Perspectives on WMATA's ridership

BCG's Presentation to WMATA

OCTOBER 12, 2017
Three focus areas for today's discussion:

- Trends in ridership
- Macro-forces driving ridership
- Peak over the horizon
Our starting point: Ridership has slipped in bus & rail

Unlinked Rides Annually (m)

Source: National Transit Database Monthly Module Raw Data Release
Rail ridership has dipped significantly since '09

Source: National Transit Database Monthly Module Raw Data Release
The recent dip is magnified by the "SafeTrack" program

-5% Annual ridership loss since 2014

-38m Trips lost since 2014

Growth or decline unknown for 2017

1. Estimated value - extrapolated based on Q1 and Q2 2017 data
Source: National Transit Database Monthly Module Raw Data Release
WMATA's peer group faced mixed fortunes since 2012

- **BART (ba)**
  - +2.32% (135m trips/yr)

- **MTA**
  - +0.70% (3.5b trips/yr)

- **T (TransLink)**
  - -0.33% (289m trips/yr)

- **SEPTA**
  - -1.35% (261m trips/yr)

- **CTA**
  - -2.27% (498m trips/yr)

- **Metro**
  - -3.79% (357m trips/yr)

1. Heavy rail only  2. Heavy rail and bus
Source: National Transit Database Monthly Module Raw Data Release
Bus ridership has shrunk across the sampled systems
"SafeTrack" impacted WMATAs 2015 performance

Source: National Transit Database Monthly Module Raw Data Release
Can WMATA take flight?

A series of forces may reshape ridership trends in the future
Three forces likely to influence future ridership

**Urban Dynamics**
America's metro centers are changing

**Mobility Evolution**
Mobility/Transit options are increasing

**Customer Preferences**
Riders expect "customer first" treatment
4 change drivers in America's metros
US metros are getting larger and richer

Change in GDP Per Capita, 2011-2016 (2011=100)

- 3m people added to these 12 metro areas
- Highest GDP per capita growth at 3.5% (CAGR)
- -0.5% due to population growth > GDP growth

Source: Oxford Analytics; BCG Analysis
The DC Story

Population Growing
Metro Area added 300k people since 2011, with DC adding ~81k

Economic Concentration
Household Income up to $75k from $59k for DC, while outer areas experience less uplift

Income Inequalities
African American incomes lagged DC average by ~$40k and white incomes by $88k

Source: Oxford Analytics; National Census; BCG Analysis
US metro's are aging, fast

Source: Oxford Analytics; BCG Analysis
DC Metro Area is getting older, but has plenty of youth

Source: Oxford Analytics; BCG Analysis
Remote working is increasingly popular across the USA

Six takeaways from 2006-2016

- # of remote workers increased by 115%
- Most common in North East & Mid-Atlantic
- 3.9m people work from home >3 days per week
- Median age of a telecommuter is 45
- Fed. Govt has largest % of telecommuters (3.1%)
- Approx. gender balance

Source: 2017 State of Telecommuting in the US Employee Workforce Report
Telework popular in DC Metro with public transit riders

Teleworking adoption as a share of DC Metro Areas' workforce (2016)

Commuters use teleworking by transit mode (2016)

Source: National Capital Region Transportation Planning Board; BCG Analysis
“Twentieth-century urban America didn't belong to the skyscraper; it belonged to the car.”

Ed Glaeser, Triumph of the City: How our Greatest Invention Makes us Richer, Smarter Greener, Healthier and Happier
The entire mobility value chain is evolving rewriting the playbook for everyone...even the car

Mobility value chain

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<th>Infrastructure (Operations)</th>
<th>Vehicle (Operations)</th>
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<td>Next gen. air traffic mgmt.</td>
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Note: Turnkey and Logistics not depicted as not in scope of project; locomotives and components within Mainline and Urban transport
Source: BCG
Shared and auto. options may challenge public transit

### NYC Example

![Bar chart showing cost per passenger mile for different modes of transport: Public transport, Vehicle ownership, Taxi, Uber X, Robo-taxi.]

**Traditional**
- Public transport: 1.0
- Vehicle ownership: 1.2
- Taxi: 2.8

**Uber**
- Surge pricing, black car: 2.6
- Uber X: 1.8

**Robotaxi**
- Robo-taxi: 2.2
- With 2+ person occupancy, robo-taxi in range to challenge public transport: 0.7

1. Assuming avr. distance of three miles, impact of shorter wait/commute times and convenience not built in

Source: US DOT, NYC MTA, NYC Taxi and Limo commission, KBB, BCG analysis
The level of threat depends on the type of city

- Car dominates today
- Highest shared & auto benefits due to many P2P trips & last mile needs

- Combination of PT and car today
- High benefits due to better last-mile option & P2P in unserved area

- PT effective today
- Lowest shared & auto benefit, but could complement PT in inner-city

Source: BCG Analysis
Competition is heating up in DC

Should I take Metro or Uber to work—a trip from Potomac Avenue to Bethesda?

Metro

$4.20

Uber

$4.40¹ - $110

¹. The fare drops to $3.90 if 2 people take the Uber Pool.
Note: Requires purchase of an “Uber Pass” to qualify for discount rates. Black Car costs $110.
Source: Uber; WMATA
Actual consumer choice on October 11, 2017: Do I take Metro or Uber to work?

Uber shows a flat fare of $4.49

Metro's Trip Planner shows a fare of $4.20
The arbitrator of the "future"
Consumer interest in shared + autonomous vehicles
Survey by BCG & WEF

Did you know that consumers are:

- **Willing to experiment:** 58% of consumers are open to trying & 53% would consider buying an autonomous car (AC)

- **Willing to pay more:** 31-51% are willing to pay >$5K extra for an AC

- **Skeptical of new entrants:** 46% want a traditional OEM to produce the AC

- **Concerned about sustainability/OPEX:** 66% of consumers want an electric or hybrid AC

- **Keen for privacy:** 37% are willing to share an auto. taxi if a high discount is offered

Source: World Economic Forum; BCG analysis; Consumer survey August 2015, 6,000 consumers surveyed in 10 countries. 3 focus groups in 3 countries
Policy Makers are reacting

Survey by BCG & WEF

What we heard from policy makers:

- Skeptical yet positive: Attitude towards ACs is positive, yet uncertain about public and tech. readiness
- Dipping a toe in the water: Many have thought about ACs—some are even involved in trials
- Building complementary strategies: ACs primarily seen as last mile solution complementing public transport
- The future is here (almost): Cities expect autonomous vehicles to become a reality in the next 10 years
- Encouraging mobility options: They prefer having many private players offering autonomous taxis

Source: World Economic Forum; BCG analysis; Consumer survey August 2015, 6,000 consumers surveyed in 10 countries. 3 focus groups in 3 countries
What does this all mean for WMATA's ridership?

1. **A customer first, a rider second:** Customer preferences are already shaping transit markets

2. **Larger, richer, older, connected cities need transit:** US cities need accessible, reliable and affordable urban transit, but choices are coming

3. **Segmented city scape:** DC is a segmented city growing at differential rates

4. **Direct fare competition:** Indications that mobility providers are increasingly competitive

5. **Customers are using their own (or others) cars:** Benchmarks indicate ridership is flat or down
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