ArchPlan Inc.
Philipsen Architects
Architecture
Urban Design
Planning

The Central Maryland Transit Plan

The Law
A shift in thinking about transit planning
What should be in the plan? Issues
Precedents
More detail on some of the Issues

LAWRENCE J. HOGAN, JR., Governor Ch

Chapter 352

(House Bill 372)

AN ACT concerning

Maryland ~~Metro~~ Metro/Transit Funding Act

FOR the purpose of ~~establishing the Maryland Metro Dedicated Fund Account~~ ~~Transportation Trust Fund~~; repealing a requirement that the Secretary of Transportation approve certain grants to the Washington Suburban Transit District; *requiring the Secretary, under certain circumstances, to withhold a certain percentage of certain funds;* requiring the Governor to include an appropriation in the annual State budget of at least a certain amount for the sole purpose of providing grants to

§

“On or before October 1, 2020, the administration shall, in consultation with [a newly to be created Commission] and the Baltimore metropolitan council, prepare a **central Maryland regional transit plan** to meet the transit needs of the core service area.”

“

the central Maryland regional transit plan shall:

(1) define goals for outcomes to be achieved through the provision of public transportation;

(2) in order to best achieve the goals defined in item (1) of this subsection, identify options for:

i. **improvements to existing transportation** assets;

ii. improvements to **leverage non–administration transportation** options available to public transportation; and

iii. corridors for **new public transportation** assets;

(3) prioritize corridors for planning of new public transportation assets;

(4) Evaluate the plan’s consistency with local land use and transportation plans and the Maryland transportation plan and identify opportunities for achieving greater consistency; (5) be reviewed, **revised, and updated at least every 5 years**; and (6) address a 30–year 25–year time frame.

”

“there is a **Central Maryland Regional Transit Plan Commission**. the commission consists of the following members:

(i) the county executive of Anne Arundel county, or the county executive's designee;
(ii) the mayor of Baltimore city, or the mayor's designee;
(iii) the county executive of Baltimore county, or the county executive's designee; and
(iv) the county executive of Harford county, or the county executive's designee;
(v) the county executive of Howard county, or the county executive's designee;
(vi) one representative from a central Maryland business or transportation organization, appointed by the president of the senate;
(vii) one representative from a central Maryland business or transportation organization, appointed by the speaker of the house; and

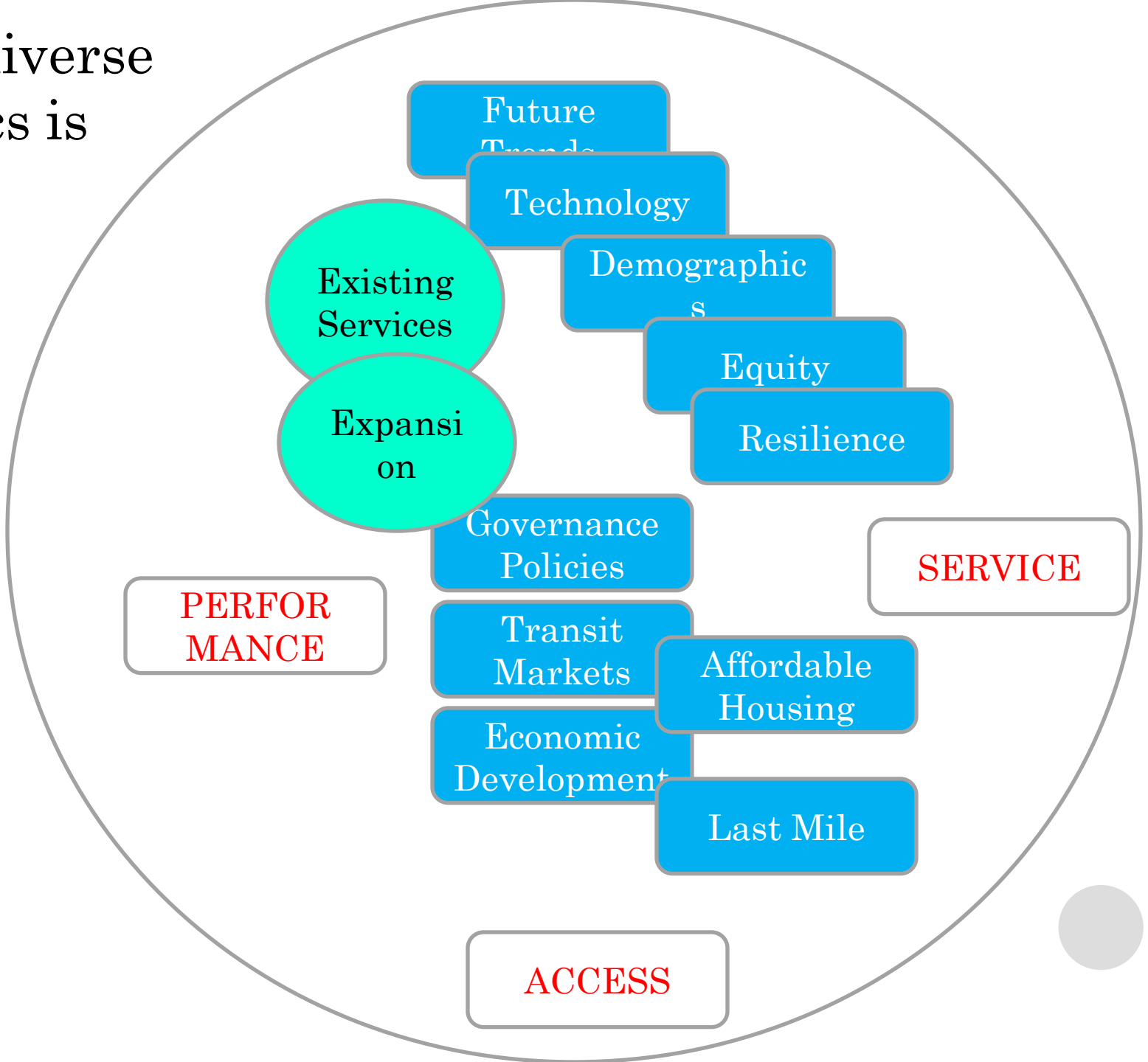
Plus the following individuals appointed by the governor:

Three representatives one representative from a central Maryland business organizations;
One representative from a citizen advisory committee the citizen advisory council;
One representative from a disabled riders group; and
One representative from the MARC riders advisory council.

(3) the commission shall participate in the development of:
(i) a strategy for meaningful public involvement in the central Maryland regional transit plan; and
(ii) the goals for outcomes of the central Maryland regional transit plan”


Baltimore Region Rail System Plan Map
Adopted March 2002
N
Baltimore Beltway (I-695)
City Line
Hunt Valley
Pepper Road
McCormick Road
Gilroy Road
Warren Road
Texas
Timonium
Timonium Business Park
Lutherville
Falls Road
Owings Mills
Old Court
Milford Mill
Reisterstown Plaza
Rogers Avenue
West Cold Spring
Mondawmin
Mt. Washington
Cold Spring Lane
Woodberry
Penn-North
North Avenue
Beltway North
Towson
Towson University/Medical Center
Rodgers Forge
Belvedere Square
Govans
Cold Spring
Waverly
Johns Hopkins University
25th Street
Penn Station
MARC
AMTRAK
Northern Parkway
Hamilton
Overlea
Fullerton
Perry Hall
White Marsh
I-95 Station
Morgan State University
Northwood
33rd Street
Coldstream
E. North Avenue
Middle River
To Perryville
Edgewood
Martin State Airport
Madison Square
Edison Highway
Johns Hopkins Medical Campus
East Baltimore
Rossville
Rosedale
Bayview
Greektown
Highlandtown
O'Donnell Heights
Holabird Avenue
Dundalk
Turners Station
Patterson Park
Boston Street
Canton
Aquarium
Inner Harbor East
Fells Point
Charles Center
Inner Harbor
Convention Center
Westside
Lexington Market
Shot Tower/ Marketplace
Mt. Vernon
Cultural Center
MB/Mt. Royal
Upton/ Avenue Market
Sandtown-Winchester
West Baltimore
State Center/ Cultural Center
Centre Street
Edmondson Village
Hilton Parkway
Rosemont
Westview
Social Security
Security Square Mall
I-70 Station
Harlem Park/Franklin Square
Poppleton
University Center
Frederick Avenue
Morrell Park
Camden Yards
Hamburg Street
Westport
Cherry Hill
Patapsco
Baltimore Highlands
Nursery Road
North Linthicum
Linthicum
Ferndale
Cromwell Station/Glen Burnie
Lansdowne
Halethorpe
St. Denis
Dorsey
BWI Amtrak
Columbia Town Center
Merriweather
Owen Brown
Broken Land
Columbia Gateway
Guilford
Meadowridge
Waterloo
Arundel Mills
Baltimore Commons
BWI Business District
BWI Airport
Odenton
to Washington, D.C.
Legend
Rail Lines
Existing Station
Proposed Station
Transfer Station
MARC Train

The universe of topics is large:



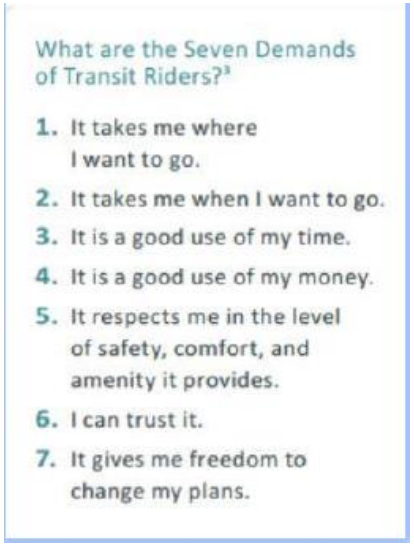
Old Plans:
- Mode specific
- Lines on a map
- Supply centric
- Input based
- Technology centric

"The future of public transit hinges on shifting from a supply model to a demand model and embracing emerging modes to better serve, satisfy and grow ridership." Rahul Kumar, TransLoc

Old buzzwords:
Trip time
Network
Rail
Headways
Agency

New Plans:
- Demand centric
- Human centric
- Mode neutral
- Outcome based
- Equity centric

New buzzwords:
Access
Performance
Service
Experience
Interdisciplinary



There are so many unknowns in the future of transportation. Navigating rapid change with calculated ease in innovative risk-taking is essential to a promising future. **Keeping people, not the mode, at the center of problem-solving** is a non-negotiable.
#T4CapIdeas @T4America

Precedents

CHICAGO


INVEST
IN TRANSIT
The 2018-2023 Regional Transit Strategic Plan for Chicago and Northeastern Illinois

Chicago
Regional
Transit Plan

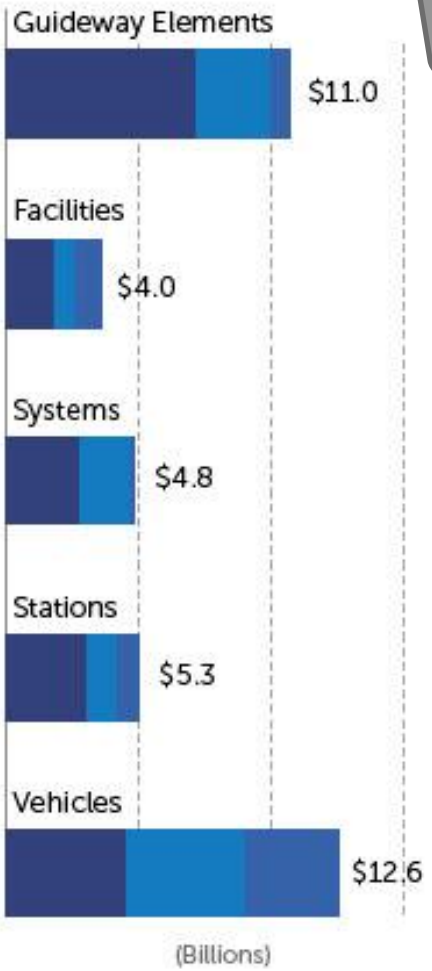
Our vision is public transit as the core of the region's robust transportation mobility network.

