

RAIL & ROAD TO RECOVERY

April 2020



Tri-State Transportation Campaign
BlueWaveNJ
Clean Water Action
Environment New Jersey
New Jersey Policy Perspective
New Jersey Sierra Club

SUMMARY

Transit and environmental advocates strongly oppose the New Jersey Turnpike Authority's unprecedented 2020 Capital Plan, which will direct \$16 billion toward road expansion projects.

The \$24 billion capital plan calls for more than 50 major projects to be undertaken on the New Jersey Turnpike and Garden State Parkway in rolling, five-year increments. Thirteen of these projects will ultimately widen over 100 miles of roadway on the Turnpike and Parkway, and none of the projects would allow for any transit expansion or incorporate a transit component.

This proposed capital program directly contradicts the state's Energy Master Plan, released in January after a year-long process, which aims to reduce greenhouse gas emissions and transition the state to 100% clean energy sources by 2050, with an emphasis on expanding public transportation options and reducing vehicle miles traveled (VMT).

In contrast, Rail and Road to Recovery, our alternative capital plan, highlights 27 unfunded mass transit projects totaling over **\$25.8 billion that would create 1.28 million jobs** that should be funded with the \$16 billion currently slated for highway expansion.

NJTA's plan also doesn't take getting the state's roads and bridges into a state of good repair seriously --36% of the state's highways are deficient (rough and/or distressed), 529 bridges are structurally deficient and 2,367 are in need of repair. The price tag for unfunded fix-it-first projects is over \$10 billion --at least \$8.6 billion for bridges and \$679 million for just the top 500 state road projects over the next few years, which doesn't even include needed repairs to the far larger network of local and county roads.

Electric vehicle charging stations also need to be a part of NJTA's capital plan. The passage into law this January of the electric vehicle omnibus bill (S2252/A4839) laid out a version of electrifying our major roadway corridors with both the NJ Turnpike and GS Parkway being the most obvious target roadways. Every rest stop on both roadways should have full access to Direct Current Fast Current (DCFC) charging stations, which can charge electric vehicles as quickly as 15 minutes. The infrastructure needs to be designed to handle the highest anticipated high traffic days, and should include at least 10 chargers per rest stop. The total cost for installing the chargers and necessary infrastructure would be \$36 million.

Widening highways, and therefore encouraging more travel by automobile, will only bolster the state's car-dependent culture and increase sprawl development --the exact opposite of what the state should be doing to reach its greenhouse gas emissions reductions and clean energy goals. This is the opposite effect of reducing VMT. While road widenings relieve congestion initially, it is proven that widenings will eventually lead to more driving and result in the same congestion the widening was meant to alleviate. This is widely known as the concept of "induced demand."¹

In addition, the Turnpike Authority has an obligation to the residents of the State to be fair and equitable neighbors. The Turnpike Authority's road network is often a barrier to the state's non-motorized transportation network. This is especially true at interchanges and river crossings. Funding should be set aside in the budget to include bike and pedestrian improvements on projects where local bicycle and pedestrian safety and access will be affected.

The Turnpike Authority claims that the plan will "sustain tens of thousands of jobs in the coming years and help maintain a transportation network that provides a competitive edge for New Jersey in the regional, national, and global economies." However, funding highway projects to stimulate the economy represents a lose-lose scenario. Investing in mass transit and fixing our crumbling roads and bridges will produce more jobs, reduce traffic congestion, and have a better impact on the environment. According to Smart Growth America, public transportation investments generate 31% more jobs per dollar than new construction of roads and bridges, and repair work on roads and bridges generates 16% more jobs per dollar than new road and bridge construction.²

To make matters worse, the proposed capital plan comes at a time when New Jersey Transit is billions of dollars in debt and suffering from overcrowded trains, unreliable and infrequent service, and antiquated infrastructure. Although Governor Murphy has proposed a new state budget for fiscal year 2021 that would funnel \$129 million from NJTA to NJ Transit, the subsidy is \$169 million less than it was in 2016, and the economic impacts to the Governor's proposed budget caused by COVID-19 still remain unknown.

Given the historic revenue losses facing NJ Transit because of the global health crisis, we ask NJTA to ensure that investment in the state's transportation infrastructure appropriately matches present and future needs. New Jersey must reconsider its transportation investment priorities to achieve its urgent climate and energy goals. Money invested today and projects built tomorrow are likely to impact the state for decades, which is why it's important that we get this right. This is an opportunity to make New Jersey a healthier and more sustainable place to live and do business.

This document sets forth the proper investments needed to attain the state's economic, health and climate goals. The projects outlined in this plan will increase capacity, improve reliability, and expand the reach of New Jersey's public transportation system. We urge NJTA to fund these sustainable projects instead of building more highways.

