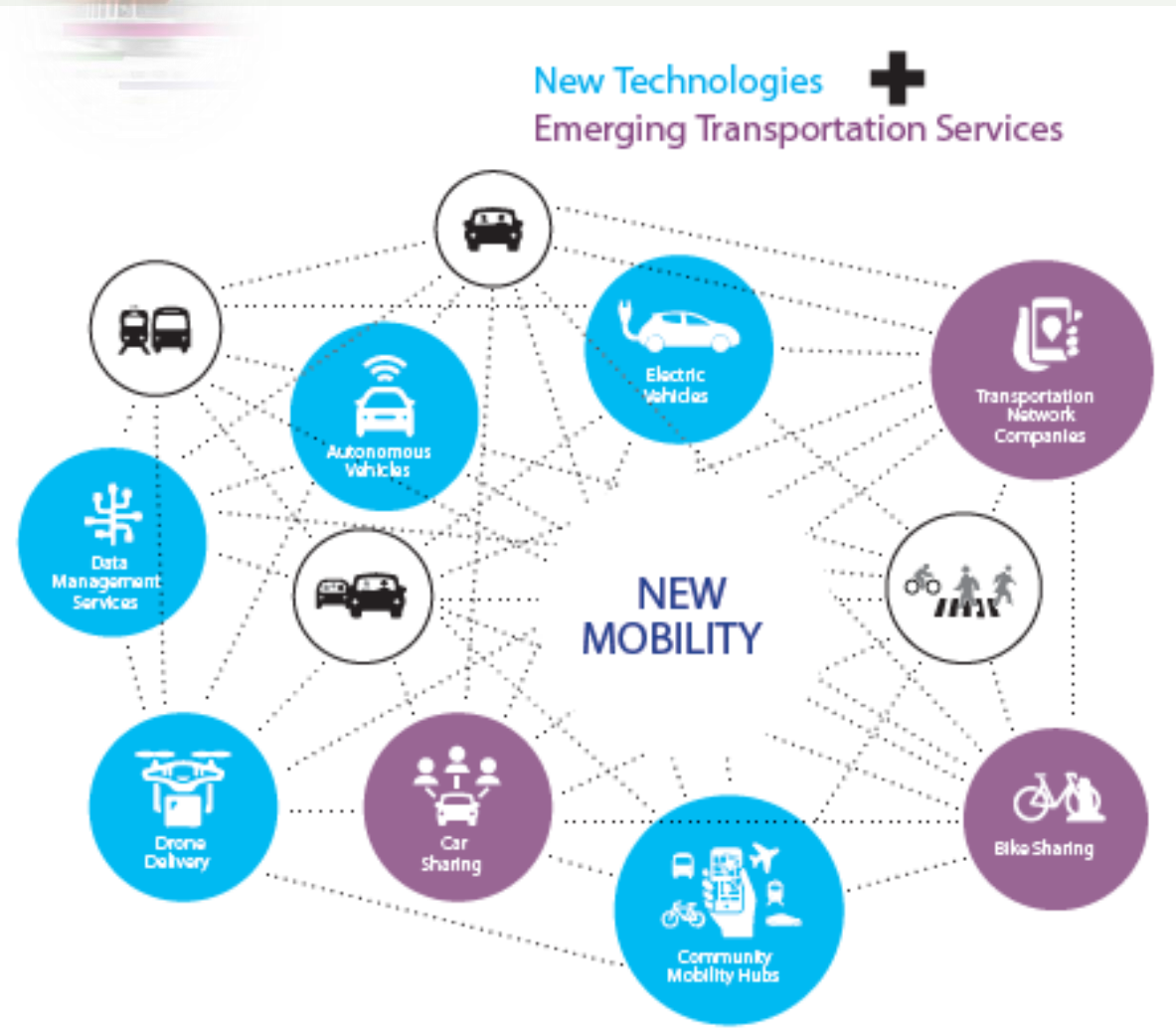
# Next Generation Freeway + Commuter Shed

