Superconducting Maglev Train
Who We Are

Baltimore-Washington Rapid Rail (BWRR)
- A 100% US-owned, Maryland based franchised railroad company
- Dedicated to deploying the 311mph SCMAGLEV train in the Northeast Corridor
- Over $100 million in private investment to date

Northeast Maglev
- A 100% US-owned company promoting the deployment of SCMAGLEV in the Northeast Corridor in cooperation with JR Central

Central Japan Railway Company (JR Central)
- Japanese rail company with over 50 years experience in high speed rail on the most travelled rail corridor in the world
- Developer of the Superconducting Maglev (SCMAGLEV) system currently operational and being deployed in Japan
The NEC: Big and Getting Bigger

Today:
- 51 million residents
- 24 million jobs
- 17% U.S. Population
- 20% U.S. Workforce

By 2040:
- 64 million residents
- 28.5 million jobs
- 12 million residents increase
- 4.5 million jobs increase

All on just 2% of U.S. land area
Broken Infrastructure / Growing Problems

**HIGHWAYS**
- 12% of all U.S. highway lane miles
- 52% of the worst highway bottlenecks
- 22% increase in auto travel by 2040

*Source: 2019 Urban Mobility Score Card (Texas A&M Transportation Institute, 2019)*

**AIRWAYS**
- 30% of all U.S. air trips
- 50% of nationwide delays originate in NYC
- 102% increase in aviation boardings by 2040

*Source: 2019 Airport On-Time Arrivals (US DoT Bureau of Transportation, December 2019)*

**RAILWAYS**
- 75% of all weekday commuter rail riders
- 53% of commuter trains utilize the NEC
- 115% increase in intercity rail travel by 2040
- 6% of current rail could support 150mph

*Source: Northeast Corridor Annual Report: Operations and Infrastructure (NEC Commission, April 2018)*
Establishing Maglev Technology in the US
1998: TEA-21 promise to deploy superspeed maglev in US
1999-2001: 14 States compete federally to deploy MAGLEV, 7 selected for further study
2015: Maryland PSC grants railroad franchise to BWRR
2019: Baltimore-Washington wins national competition

$50+ million in U.S. Federal grants awarded to MD to date
BWRR pays required State matching funds, does not anticipate any cash investment or operating subsidies from MD
Our Vision: Innovation, Opportunity, Green Transportation

DC TO NEW YORK in ONE HOUR at 311 MPH

Baltimore

Washington
Construction Overview

70% of Alignment in Deep Tunnel

Proposed Route Alternatives
- BW Parkway East
- BW Parkway West
- Tunnel Section

Drawings are for illustrative purposes only and not to scale.
NEPA / Engineering Responsibilities

Lead Federal Agency
FRA

Lead State Agency
MDOT

Programmatic Oversight
MEDCO

Environmental Oversight
MTA

Engineering Support to EIS & Permitting
BWRR

Independent Environmental Consultant
AECOM

EIS
### EIS Agency Coordination

#### Federal
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- Surface Transportation Board (STB)
- Federal Emergency Management Agency (FEMA)
- US Army Corps of Engineers (USACE)
- US Environmental Protection Agency (USEPA)
- US Fish and Wildlife Service (USFWS)
- US Department of Agriculture (USDA)
- National Park Service (NPS)
- National Capital Planning Commission (NCPC)
- US Commission of Fine Arts (USCFA)
- Federal Aviation Administration (FAA)
- Federal Railroad Administration (FRA)
- National Security Agency (NSA)

#### State
- Maryland Department of Natural Resources (MDDNR)
- Maryland Department of the Environment (MDE)
- Maryland Department of Planning (MDP)
- Maryland-National Capital Park and Planning Commission (M-NCPPC)
- Maryland State Highway Administration (SHA)
- Maryland Historical Trust (MHT)
- Metropolitan Washington Council of Governments (MWCOG)
- Maryland Department of Transportation (MDOT)
- Maryland Transit Administration (MTA)

#### Local
- Anne Arundel County Transportation Department
- Anne Arundel County Government Office of Planning & Zoning Transportation Division
- Anne Arundel County Government Office of Planning & Zoning Transportation Division
- Howard County Office of Transportation
- Prince George's County Department of Public Works and Transportation
- Baltimore City Department of Transportation (BCDOT)
- Baltimore City Department of Planning
- Baltimore Metropolitan Council (BMC)
- District Department of Energy and Environment (DOEE)
- District Department of Transportation (DDOT)
- District of Columbia Historic Preservation Office (DC SHPO)
- Washington Metropolitan Area Transit Authority (WMATA)
- Metropolitan Washington Council of Governments (MWCOG)

**Bold** Denotes Lead Agencies
EIS Schedule

FRA-led NEPA Process provides a ‘hard look’ at project impacts, offering full disclosure through publishing of environmental impact statement (EIS)

EIS process investigates Route Alternatives and includes:
- Investigations/Studies
- Public Involvement
- Agency Coordination

<table>
<thead>
<tr>
<th>Phases</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preliminary Alternatives Screening Report</strong></td>
<td>Develop preliminary project alternatives and screening criteria</td>
</tr>
<tr>
<td><strong>Alternatives Study</strong></td>
<td>Develop details on alternatives remaining for further study</td>
</tr>
<tr>
<td><strong>Draft EIS</strong></td>
<td>Alternatives identified and compared with No Build Alternative in the Draft EIS - Public Comment/Hearing on Draft EIS</td>
</tr>
<tr>
<td><strong>Final EIS</strong></td>
<td>Document final impacts and mitigation commitments</td>
</tr>
<tr>
<td><strong>Record of Decision</strong></td>
<td>Complete NEPA Process - BWRR’s construction and operation of SCMAGLEV will be subject to enforceable environmental mitigation commitments</td>
</tr>
</tbody>
</table>