TRANSIT VISION 2040

- 1 Hudson River Tunnels
- 2 Hunter Flyover
- 3 Secaucus Junction Loop
- 4 North Brunswick Loop
- 5 Highline Bridge Replacement
- 6 Newark to New York Fourth Track
- 7 West Trenton Line
- 8 North Jersey Coast Line Electrification
- 9 Raritan Valley Line Electrification
- 10 Northern Branch Corridor
- 11 Monmouth-Ocean-Middlesex Line
- 12 Glassboro-Camden Line
- 13 Bergen County BRT
- 14 Northern Bus Garage
- 15 Bergen Line & Main Line Electrification
- 16 Pascack Valley Line Electrification
- 17 New Brunswick Area LRT
- 18 HBLR Route 440 Extension
- 19 West Shore Line
- 20 Passaic-Bergen Rail Project
- 21 Newark Subway to Paterson
- 22 HBLR to Secaucus
- 23 Newark-Elizabeth Rail Link (MOS-2)
- 24 Union County LRT
- 25 River Line to West Trenton
- 26 Phillipsburg Extension
- 27 NYS&W Line

 New Jersey Counties

 New York City

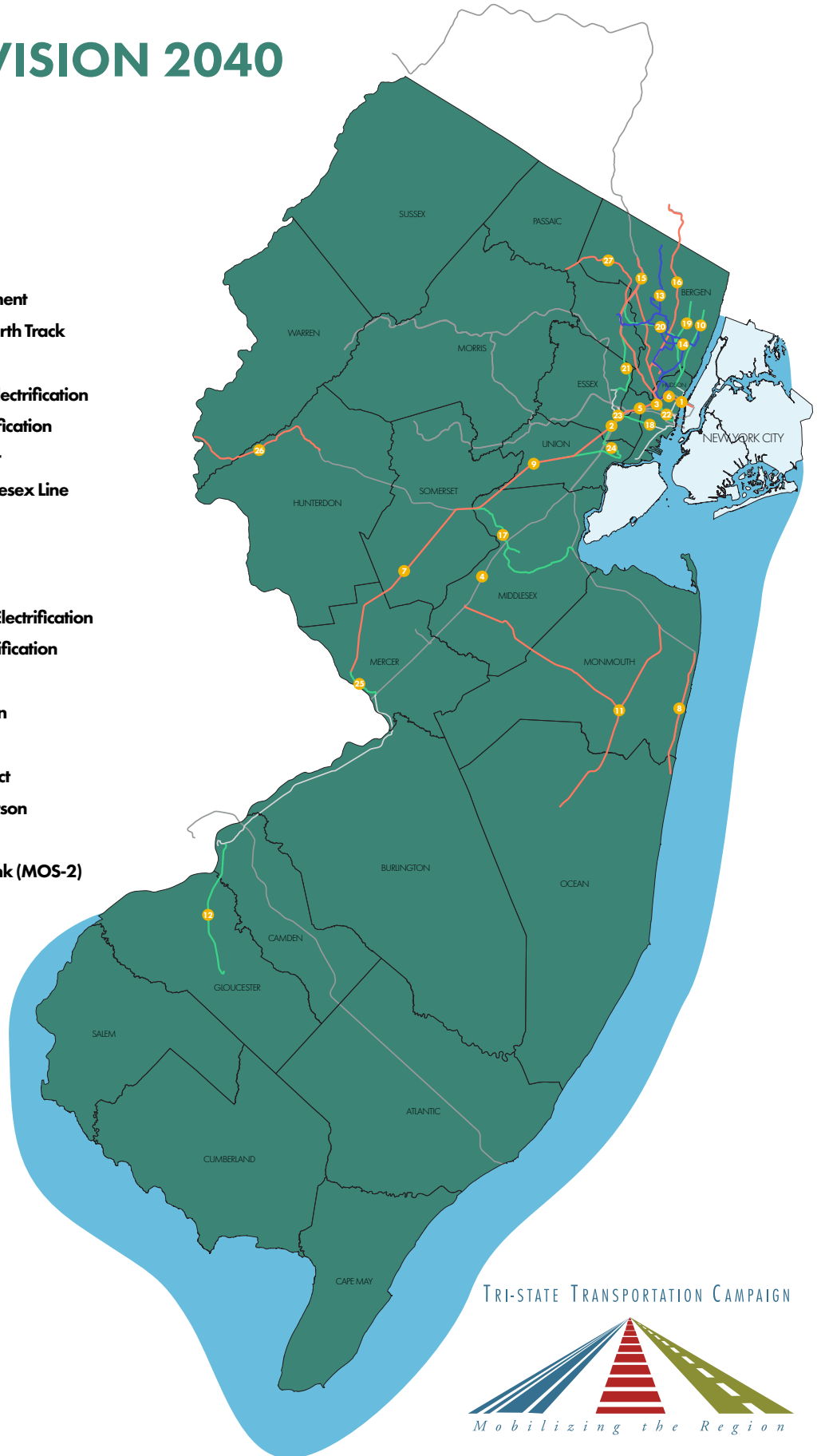
 Commuter Rail Project

 Light Rail Project

 Bus Rapid Transit Project

 Existing Commuter Rail

 Existing Light Rail



TRI-STATE TRANSPORTATION CAMPAIGN



	Project Name	Estimated Capital Cost	Estimated Job Creation
1	Hudson River Tunnels	\$7,250,000,000	360,325
2	Hunter Flyover	\$257,000,000	12,773
3	Secaucus Junction Loop	\$1,300,000,000	64,610
4	North Brunswick Loop	\$350,000,000	17,395
5	Highline Bridge Replacement	\$300,000,000	14,910
6	Newark-New York Fourth Track	\$1,350,000,000	67,095
7	West Trenton Line	\$400,000,000	19,880
8	North Jersey Coast Line Electrification	\$284,400,000	14,135
9	Raritan Valley Line Electrification	\$414,000,000	20,576
10	Northern Branch Corridor	\$1,300,000,000	64,610
11	Monmouth-Ocean-Middlesex Line	\$500,000,000	24,850
12	Glassboro-Camden Line	\$2,000,000,000	99,400
13	Bergen County BRT	\$162,000,000	8,051
14	Northern Bus Garage	TBD	TBD
15	Main/Bergen Line Electrification	\$630,000,000	31,311
16	Pascack Valley Line Electrification	\$468,000,000	23,260
17	New Brunswick Area LRT	\$959,500,000	47,687
18	HBLR Route 440 Extension	\$220,000,000	10,934
19	West Shore Line	\$1,200,000,000	59,640
20	Passaic-Bergen Rail Project	\$1,200,000,000	59,640
21	Newark Subway to Paterson	\$1,400,000,000	69,580
22	HBLR to Secaucus	\$520,000,000	25,844
23	Newark-Elizabeth Rail Link (MOS-2)	\$371,400,000	18,459
24	Union County LRT	\$718,000,000	35,685
25	River Line to West Trenton	\$658,000,000	32,703
26	Phillipsburg Extension	\$936,000,000	46,519
27	NYS&W Line	\$627,000,000	31,162

Total Cost	Total Jobs
\$25,775,300,000	1,281,034

PROJECTS

1. Hudson River Tunnels