- 
- **Install ramp meters** to control the frequency at which vehicles enter the flow of traffic
  - Make better use of available roadway capacity by permitting more **traffic on parallel arterial routes**. This can help balance traffic and make our entire road network more efficient.
  - Incorporate **mobility hubs** at appropriate on/off ramps to provide commuters with shared and multi-modal transportation options to connect to jobs, workforce training, education, healthcare centers, and other services.
  - Accommodate **shared AV circulators**

# External Connections

- 
- Continue to focus on **highway infrastructure maintenance** on major external connections.
  - Complete **renovations and upgrades to plazas** at the International Bridges.
  - Initial integration of **autonomous truck platoons** on Freeways and integrated with local delivery systems
  - **Technology upgrades** to monitor and manage traffic approaching the region from external areas
  - **Preclearance** of most passengers and freight to minimize border delays
  - Startup the initial portion of the **Bi-national Autonomous Green Freight Corridor** enabling clean, expedited travel between Western New York and Southern Ontario.

# Transit + New Mobility



## Mobility as a Service (MaaS)

Provides a platform that treats transportation as a customizable, on-demand service with real-time travel information and smart payment systems across modes.

## Focused and frequent bus and light rail service

- Traditional transit will concentrate on densely populated areas in the urban core and first-ring suburbs.
- Service will be fast and frequent, including some bus rapid transit routes. Light rail will connect Buffalo's waterfront to the University of Buffalo's north campus.

## Transportation Network Companies (TNCs)

- "Microtransit" circulators or cars provide first/last mile services in less densely populated areas, like our region's suburbs and rural areas.
- Subsidies will continue to be provided to ensure equitable access.



# Transit + New Mobility

## Autonomous vehicles (AVs)

- Auto makers are testing AVs in cities across the US, and may be on our roadways within 10 years.
- Expected benefits include improved safety for passengers, pedestrians and cyclists, and improved accessibility for non-drivers, seniors, and people with disabilities.

## Mobility hubs

A one-stop shop for different mobility services like buses, circulators, carshare, electric vehicle charging, bike amenities and bike share, and real-time navigation information.



**Transit stops**

*For ride-sharing, shuttles, or public buses with all-door boardings enabled by mobile apps and street fare collections.*



**Bike shares**

*To easily link bicycles into multi-modal trips for first- and last-mile connections.*



**EV charging stations**

*Grouped together at parking spaces near mobility hubs to support longer trips for electric vehicles.*



**Information kiosk**

*With real-time information on traffic and transit conditions, the availability of shared bikes, cars, and electric charging stations, as well as price and travel time by different modes.*



**Wi-Fi**

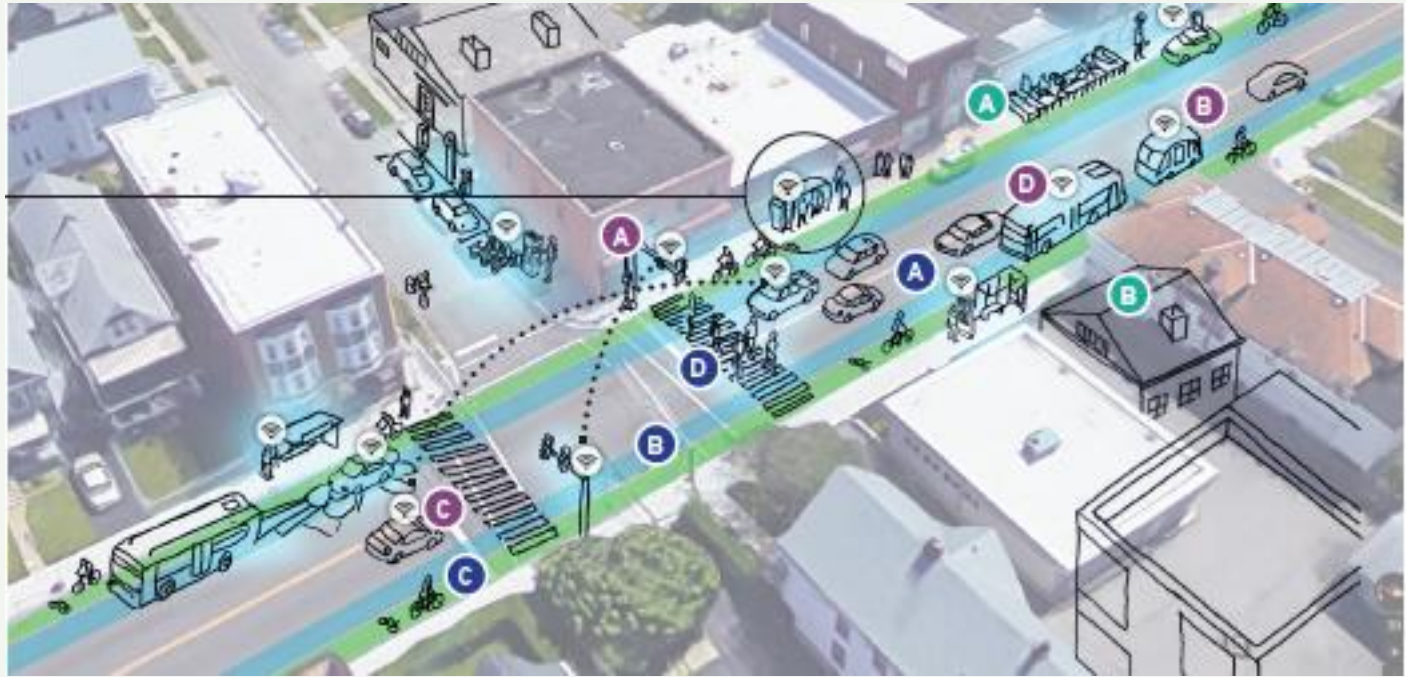
*So people and vehicles can quickly use the Internet to access service maps, trip planners and connect with other transportation services.*