Transit is a central part of the region's transportation and logistics network. People use it to get to work, school, medical appointments, and more. They ride during rush hour, the middle of the day, and at night. The availability of transit throughout Northeastern Illinois helps our region compete on a global scale for commerce and business. Transit has a positive impact on the environment and community health by reducing congestion, improving air quality, and encouraging people to live active lifestyles. It also supplies equitable access to jobs, and provides affordable mobility for people with disabilities and those who cannot or choose not to drive. The transit system – and our investment in it – must remain competitive on all of these levels to ensure our region continues to thrive.

Chicago Regional Transit Plan

Where does the MTA

Ten-Year Capital Investment Needs: $37.7 Billion[3]



What are MTA's markets?

Chicago Regional Transit Plan

Advocate for region-wide policies and pricing strategies that support transit.

As the Transit Agencies focus on the core responsibility of operating transit services, we also recognize there is an opportunity to better leverage and fund the system by partnering across jurisdictions and transportation modes.

SIX STRONG TRANSIT MARKETS READY FOR INVESTMENT

The Chicago area transit system is a network of services that empowers people to move throughout the region, and investment in any part of the network benefits the whole. *Invest in Transit* focuses on key improvements in six areas that will build on the strengths of the transit system and address the challenges of the network to the benefit of riders throughout the region.

✓ Recently completed → Programmed $ Planned but needs funding

Chicago Regional Transit Plan

Two possible realities lie ahead: a future with or without long-term, sustainable capital and operating funding

WITH	WITHOUT
INVESTMENT LEVEL	
Stable funding allows agencies to build projects shortly after they are designed, and to take advantage of construction phasing techniques that save money.	The stop-go nature of funding means that some projects are designed and then wait in queue for delivery while prices rise and plans change. Other projects never reach the design phase.

Which secnarios can we imagine?

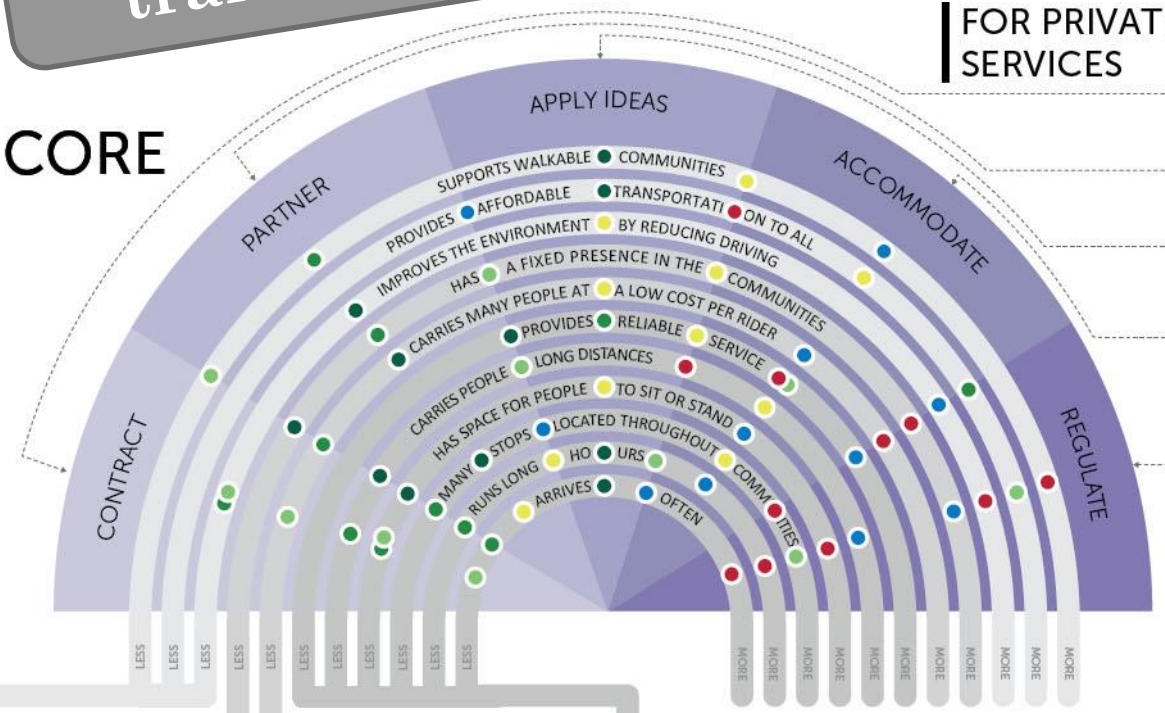
Can we gauge the role of transit in our region?

Chicago Regional Transit Plan

STAY COMPETITIVE

TRANSIT IS THE CORE OF MOBILITY

Transit services are the region's most equitable, affordable means of mass mobility available. They span the region and are already tailored to meet the needs and built-environment of each community. Private mobility companies (such as Uber, Lyft, Via, Chariot, and taxicabs) now also operate in many of the same areas. They offer transportation options that some people find appealing and convenient, but do not replace public transit or offer all of the same benefits. Transit Agencies will continue to make investments in successful transit, while also exploring partnerships in areas where transit is less effective or very expensive to operate.



FOR PRIVATE SERVICES

areas and be harmed by it in others. With that in mind, transit agencies will consider the following actions:

CONTRACTING with new mobility providers to run service and improve efficiency

PARTNERING with new mobility providers to offer services that fill gaps in transit services

APPLYING IDEAS like software innovations and routing techniques used by the private sector to solidify strong transit markets

ACCOMMODATING new mobility providers by providing space to load/unload at suburban rail stations

REGULATING mobility companies to prevent them from picking up/dropping off or transporting customers in such a way that it degrades transit services

TRANSIT INVESTMENT PROVIDES...

SOCIETAL BENEFITS

Transit has a positive impact on our region. It supports walkable communities, provides affordable transportation to all, and improves the environment by reducing driving. The Transit Agencies will work with communities to take advantage of these benefits. In areas where private mobility services slow transit vehicles down or encourage unnecessary driving, communities will benefit from regulating them. In areas where private mobility services help fill a mobility gap, partnerships make sense.

OPERATIONAL EFFICIENCIES

Transit is an efficient way to move many people at once. Rail lines and busy bus routes have a fixed presence in the communities and carry many people at a low cost per rider. The Transit Agencies will continues to invest in rail infrastructure and key bus corridors to meet existing needs, then look to private mobility partnerships in areas where transit is expensive, impractical, or unproven.

PASSENGER CONVENIENCES

Transit at its best provides reliable service, carries people long distances, has space for people to sit or stand, provides nearby stops throughout communities, operates long hours, and comes frequently. The most robust transit services are successful in higher density areas like downtown Chicago and suburban downtowns. The agencies will continue to fund (and protect) transit services in these areas while looking to partner with private companies in areas that do not have high demand for transit service.

TRANSIT SERVICES AT THE CORE IN OUR REGION

- PACE CALL-N-RIDES, VANPOOL
- PACE DIAL-A-RIDES
- PACE ADA PARATRANSIT
- PACE NEIGHBORHOOD CONNECTORS
- CTA BUS & RAIL, PACE CTA CONNECTORS
- METRA COMMUTER RAIL, PACE EXPRESS

ATLANTA

ENCOURAGING ALTERNATIVE COMMUTE OPTIONS

The Georgia Department of Transportation in a joint effort with ARC's Mobility Services Division operate the Georgia Commute Options program in the Atlanta region, a program designed to increase the use of alternative commute opti

How do we lure people out of their cars?

Carpooling
Vanpooling
Biking and walking
Teleworking
Flexible work schedules

The Georgia Commute Options program helps employers establish and operate commute option programs for their employees. The program includes measures that make it easier for solo car commuters to make a change, such as guaranteeing up to five free rides home from work per year if an unexpected event occurs.

SEATTLE

City of Seattle Department of Transportation

TRANSIT MASTER PLAN

FINAL SUMMARY REPORT

ADOPTED 2012
AMENDED 2016

What can be learned from Seattle's success?