Doubling rail capacity between New Jersey and New York City

- \$7.25 billion³
- 360,325 jobs

Part of Amtrak's Gateway Program, this pair of single track tunnels under the Hudson River would nearly double the rail capacity between New York and New Jersey. In addition, new tunnels would provide much needed redundancy, keeping service moving smoothly even if an existing tunnel is taken out of service for regular maintenance or because of an unexpected service disruption.

2. Hunter Flyover

Improving Northeast Corridor and Raritan Valley Line service

- \$257 million⁴
- 12,773 jobs

At Hunter Interlocking, the Raritan Valley Line joins the Northeast Corridor just west of Newark Penn Station. RVL trains headed east must cross 3-4 NEC main line tracks at grade to access the eastbound tracks at Newark Penn Station. With forty Newark-bound trains per day, RVL trains create conflicts on one of the busiest stretches of the entire NEC. RVL trains are often delayed as they wait for the trains to complete the crossing. Amtrak and NJ Transit plan to construct the Hunter Flyover to carry eastbound RVL trains over the NEC tracks to remove many directional conflicts and dramatically reduce delays for NJ Transit and Amtrak.

3. Secaucus Junction Loop

A one-seat ride for Bergen and Passaic counties

- \$1.3 billion⁵
- 64,610 jobs

Amtrak's Gateway Program includes Secaucus Loop (also known as Bergen Loop) by adding tracks connecting the Main Line and the Northeast Corridor at Secaucus, creating a true junction station. The loop will provide one-seat rail service between Bergen and Passaic counties, and New York City.

4. North Brunswick Loop

Improving Northeast Corridor service

- \$350 million⁶
- 17,395 jobs

The Northeast Corridor is the busiest line in the NJ Transit system. Almost half of the commuter trains on the line during peak hours begin or end at a large storage yard in North Brunswick. As trains leave the yard and enter the NEC main line toward New York, however, they must cross three tracks at grade and require long gaps in service to make this complex crossing which reduces capacity on the corridor and creates delay for NJ Transit and Amtrak trains. NJ Transit and Amtrak want to construct a grade-separated flyover that would carry NJ Transit trains over the NEC main line and a “loop” track that would connect the yard to the flyover and serve a new commuter station for North Brunswick. These investments would reduce delays for riders and support expansion of service to a new station.