**Car shares**

*Shared vehicles can be used to complete trips, limiting the need to own personal vehicles.*

# Smartly Enhanced Multimodal Arterials (SEMAs)



UBRI

Utilize our region's available arterials to create multi-jurisdictional corridors that work with Next Generation Freeways to accommodate rush hour traffic surges.

Support economic and community development by providing multiple mobility options, and use modern street design and emerging technologies.

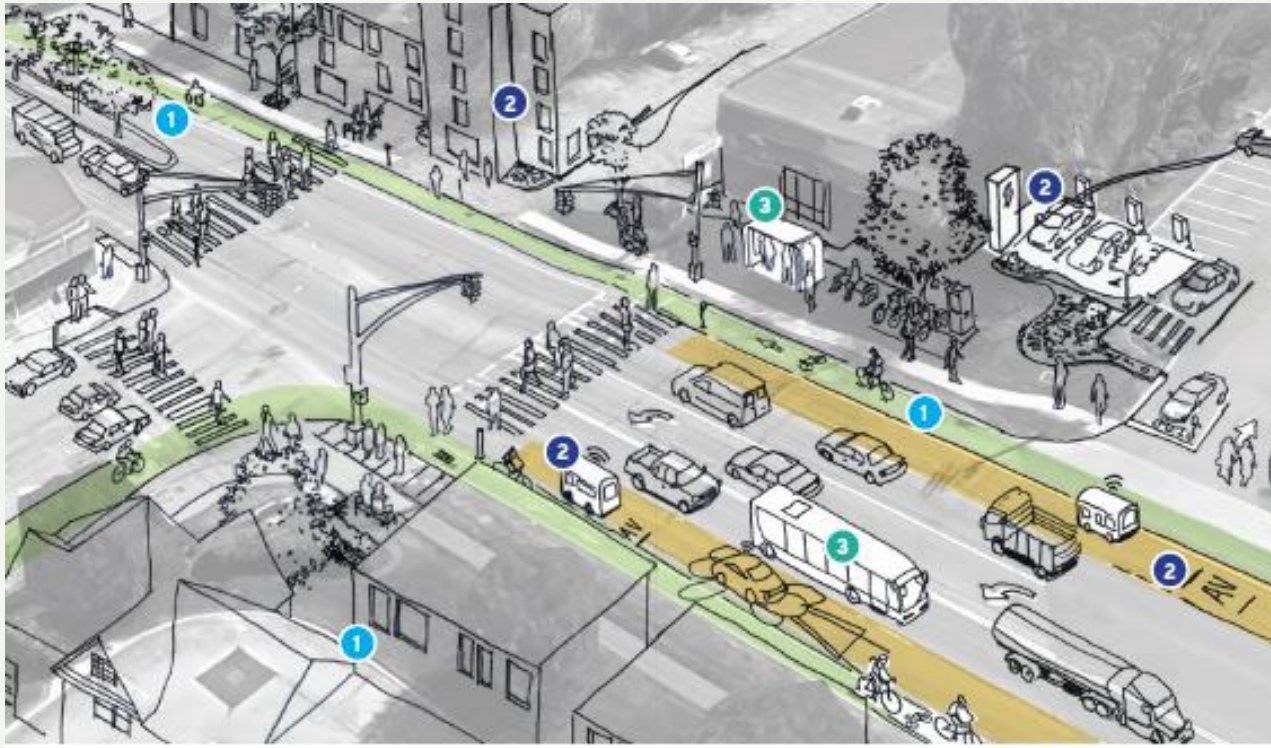


# Smartly Enhanced Multimodal Arterials (SEMAs)

- Coordinated signals to support smooth traffic flow
- Priority signals for buses and other multi-passenger vehicles
- Mobility hubs
- Smart parking
- Dedicated mass transit lanes
- Bike lanes
- Pedestrian crossings
- Flexible curb space
- Accommodate AVs
- Green infrastructure



# Secondary Arterials



UBRI

- Primarily in the City of Buffalo and first-ring suburbs
- Will have some features of SEMAs
- Focus on community redevelopment
- Complete streets
- Bike and pedestrian infrastructure
- Signal coordination
- Microtransit circulators (including autonomous vehicles)
- Small mobility hubs



# Rethinking Route 5 + Main Street

## **Route 5: Big Tree Road to the City of Buffalo**

- Passes through a variety of places: neighborhoods and small communities, freight and other industries, and beaches and parks
- Challenges: safety, flow of people and goods, access to neighborhoods, access to parks, lack of a corridor feel, overbuilt in some locations
- *Moving Forward 2050* will look at how to design the roadway to accommodate different users, to support economic and community development, improve multi-modal mobility, promote environmental health, and ensure safety for pedestrians, cyclists and drivers.

## **Main Street Knowledge Corridor: BNMC to ECC North**

- Connects major educational institutions: UB, Canisius, Daemen, ECC
- Passes through a variety of places: densely populated City of Buffalo, suburban communities
- Aligns with light rail transit oriented development (TOD) plans
- Leverage university and college connections to act as a test bed for transportation innovation