Table of Contents

TMP Priority Strategies

Chapter One

Chapter Four

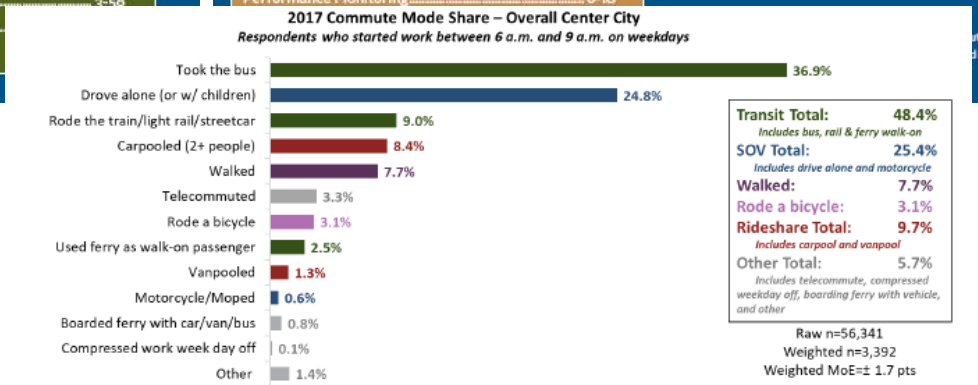
Chapter Five

Chapter Two

Chapter Three

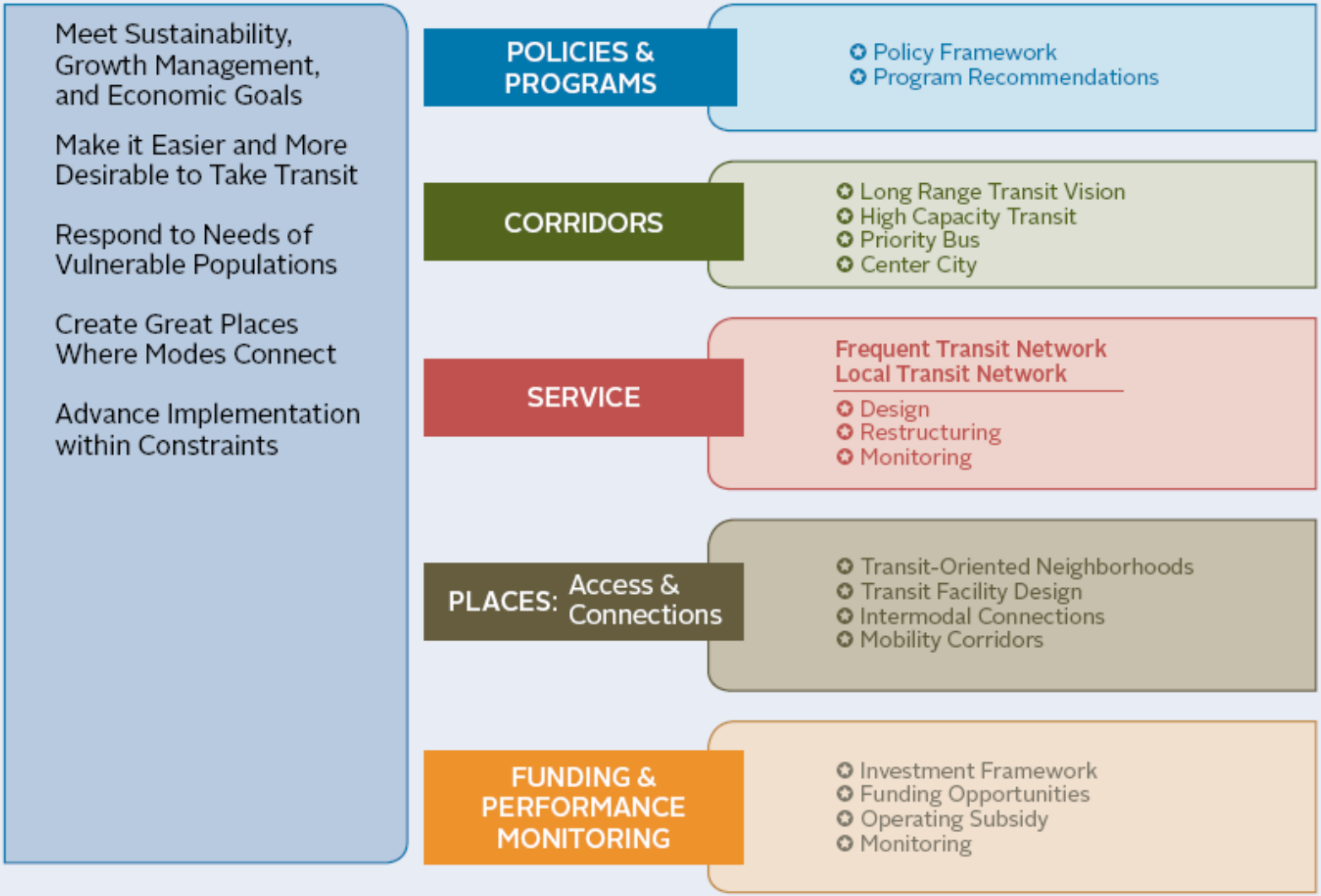
Chapter Six

SDOT (Chapter 6)



Priority Bus corridors

TRANSIT MASTER PLAN



RapidRide Corridor 3

Mount Baker – South Lake Union via Rainier Avenue and Jackson St

Metric	Score	Details
Ridership *(Weekday riders [2035] and Net New Riders)*	17,900 (8,000 net new riders)	Ridership potential in 2035 is based on service improvements and projected land use changes: Weekday riders (2035) estimated from Spring 2015 stop/route-level boardings assigned to each corridor. Net new weekday riders equal 2030 estimate of potential ridership minus current (2015) ridership estimate for the corridor.
Productivity	107 riders/ hour	Efficiency with which provided transit capacity is utilized. Productivity equals weekday ridership divided by weekday revenue hours: A "revenue hour" includes time when a transit vehicle is available to carry passengers. It includes layover time, but excludes "deadhead" time such as when a bus travels to the start of a route. Weekday hours of revenue service calculated through development of corridor-specific operating plan.
RapidRide Initial Investment Level	$19.0-$23.0M ($3.6-$4.4M per mile)	Expected level of initial investment required to provide transit speed, reliability, passenger comfort, and access improvements in the corridor. Based on initial planning level assessment conducted as part of the 2015 TMP update. Future analysis will identify the most cost-effective capital project elements and levels of investment appropriate to different right-of-way configurations and land use environments along the corridor. Higher level of investment may be possible based on potential additional local, regional, state and federal funding identified during detailed corridor planning and design process. Does not include vehicle costs.
Cost/Rider	$2.10	Value of investment over time, including cost of operatio ized cost of capital investment, fleet replacement, and r Annualized operating and capital cost per rider equals an cost plus annualized capital costs divided by annual board Operating cost adjusted for inflation by 2.4% annually. Infr held constant. Assumed vehicle life is 15 years for electric
O&M Cost	$11.1M	Annual total cost to deliver service on the proposed line. A ating cost based on the number of hours of revenue service through development of corridor-specific operating plan, mul the 2015 operating cost for RapidRide. The 2015 operating costs are based on King County Metro operating cost factors and assumptions from the Madison Corridor BRT Study. Does not include cost reductions from repurposing of existing bus service hours.
Operating Cost/ New Ride	$1.92	Operating cost to deliver a new boarding ride considering potential cost savings: Calculated as planned weekday operating cost minus weekday operating cost savings, divided by the number of net new boarding rides projected for 2035. Analysis of cost savings is conceptual.
Travel Time Savings	33%	In-vehicle travel time savings (compared to current service) for a passenger riding between two terminus stations: Projected 2035 corridor travel time with current road design - estimated travel times under each mode, alignment, and design.
GhG Savings	1,073 MT CO2e	Annual reduction in greenhouse gas emission equivalents from reduced vehicle miles traveled and net change in transit emissions: Emissions savings from reduced VMT based on an assumed rate of displaced light duty vehicle trips per new transit rider, average trip length by corridor, average fuel economy, and resulting fuel savings. Emissions savings from net change in transit emissions equals planned service minus existing service (based on conceptual operating plans). Emissions factors applied based on known emission assumptions for electric trolley bus and diesel hybrid bus.

Starting out with precise data of what current service does
(Seattle)

What are our corridor metrics?

NEW ORLEANS

NEW ORLEANS REGIONAL TRANSIT AUTHORITY

STRATEGIC MOBILITY PLAN

CONTENTS

MARCH 2018

RTA

WHAT IS THE STRATEGIC MOBILITY PLAN?

- **A roadmap for improving public transportation** in the region over the next 20 years. Future decision-making and investments made by RTA will be driven by this Plan.
- **A new mission** that more clearly identifies the core purpose of RTA.
- **A new vision** for what RTA will be in the future based on what we heard from the community.
- **A set of goals** to achieve in order to meet the needs of the community and make the new vision a reality.
- **Identification of strategies and actions** necessary to accomplish the goals. This includes a phased action plan of major initiatives and projects, so everyone knows what RTA will focus on and when.
- **Measures of progress** to make sure RTA continues to improve and stays on track.

WHAT IS IT NOT?

- In-depth planning, design, or engineering for projects
- Determination of what vehicle type or schedule is best suited for any given corridor
- Detailed cost estimates or funding plan

Is this a good precedent?

STRATEGIC FRAMEWORK

MISSION
Why we exist

VISION
What we want to be

GOALS
What we need to do to achieve vision

OBJECTIVES
Intended outcome of each goal

STRATEGIES
How we accomplish the goals and objectives

ACTIONS
How we implement strategies

MISSION

Provide safe and dependable mobility services.

VISION

Become the preferred mobility provider in the region.

GOALS

EARN TRUST

BE EQUITABLE

PRIORITIZE THE RIDER EXPERIENCE

BE RELIABLE

CONNECT TO OPPORTUNITIES

SUPPORT A SUSTAINABLE, HEALTHY REGION

MOBILITY OPTIONS IN THE PLAN

In addition to improving existing bus, streetcar, ferry, and paratransit service, the Plan introduces mobility options that may be unfamiliar to people in Greater New Orleans. Some of these new options build upon existing services while others are entirely new services using emerging technologies.

HIGH-CAPACITY TRANSIT ROUTES

Available Modes (BRT, Streetcar, and LRT)

Every 10 min. (peak)
Every 15 min. (off-peak)

20-24 hrs per day

Stops every 1/4 to 1/2 mile

Pay before boarding

Extensive use of dedicated roadway space and/or coordinated traffic signals

SELECT SERVICE ROUTES

Available Modes (Existing Bus and Streetcar routes)

Every 15 min. (peak)
Every 20 min. (off-peak)

18-24 hrs per day

Stops every 1/4 mile

Pay before boarding

Use of dedicated roadway space and/or coordinated traffic signals

PLUS...

Regional Express Connections

- Commuter bus
- 30 min (peak only)
- Limited stops

Water Transportation

- Modern and traditional ferries
- Every 15-30 min., 7 days/week
- Longer hours of operation
- Existing plus new terminals

Downtown Mobility Improvements

- Service type TBD
- Every 10-15 min., 24 hours/day
- Looping around high demand travel areas

Pilot Programs

- Microtransit
- On-Demand/flexible services
- Autonomous vehicles

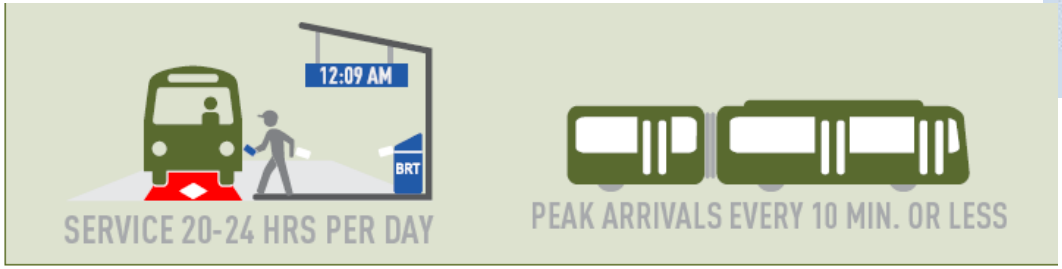
Transit Service

How can transit become more efficient?

How to measure success?