Orange color denotes current phase
Baltimore-Washington Project Schedule

EIS/Permitting Completion
2022

Final Design Commences
Construction Start

Construction duration depends on alignment selected and construction methodology

Revenue Service Begins

* Schedule includes securing financing and procurement
How SCMAGLEV Works

Instead of running on standard railroad tracks, SCMAGLEV trains levitate between the walls of a U-shaped guideway.

The SCMAGLEV system utilizes magnetic forces between the coils in the guideway and superconducting magnets on the train for all aspects of operation, including acceleration, deceleration, guidance and levitation.
## Ridership Forecast

Table 4.2-3: Forecasted Source of SCMAGLEV Ridership and Forecasted Diversions to SCMAGLEV Project from other Modes for the Years 2030 and 2045, by Baltimore Station Alternative

<table>
<thead>
<tr>
<th>Baltimore Station Alternative by Year</th>
<th>2030 Cherry Hill Station</th>
<th>2045 Cherry Hill Station</th>
<th>2027 Camden Yards Station</th>
<th>2045 Camden Yards Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diverted from Auto</td>
<td>11,380,467</td>
<td>14,877,281</td>
<td>12,609,501</td>
<td>16,480,393</td>
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<tr>
<td>Diverted from Rail</td>
<td>2,122,750</td>
<td>2,610,204</td>
<td>2,261,072</td>
<td>2,768,873</td>
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<tr>
<td>Diverted from Bus*</td>
<td>253,107</td>
<td>309,733</td>
<td>263,229</td>
<td>320,005</td>
</tr>
<tr>
<td>Diverted from Taxi/Rideshare</td>
<td>582,217</td>
<td>860,551</td>
<td>681,976</td>
<td>1,009,282</td>
</tr>
<tr>
<td>Total Diverted Trips</td>
<td>14,338,541</td>
<td>18,657,769</td>
<td>15,815,778</td>
<td>20,578,553</td>
</tr>
<tr>
<td>Total Forecasted Annual SCMAGLEV Trips</td>
<td>17,056,911</td>
<td>22,367,238</td>
<td>18,960,622</td>
<td>24,938,652</td>
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<tr>
<td>New Induced Trips</td>
<td>2,718,370</td>
<td>3,709,269</td>
<td>3,144,844</td>
<td>4,360,099</td>
</tr>
</tbody>
</table>

Source: Baltimore-Washington SCMAGLEV Project: Project Sponsor SCMAGLEV Daily Boardings and Alightings by SCMAGLEV Station

* This category covers diversions from all bus services in the SCMAGLEV Project Affected Environment, including local bus services, express services to Baltimore and Washington and privately operated inter-city bus services
Ridership Forecast

SCMAGLEV Ridership by Segment

- Commute: 25.4%
- Business: 15.4%
- Non-Business: 44.6%
- Airport Business: 8.2%
- Airport Non-Business: 6.3%
Reduction in Vehicle Miles Traveled

- DEIS predicts SCMaglev will result in reduction of regional VMT between 9% and 12% (2027 to 2045)
- Independent Ridership Study shows SCMaglev reduces automobile share from 94% to approx. 82%

No Build Alternative

Build SCMaglev
Economic Opportunity Resulting from SCMaglev

Regional Jobs

123,000 JOBS
Construction Related Job-Years

38,000 JOBS
Professional Services Job-Years

Regional Labor Earnings

$8.8 BILLION
In Employee Earnings

Washington, DC
Baltimore
Arlington
Combined Statistical Area

Baltimore-Washington SCMaglev DEIS, January 2021 – Resulting form Build Alternative J-03
MTA a Critical Part of First/Last Mile Connectivity

- MTA 25-year vision notes light-rail ridership has declined 16% since 2012*
- MTA wants improved service between Cherry Hill and Downtown Baltimore*
- MTA long-term goals of improved pedestrian and cycling access to stations, micro-mobility integration with existing services, and integrated whole-journey ticketing

- BWRR prefers proposed station at Cherry Hill Light Rail Station
- BWRR looks forward to working with MTA on innovative first/last mile solutions, ensuring passengers have integrated, cost-effective, and environmentally sound transportation options

*(P. 14 & 49, MTA Connecting Our Future: A Regional Transit Plan For Central Maryland)
No State of Maryland Funds

BWRR Not Seeking State of Maryland Funds

- MTA expects $2 billion budget shortfall over the next decade

- BWRR committed to build without State appropriations
- Billions generated from SCMaglev project to Maryland’s GDP will help grow the State’s Transportation Trust Fund and help MTA with budget shortfall
- Jobs created boost county general funds to help expand transit in places like Cherry Hill and Westport

*(P. 14 & 49, MTA Connecting Our Future: A Regional Transit Plan For Central Maryland)*
- Endorsed by civic groups, union labor groups, local business and community organizations
- Partnering to provide local outreach, education, and access to opportunity to businesses and residents

- Support continues to grow. More than 15,000 people have shown their support by signing a petition in favor of the project