- Support economic and community development—especially in sections of disinvestment or declining commercial activity,
- Offer multi-modal options (in addition to the light rail) and help improve safety along the corridor
- Will also demonstrate new partnerships across multiple jurisdictions

# Small Cities:

## Niagara Falls, Lockport, Lackawanna, Tonawandas

- Complete streets where appropriate: walkable, bike lanes and other amenities, green infrastructure
- Support local economic development and visitors
- Improved connectivity from neighborhoods to services and shopping areas
- Autonomous circulators for frequent and efficient mobility



# Village Centers



- Retrofit and redesign State and county roads in rural towns and village centers to become safer, more walkable, and comfortable for biking
- Support local economic development
- Enhanced walkability with sidewalk plans and street crossings
- Bike infrastructure where appropriate
- Parking management with smart parking, signage, striping
- Local circulators (including autonomous) with regular service or for special events





# Rural Roadways + Communities



- **Upgrade roadways in agricultural districts** to accommodate heavier equipment being utilized in commercial farming operations
- **Expand Transportation Network Companies (TNCs)** to smaller rural communities
- Initiate rural **bridge and culvert** replacement program
- Provide **electric vehicle charging** stations
- Invest in **broadband infrastructure** and service

# Regional Cycle Network



- **Next generation Shoreline Trail:** electronic wayfinding, Wi-Fi, bike-counters, e-bike charging stations, durable and sustainable trail materials, and integration with the Buffalo Blueway
- **Bi-national connections:** bicycle lanes or other accommodations at border crossings
- **New trail opportunities:** Empire State Trail
- **Commuting network:** complete the Buffalo Bike Master Plan and Niagara Falls cycling network, make connections with first-ring suburbs and second cities, provide bicycle amenities at mobility hubs,
- **Olmsted Park System build out:** support connections from parks to waterways