Cashless payment

"The future of public transit hinges on shifting from a supply model to a demand model and embracing emerging modes to better serve, satisfy and grow ridership." Rahul Kumar, TransLoc



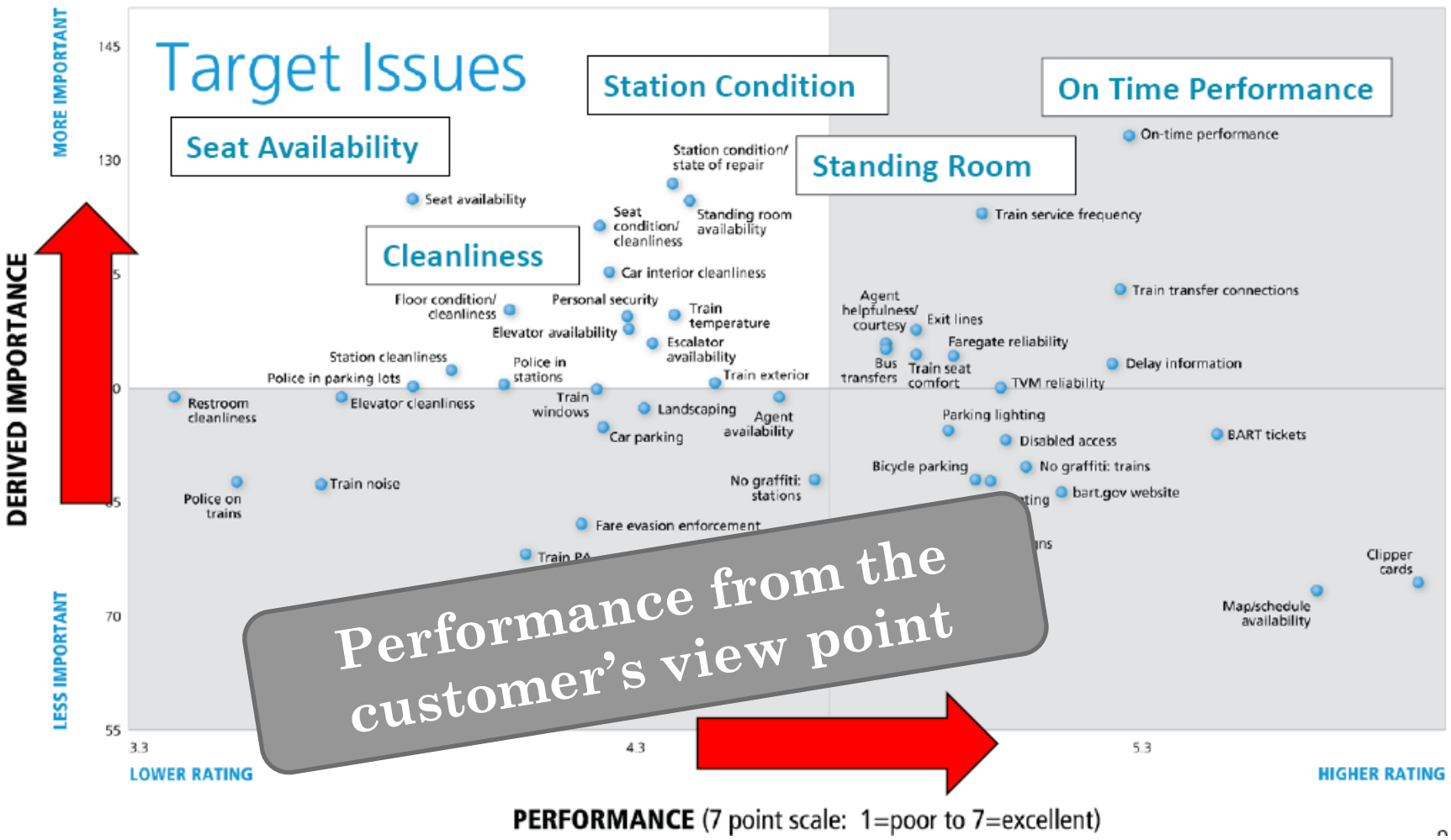
UNIVERSAL TRANSIT PASSES

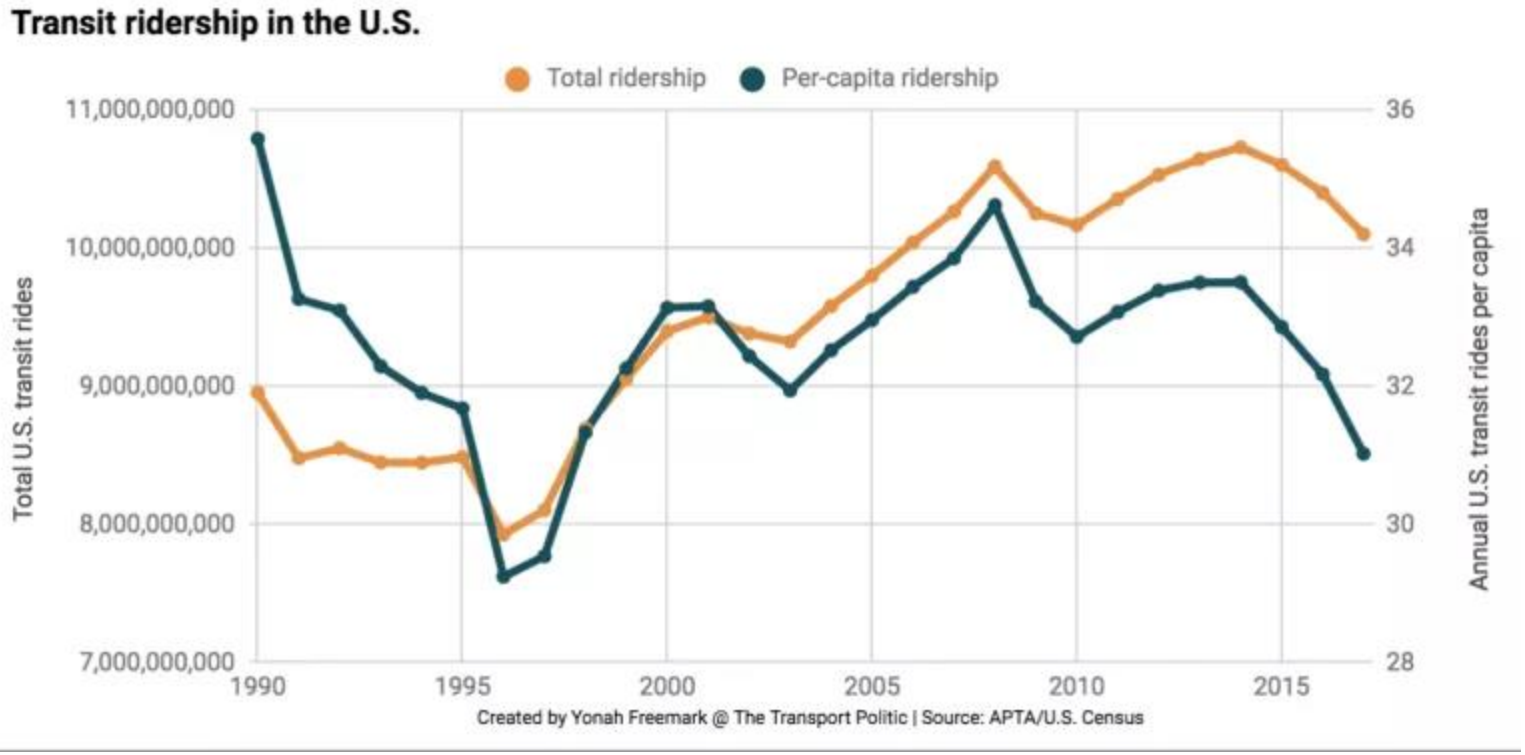
Universal transit passes are an effective means to reduce the number of car trips in an area; reductions in car mode share of 4%- 22% have been documented, with an average reduction of 11%. By removing barriers to using transit, including the need to search for cash for each trip, people become much more likely to take transit for both work and non-work trips.

Employers can provide monthly and annual transit passes as well as electronic vouchers in any amount on a regional ORCA card.

Image from Orcacard.com

Customer Concerns: Reliability, Crowding, Cleanliness





How does MTA stack up?

Fleet & Technology

Three Door Boarding

EMTU low-floor trolleybus in São Paulo provides three door boarding.

Image from Wikimedia Commons user Ailton Florencio

Battery Operations

A Translink electric trolley bus in Vancouver, B.C. This is a 40' New Flyer vehicle with battery auxiliary power allowing off-wire operations.

Image from Wikimedia Commons user Bobanny

Rail Style Vehicle

Irisbus Cristalis trolleybus in Lyon, France.

Image from Wikimedia Commons user Momox de Morteau

Open Interior Layout for Gr

Photo of interior configuration of Irisbus Cristalis 60 foot articulated electric trolley bus.

Image from Wikimedia Commons user tompagenet

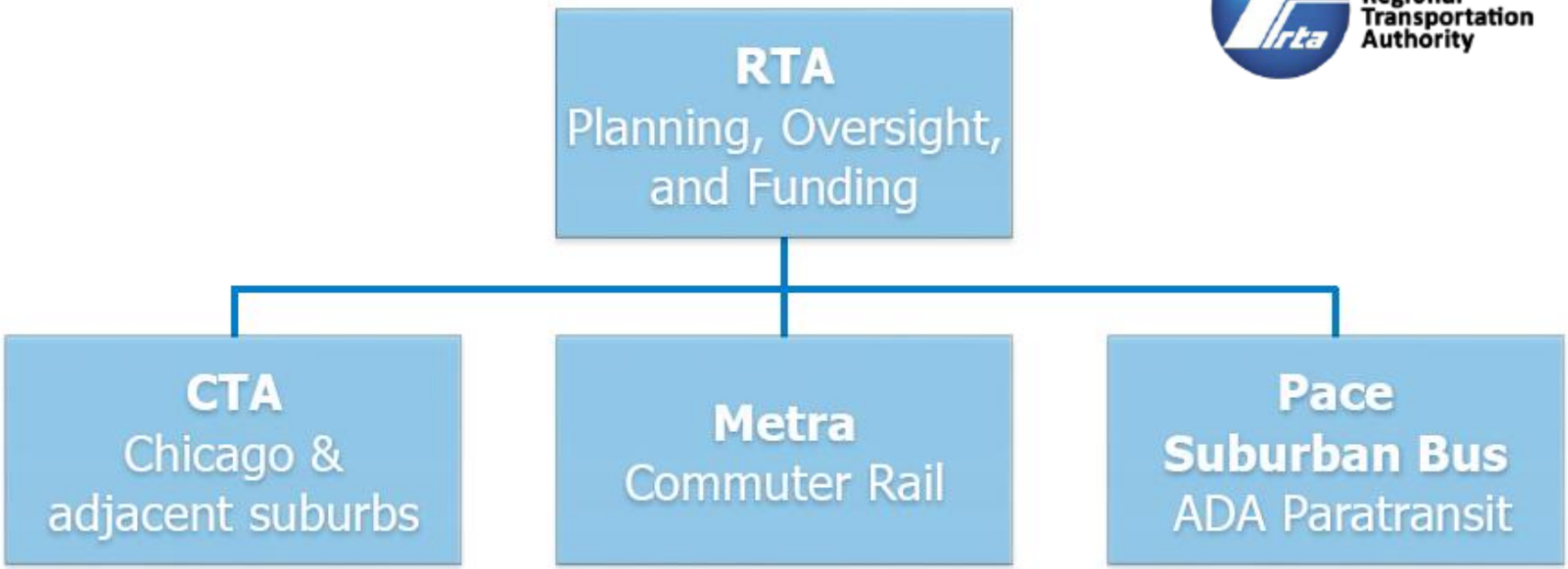
Double artics

E- buses

50' buses

No innovation in the MTA fleet

Governance



Regional Transportation Authority

MTA outside MDOT?

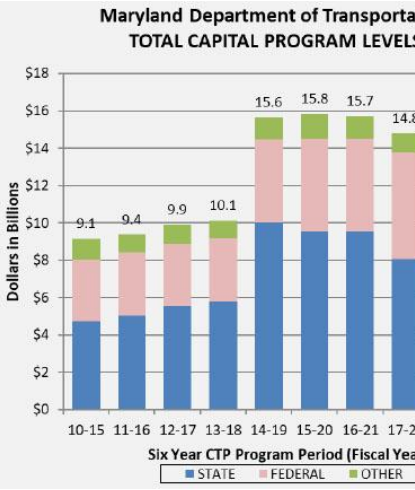
Regional transit

Funding

"We are committing suicide as a species through climate change. Anything we do to make driving cheaper and anything that we do to make transit more expensive gets us away from the big issue."
LA City Council M. Bonin

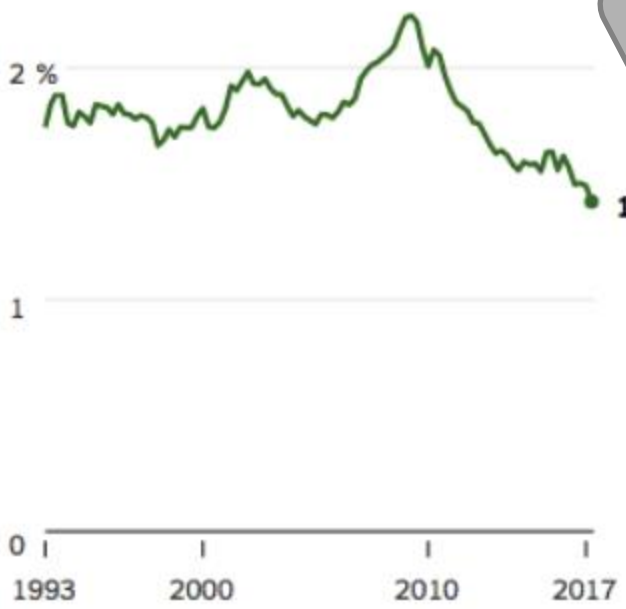
Infrastructure Investments Aren't Keeping Up with Need

The Maryland Transportation Trust Fund is shrinking



More Potholes? This Might Be Why.

Infrastructure spending as a percentage of G.D.P. has fallen to the lowest level in decades.

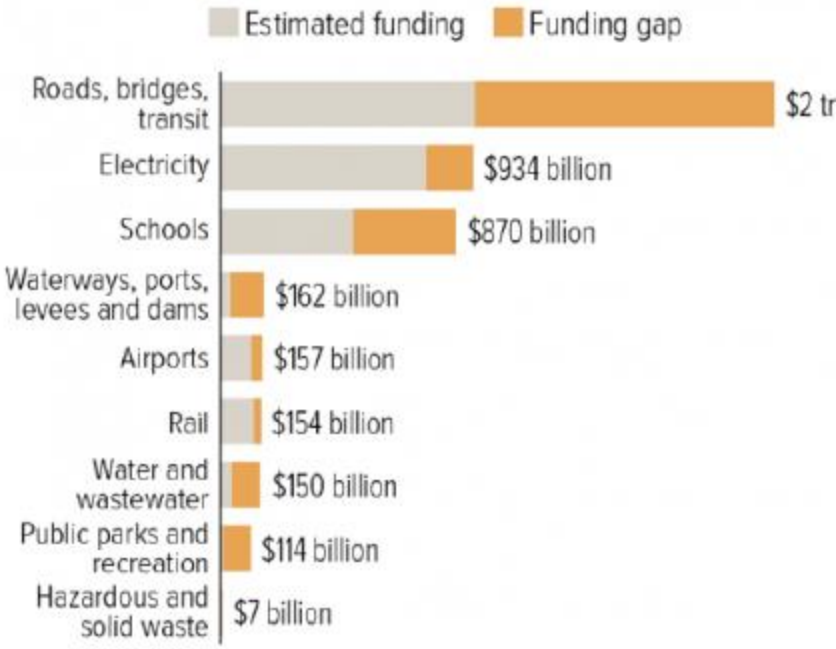


Source: New York Times

FIGURE 1

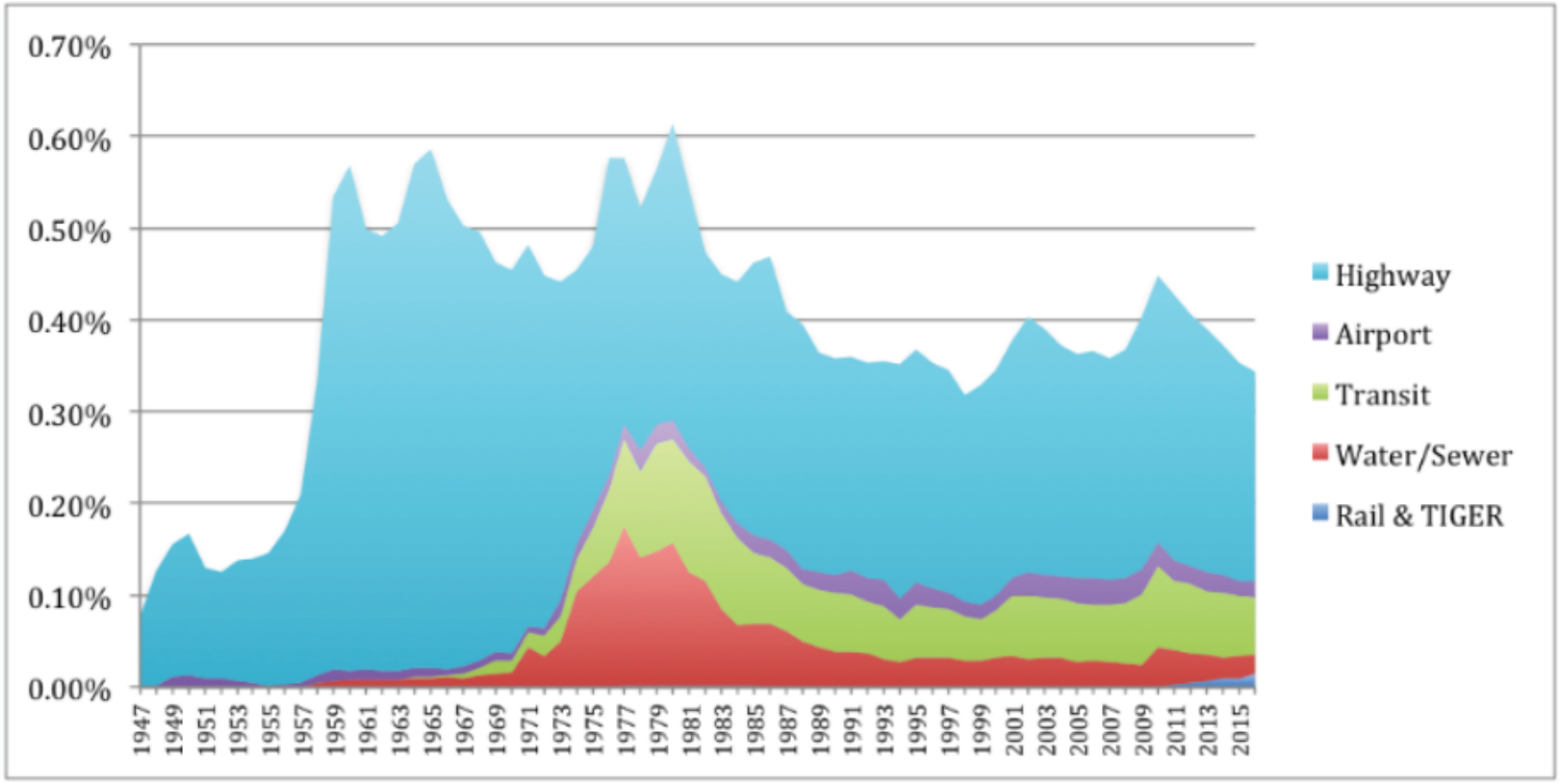
Public Infrastructure Has Been Neglected

Infrastructure needs, funded and unfunded, 2016-2025



Declining Federal Funding for TOD Infrastructure

Federal Grants to State/Local Governments for Transportation and Water Infrastructure as a Percentage of US Gross Domestic Product, FY 1947-2016, By Mode

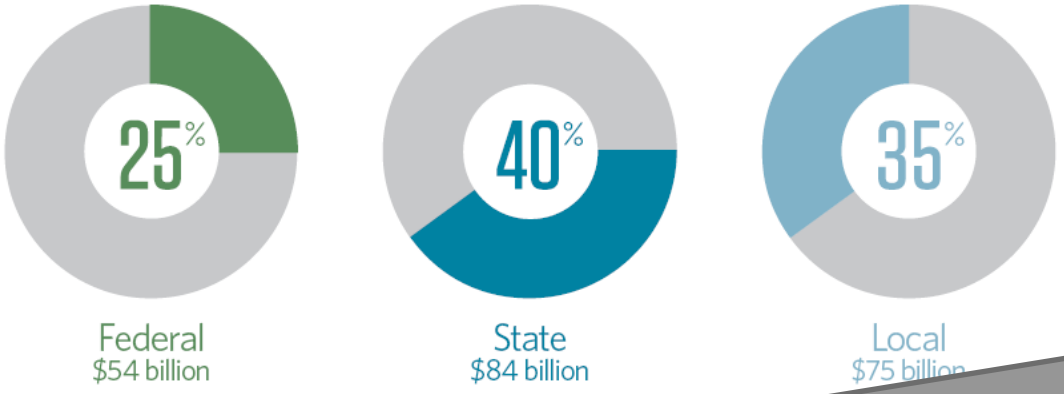


Source: Eno Center for Transportation

Figure 1

All Levels of Government Fund Highways and Transit

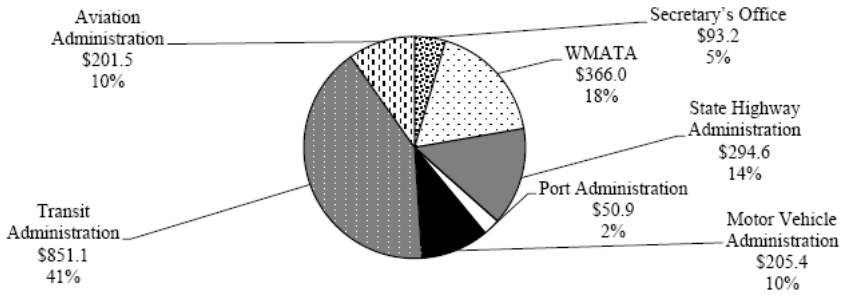
Average annual own-source spending by level of government, 2008-12



Source: Pew's analysis of U.S. Census Bureau's Annual Survey of State and Local Government Finances, 2008-12; U.S. C
Public Budget Database