# Freight



- **Freight hubs:** integrate rail and truck, logistics, brokering, hospitality and other amenities
- **Faster border crossings:** electronic tolling, customs pre-clearance
- **Bi-national Autonomous Green Freight Corridor:** connect WNY to Canada, alternative fuel stations, AV lanes
- **AV truck platoons** on highways
- **Local deliveries:** pick-up lockers, delivery bots, drones
- **Inland port/gateway:** help address port congestion issues in the region and elsewhere, like the Port Authority of NY and NJ



# Infrastructure for Reconsideration

Major roads and freeway segments that:

- Were **built based on previous forecasts** of significant growth and traffic that have not been reached.
- Have **traffic levels below** what would justify the size and nature of the existing road
- Where **travel patterns have shifted** resulting in less reliance on the road
- Are **out of context** with their surrounding land uses.

Reconsidering these roadways can help to:

- **Reduce maintenance costs** by decreasing the amount of infrastructure in need of constant maintenance and rehabilitation.
- **Limit the amount of land consumed** by transportation infrastructure, potentially freeing it up for other uses like public parks or commercial development.
- **Reuse adapted infrastructure for other transportation uses**, such as dedicated transit lanes or bicycle and pedestrian facilities.



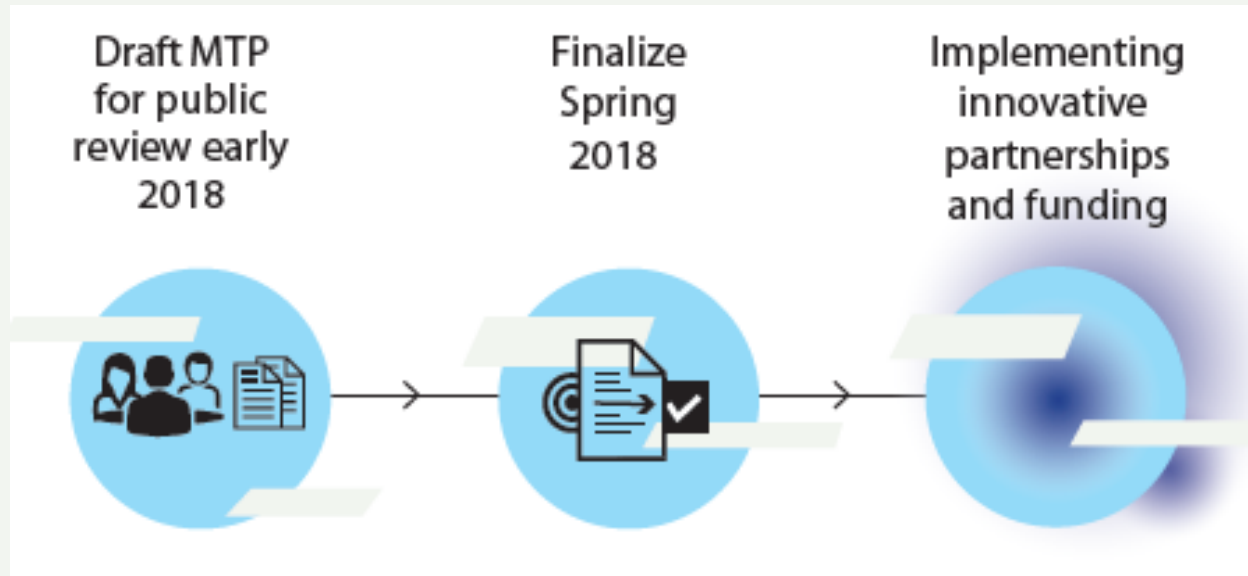


# External Opportunities

- Leverage our position within the **Greater Golden Horseshoe and Great Lakes Megaregion**, and proximity to the Northeast Megaregion
- Establish an **integrated, multi-modal transportation network** that moves goods and people throughout the region and beyond
- Continue improvements to existing **Amtrak-VIA Service** and passenger rail stations.
- Link with the **GO Train to Toronto**
- Support Empire Corridor **high speed rail to NYC**
- Develop **Buffalo-Niagara Falls** passenger rail connection