MDOT: 23% of capital funds for transit, 55%

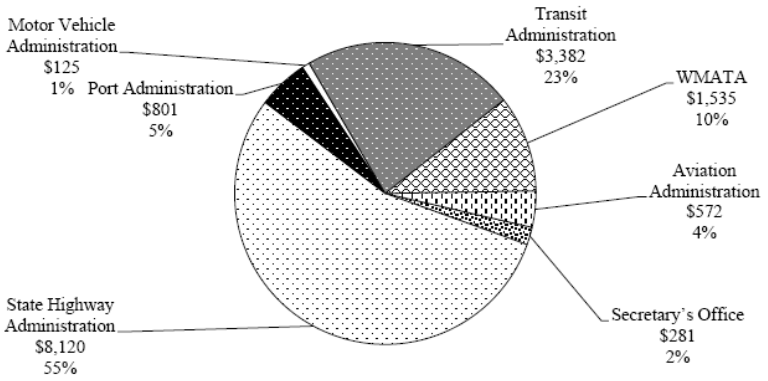
Exhibit 8
Fiscal 2019 Operating Budget Allowance by Mode
Total Spending: $2.1 Billion
($ in Millions)



WMATA: Washington Metropolitan Area Transit Authority

Source: Department of Legislative Services; Maryland State Budget Books, Fiscal 2019, Volume 1

Exhibit 11
Proposed Six-Year Capital Funding by Mode
Fiscal 2018-2023
($ in Millions)



Total Spending: $14.8 Billion

WMATA: Washington Metropolitan Area Transit Authority

Source: Maryland Department of Transportation, *2018-2023 Consolidated Transportation Program*

Growing Interest in Alternative Infrastructure Funding and Financing

New revenue sources

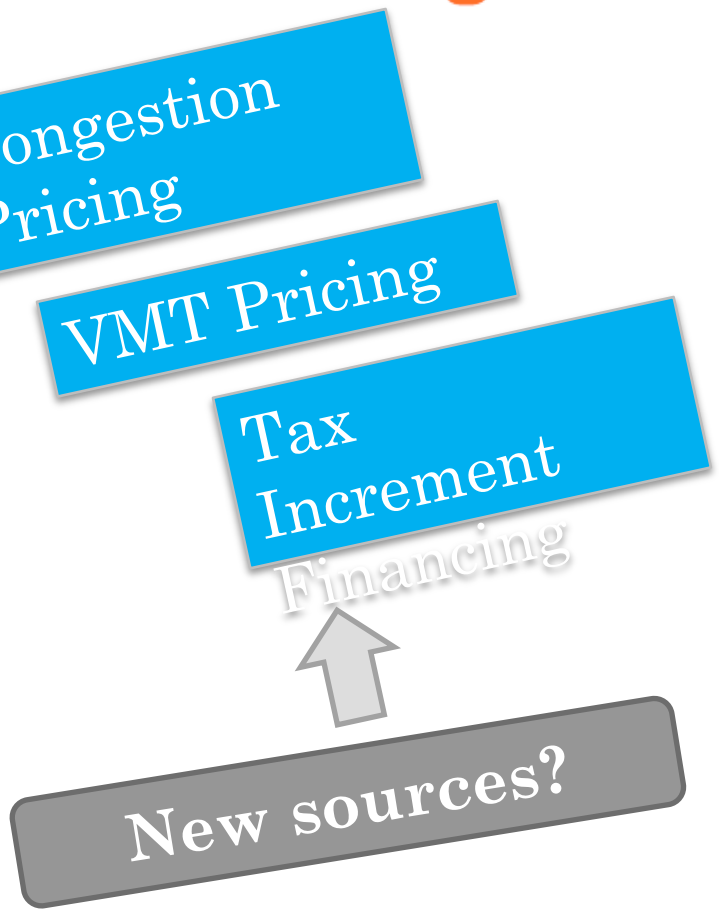
- New taxes
- New varieties of user charges
- Value capture

New financing mechanisms

- Credit assistance tools
- Debt financing tools

New financing arrangements

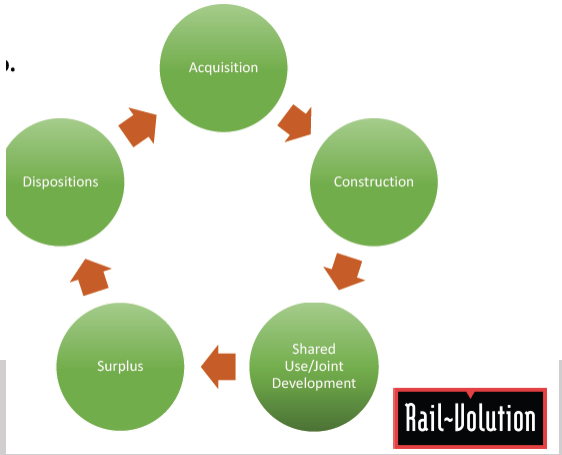
- PPPs
- Privatization
- Infrastructure investment funds
- Philanthropic partners
- Crowdfunding



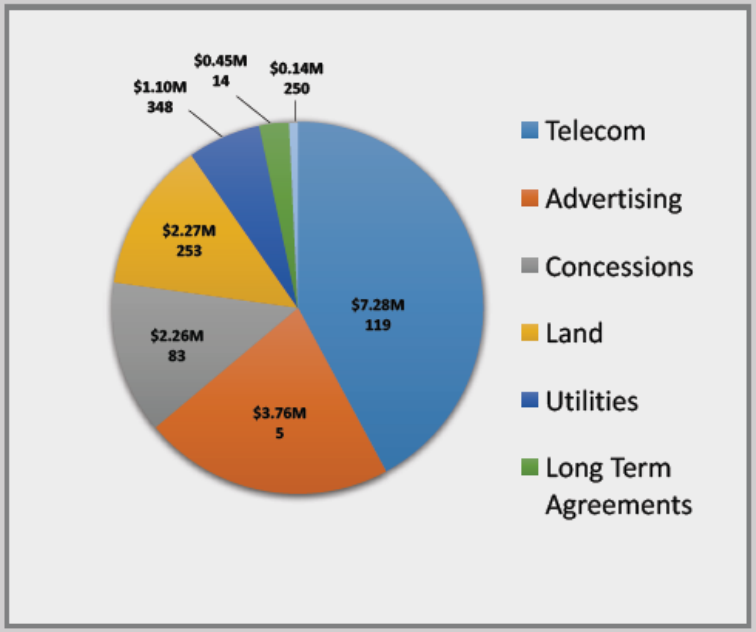
Increased Pressure on Property-Based Funding Sources (aka Value Capture)

- Special Assessment and Taxing Districts
- Tax Increment Financing
- Development Impact Fees
- Density Bonus Programs
- Developer Agreements
- Public Sector Real Estate Strategies

- Be ***"Open for Business"*** to any reasonable use or partnership.
- Find value in creative ways
- Reoccurring revenues are more likely to be generated through:
  - Telecommunications
  - Utilities
  - Advertising
  - Licensing
  - Concessions
  - Solar
  - Smaller Land Sale
  - Easements



Recurring Income Example (MBTA)



Agreement Type	Count	Revenue
Telecom	119	$ 7,283,624
Advertising	5	$ 3,763,255
Concessions	83	$ 2,257,468
Land	253	$ 2,271,094
Utilities	348	$ 1,094,754
Long Term Agreements	14	$ 449,696
Short Term Licenses	250	$ 141,784
ATCs (Bike Trails)	25	$ -
TOTAL	**1097**	**$ 17,261,675**

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Should TOD be led by the Planning Department or the Real Estate Department?

Should the TOD function report directly to the General Manager?

How much planning should an agency do before offering a TOD site for development? Station Area vs Site Planning

Planning skills versus transactional skills

STRATEGY AREA: IMPLEMENTING AN INVESTMENT FRAMEWORK

IF -1: Local investments should be viewed in the context of the regional transit (Metro and Sound Transit) funding picture, including Metro and Sound Transit investments in service and capital.

IF -2: Limited City transit funds should be used to leverage other regional, state, or federal funds whenever possible.

IF -3: Decisions to fund transit must be viewed in light of future obligations, not just the current period.

IF -4: The multiple account evaluation approach should be used to maintain balance between City goals.

IF-5: The City should carefully track the returns on its investments in transit operations and capital projects.

IF -6: The City should maintain flexibility to respond to future opportunities.

IF -7: The investment/funding process must be re-evaluated on a periodic basis, ideally a one- or two-year interval.

IF -8: City funding for transit should be prioritized toward developing long-term capital projects and service subsidies that improve transit speed, reliability, and capacity in FTN corridors.

SEATTLE TRANSPORTATION BENEFIT DISTRICT: VEHICLE LICENSE FEES

Transportation benefit districts were created through a 2005 Washington State Legislature statute as a way for local agencies and governments to fund transportation-related improvements. The legislation authorizes the use of various taxes and fees to fund transportation improvements within the district. It allows funding for operation of facilities and programs, including public transportation.

Funding sources that may be used without voter approval include an up to a $20 annual vehicle license fee (VLF) and a transportation impact fee on commercial and industrial buildings. Subject to voter approval, the following additional revenue sources are available:

- Property taxes (one-year excess levy or an excess levy for capital purposes)
- Sales and use tax (up to 0.2%)
- Annual VLF of up to an additional $8 per vehicle registered in the district
- Vehicle tolls

Baltimore region?

SAN FRANCISCO TRANSIT IMPACT FEE & PROPOSED AUTO TRIPS GENERATED (ATG) FEE

San Francisco's Transit Impact Development Fee (TIDF) assesses a fee on all non-residential development in the city, recognizing transit's role and added value in serving development. The fee is two-tiered currently $9.07 or $11.34 per square foot (indexed for inflation), based on the level of transit demand attributable to each of the six land use categories defined in the ordinance. The TIDF generates a modest amount of revenue to fund transit service improvements—slightly over $2 million collected in 2008 and nearly $120 million in fees and earned interest between 1981 and 2008.

The San Francisco County Transportation Authority recently studied the option to implement a similar impact mitigation fee on ATG by new development, payment of which would permit development projects to fully mitigate the air quality impacts of their project (avoiding the need for further environmental analysis), while providing the County with funding to implement a package of multimodal transportation investments, including transit projects designed to reduce vehicle trips.