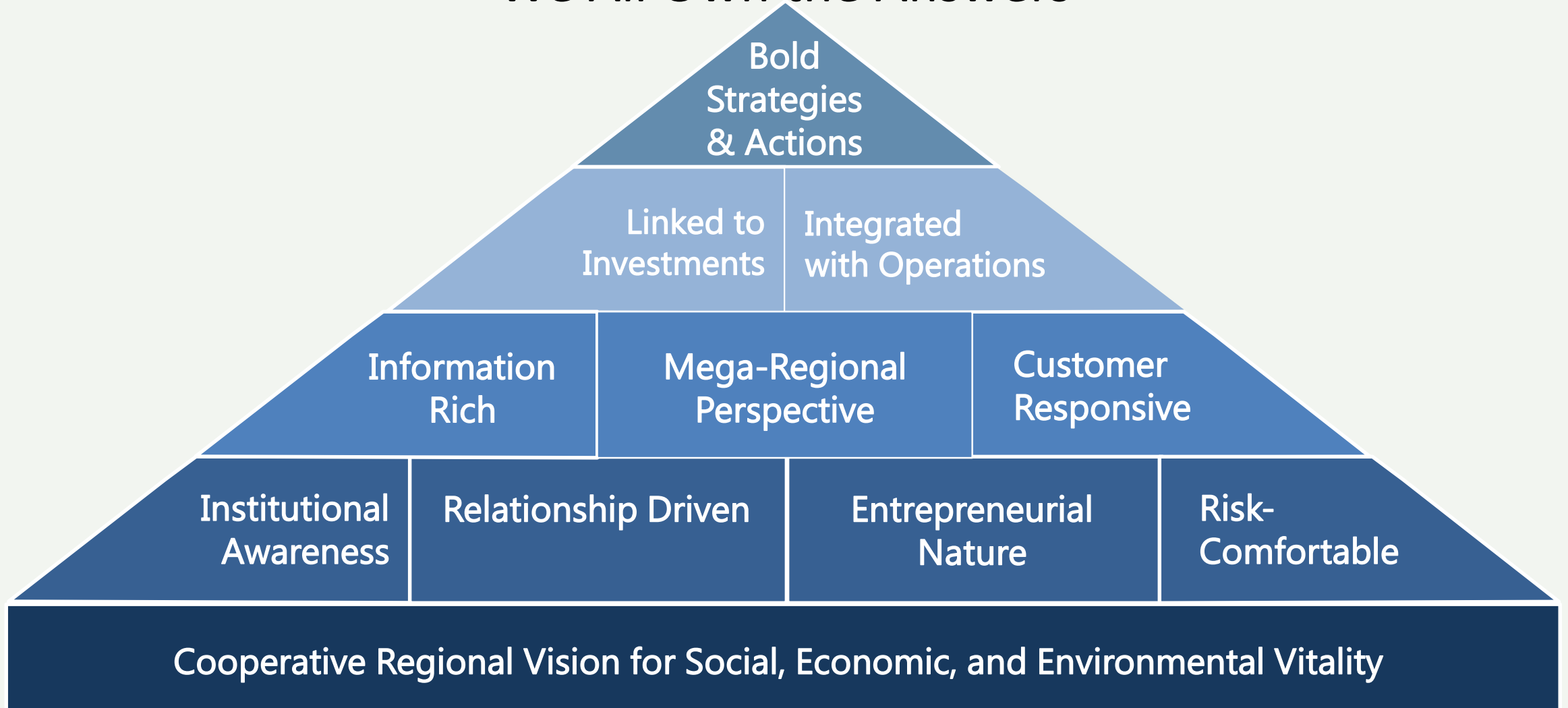


# Next Steps



# Building a Stronger Buffalo Niagara

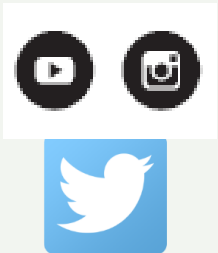
## We All Own the Answers



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