Source: Auto Trip Generation Study: Final Report, San Francisco County Transportation Authority, October, 2008

Delivery

P3

Design Bid Build

Design Build

Design Build Operate and Manage

PURPLE LINE TRANSIT PARTNERS

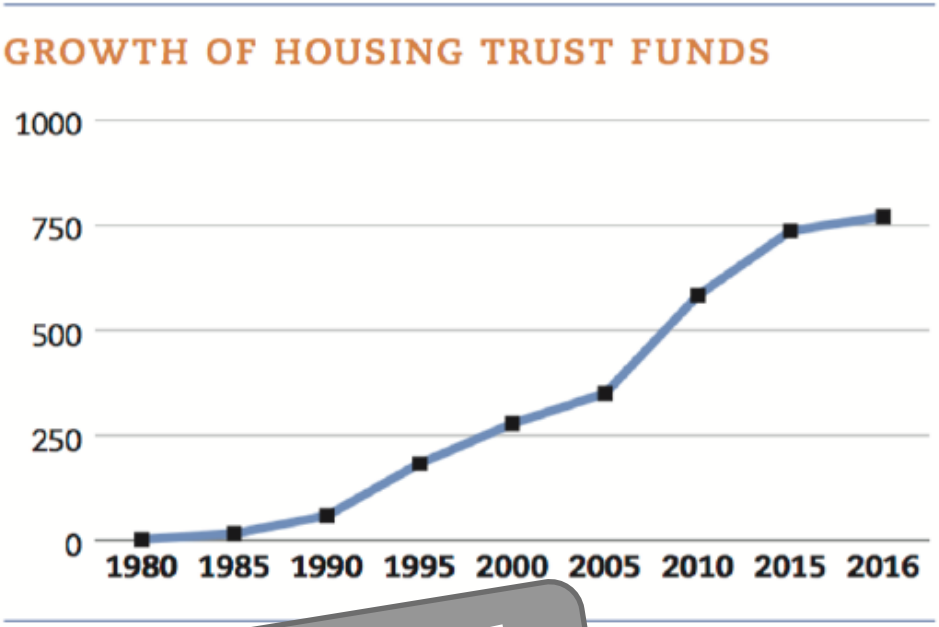
- 34-year DBFOM contract
  - 6 years design/build
  - 28 years operate/maintain
- Availability payments for 28 years

Land Use

- Combatting job sprawl
- Avoiding trips through density
- More use where transit is

Increased State and Local Support for Affordable Housing

- Housing trust funds
- Inclusionary housing policies
- Public land contributions
- Impact fees
- Low-cost loans
- Support for ADUs



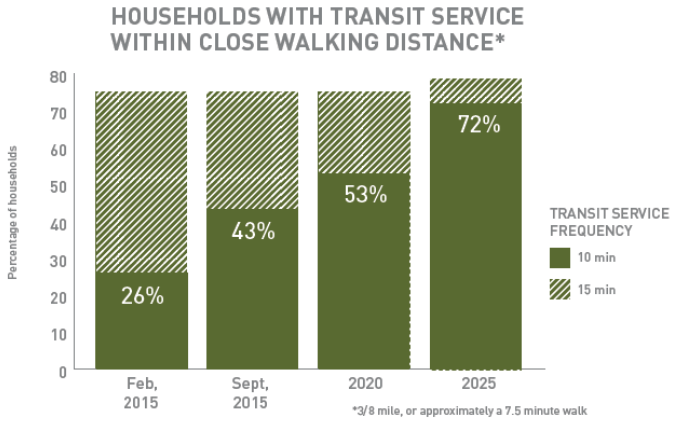
Affordable housing is only good with affordable

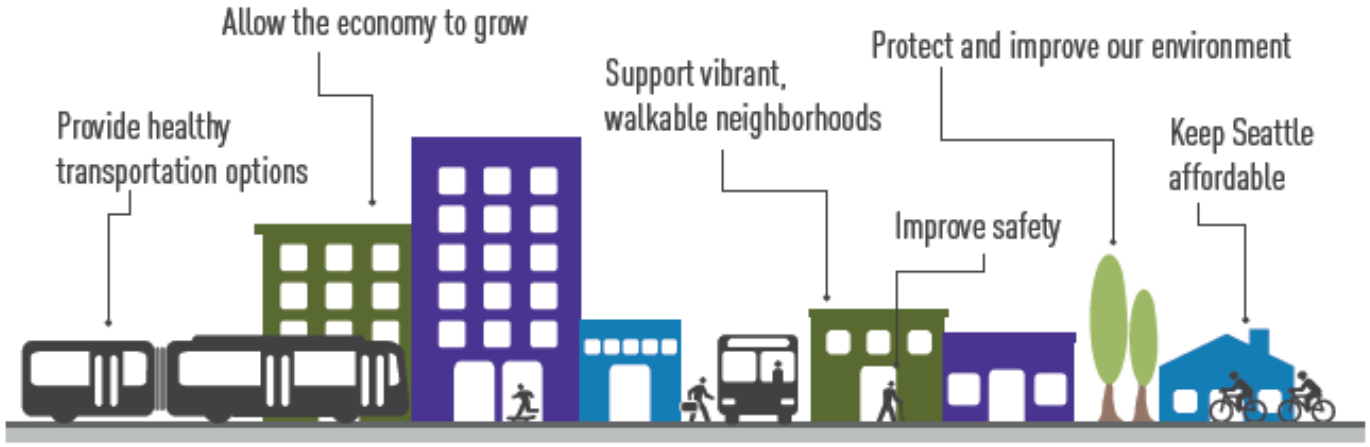
Now that ride hailing services and autonomous vehicles are here, what will happen to parking demand?

EFFECT ON PARKING DEMAND?

Source	Estimate
Academic: Zhang et al	~90% reduction 50% of fleet shared
OECD International Transport Forum	80% reduction 100% of fleet shared
Academic: Kockelman	Each shared AV replaces 12 private vehicles
McKinsey	5.7 billion square meter reduction in parking

Less parking = Better use of the land





Integrate transit as part of the livable city

Future Trends

Their Position:
Transit and Smart Growth
=
Social
Re-Enginnering

The bad stuff

Trend #1
Growing Anti-Transit and Anti-Urban Planning Voices

Linthicum

Trend #2
New Federal Policies

Future Implication
More Pressure To Find Innovative and Local Funding Sources

Trump

Trend #3
Technology Supported Convenience

Amazon

Job sprawl

Trend #4
Rise Of A Distributed Workforce

???

Future Implication
Supports Suburban Sprawl. Ride Time Is My Time.

Trend #5
The Promise of Autonomous Vehicles

INSTITUTE FOR TOMORROW
John W. Martin
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The good stuff

Trend #6

Shift To The Sharing Economy

Future Implication

Shift To More Mobility Options With Sustainable Private Sector Providers

Trend #7

Rising Cost of Transportation

Future Implication

Rising Demand For More Affordable Mobility Options

In the U.S. the population over age 65 will grow from **46 million** today to **74 million** by 2030

Trend #8

The Equity Movement

Future Implication

Growing Appreciation Of Less Fortunate People Increases Support

(Including Support For Mobility Options & Purpose-Built Communities).

Future Implication

Positive Momentum Towards Livable Places. "A Trend Is Your Friend."

Trend #9

Shift To The Cities

Future Implication

Greater Density = Greater Success For Multiple Mobility Options And Sustainable Urban Design Practices

Trend #10

Growing Preference For A 15-Minute Livable Community

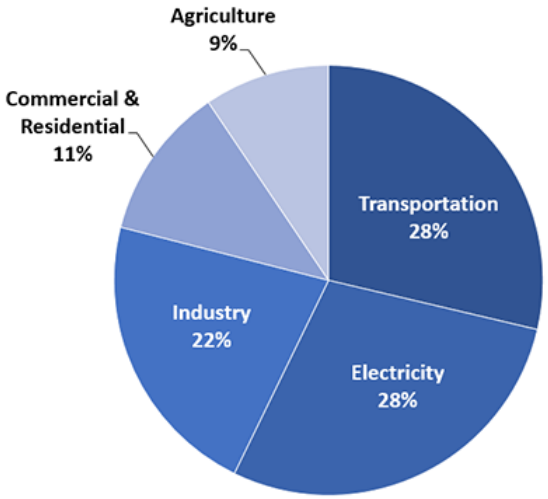
The AV….

…Will kill transit?

..Will it make transit ubiquitous?

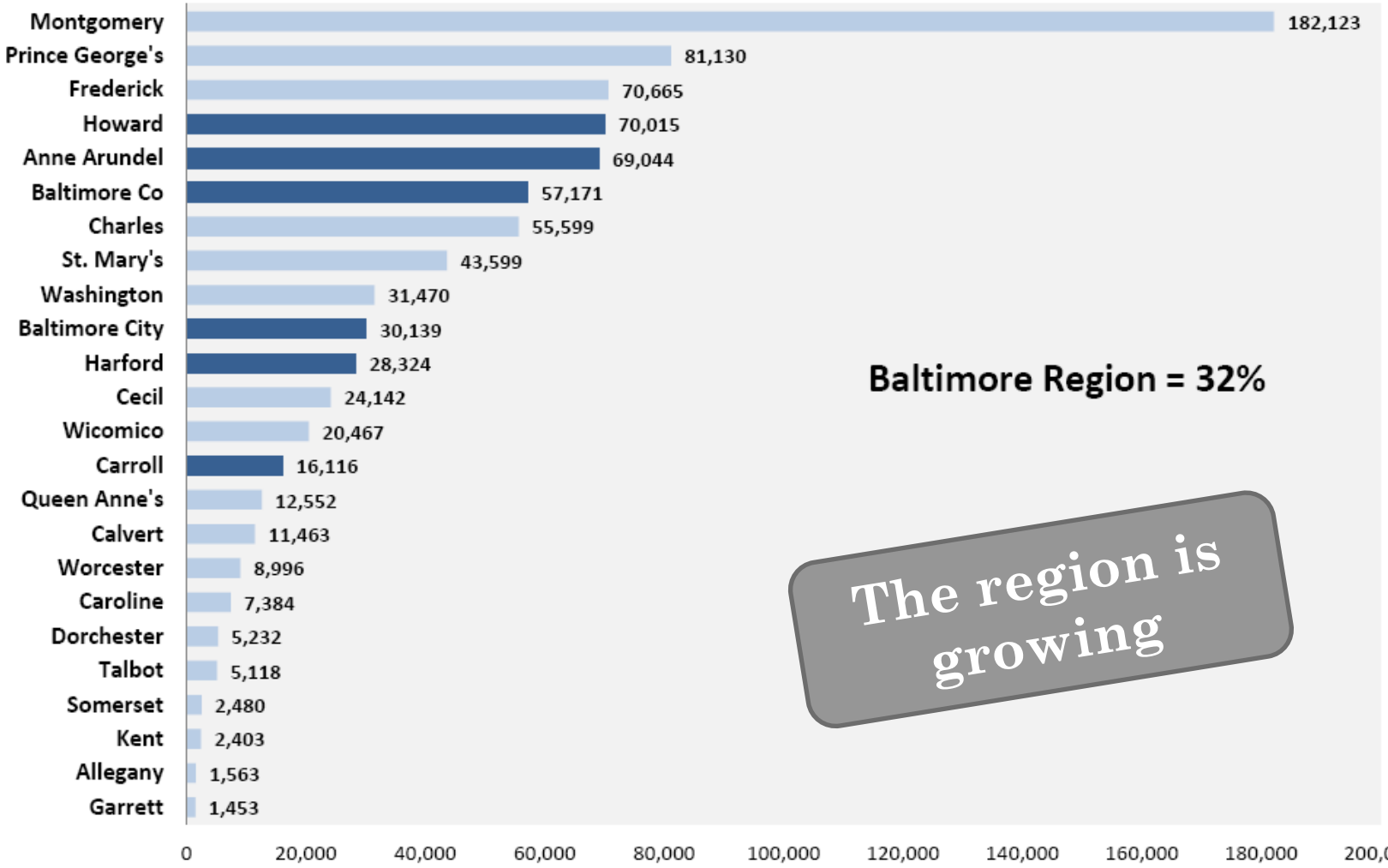
Climate Change / Resilience

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2016

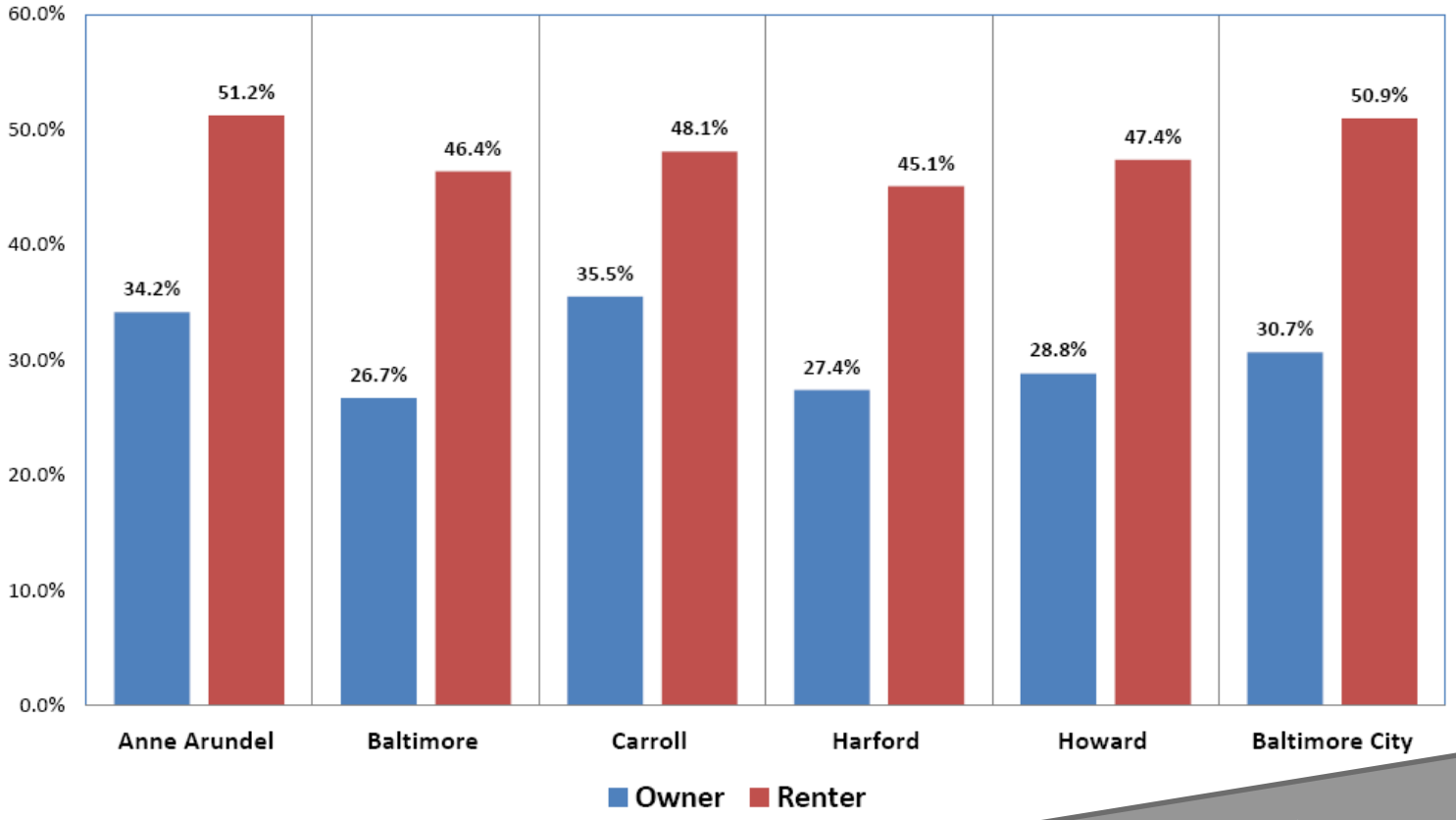


Demographics

Projected Population Change: 2010-2030

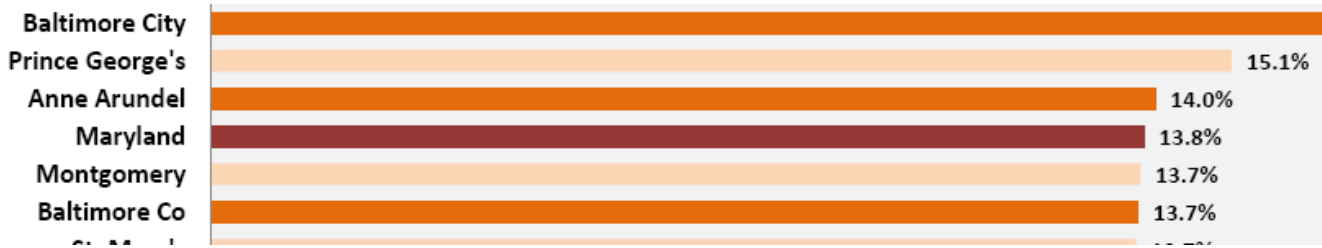


Percent of HHs Ages 25-34 Paying 30%+ of income for Housing Costs



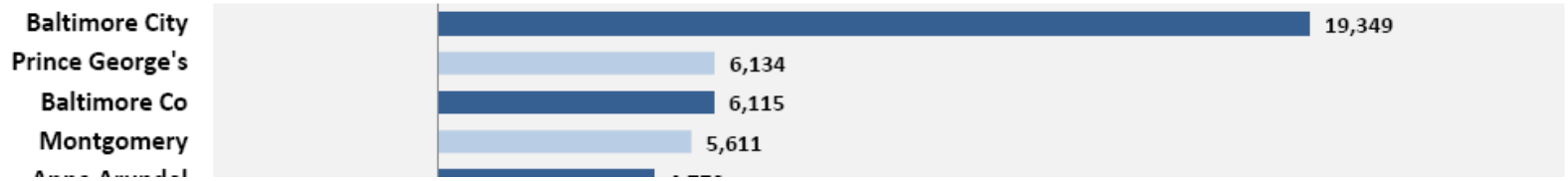
Housing and transportation are the key affordability

Percent 25 to 34 Year Olds - 2013



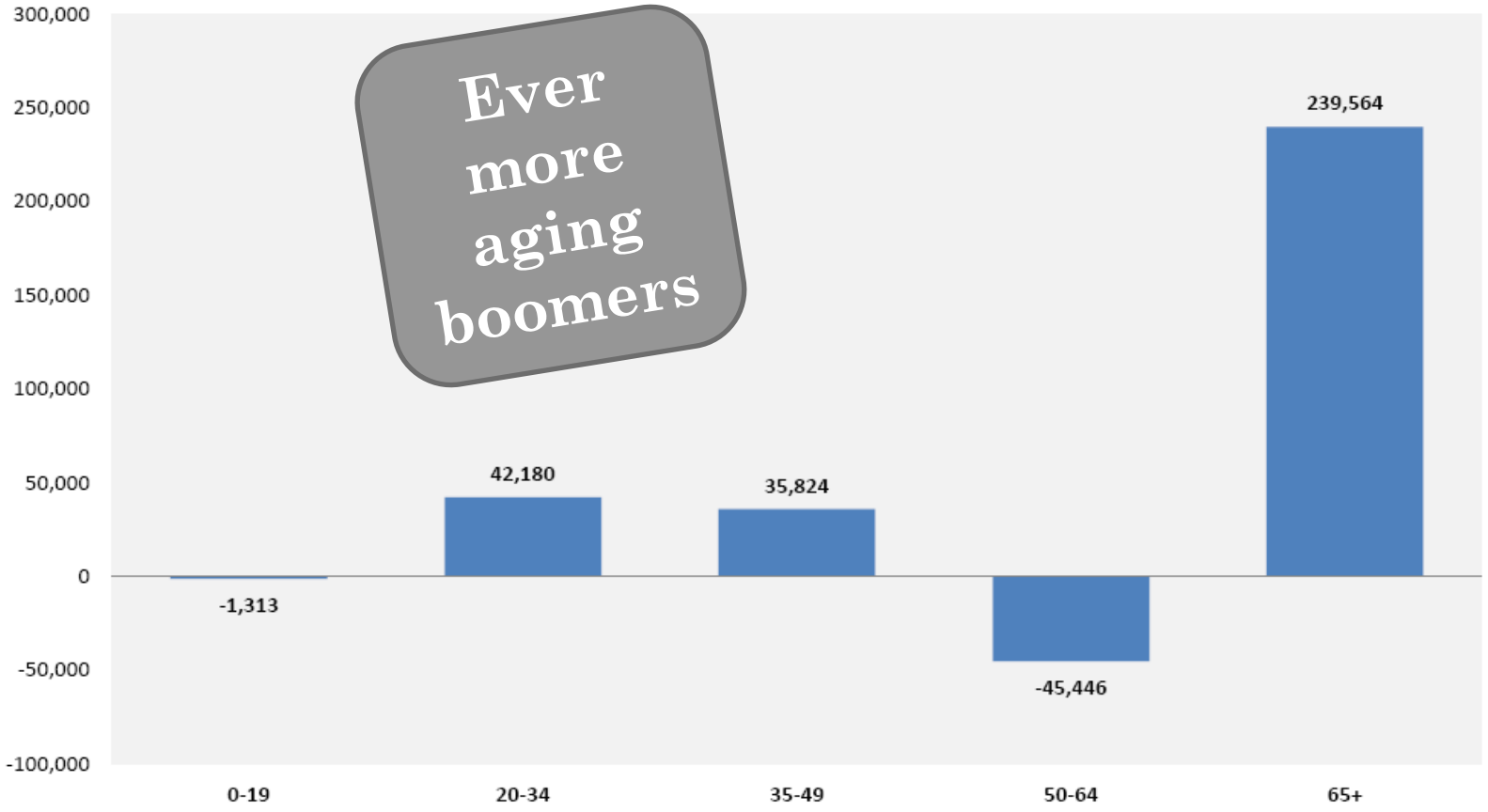
Many young and educate d

Growth in College-Educated 25 to 34 Year Olds, 2000 to 2013*



Percent of 25-34 Year Olds Which are College Educated, 2013*

Projected Change in Population by Age Groups – Baltimore Region, 2010-2030



66%

Place high-quality transportation in their top three concerns when evaluating a new place to live

Source: Rockefeller Foundation

75%

Believe they will live in a place that does not require a car

Source: Rockefeller Foundation

Winners — those that galvanize their communities around these transcendent demographic and cultural shifts, **embracing mobility and transit as an economic development driver.**

Losers — those that don't see these shifts and **let anti-transit conversation pick up and current land use policies remain in place.**

1. **Create A Community Vision.**
2. **Create A Sense of Urgency & Importance**
3. **Follow The Proven Millennial Placemaking Playbook**