5. Highline Bridge Replacement

Removing a capacity bottleneck on the Northeast Corridor

- \$300 million⁷
- 14,910 jobs

The “Highline” is the segment of the NEC that runs from Newark to the entrance of the Hudson River Tunnels. The Highline owes its name to the elevated embankment that carries the NEC tracks high above the wet marshes of the New Jersey Meadowlands. Currently consisting of just two tracks, the Highline forms part of the most significant capacity bottleneck on the NEC where four bridges carry it over streets and rail lines below. Over 100 years old, these bridges carry roughly 80% of the 500 daily trains in the area and are exhibiting fatigue and must be replaced. Plans call for replacing the existing two-track bridges with new four-track bridges, including the replacement of the unique “sawtooth” bridge that carries the NEC over the NJ Transit Morristown and PATH lines.

6. Newark to New York Fourth Track

Increasing capacity on the Northeast Corridor

- \$1.35 billion (adjusted for inflation)⁸
- 67,095 jobs

Amtrak envisions completing a full four-track railroad along the length of the Highline by constructing two new tracks from Newark to the Hudson River Tunnels. A continuous third and fourth track would be essential to unlocking the full capacity gains promised by larger projects, including a new Portal Bridge and new Hudson River Tunnels. This additional capacity would enable both Amtrak and NJ Transit to increase service and would greatly improve reliability by creating the flexibility to divert trains to alternative tracks when there are disruptions on the line.

7. West Trenton Line

Expanding commuter rail service to Somerset and Mercer counties

- \$400 million⁹
- 19,880 jobs

The project involves restoring commuter rail service on the CSX owned West Trenton Line, a 27-mile right-of-way running between the existing SEPTA West Trenton Station in Ewing and NJ Transit's Raritan Valley Line in Bridgewater, and providing a direct connection between West Trenton and Newark Penn.

8. North Jersey Coast Line Electrification

Improving speed and reliability

- \$284.4 million¹⁰
- 14,135 jobs

This project involves extending electrification 16 miles from Long Branch to Bay Head to provide more reliable and faster commuter rail service. The project should also examine the feasibility of reducing the number of grade crossings and retrofitting stations to accommodate high platform boarding.

9. Raritan Valley Line Electrification

Improving speed and reliability

- \$414 million^{ibid.}
- 20,576 jobs

This project would electrify 23 miles of the Raritan Valley Line between the Northeast Corridor and Bridgewater to provide more reliable and faster commuter rail service. The project should also examine the feasibility of retrofitting stations to accommodate high platform boarding. Once the West Trenton Line is restored and electrified, future rail service can be through-routed between Philadelphia and New York City, providing redundancy to the Northeast Corridor.

10. Northern Branch Corridor

Extending HBLR to Tenafly

- \$1.3 billion¹¹
- 64,610 jobs

The project is a planned extension of the Hudson-Bergen Light Rail (HBLR) from its northern terminus into eastern Bergen County, initially proposed in 2001. When built, the service will use the right-of-way of the Northern Branch on which the Erie Lackawanna Railroad ran passenger service until October 1966, and is currently a lightly-used, stub-ended freight rail line owned by CSX Transportation.

11. Monmouth-Ocean-Middlesex Line

Expanding commuter rail service to Monmouth, Ocean and Middlesex counties

- \$500 million^{ibid.}
- 24,850 jobs

The project involves extending NJ Transit commuter rail service to serve the Central New Jersey counties of Monmouth, Ocean and Middlesex. The line would originate/ terminate around Lakehurst at its southern end. It would connect with the Northeast Corridor Line and/or North Jersey Coast Line to provide service north to Newark Penn Station, with potential connecting or continuing service to Hoboken Terminal or New York Penn Station.

12. Glassboro-Camden Line

Light rail service for Camden and Gloucester counties

- \$2 billion¹²
- 99,400 jobs

The Glassboro-Camden Line is an 18-mile diesel multiple unit (DMU) light rail system planned for the southwestern part of New Jersey. At its northern end in Camden it will connect with the River Line with which its infrastructure and vehicles will be compatible. At the northern terminus, the Walter Rand Transportation Center, paid transfers will be possible to the PATCO Speedline. The route will generally follow the right-of-way of Conrail's Vineland Secondary freight line which continues beyond the light rail terminus in Glassboro. The project, partially funded by The South Jersey Transportation Authority, is part of a greater plan to expand public transportation in the Delaware Valley metro area.

13. Bergen County Bus Rapid Transit

New BRT service

- \$162 million¹³
- 8,051 jobs

The proposed BRT network was designed to complement, but not duplicate, the well-used commuter rail and other transit services in Bergen County and surrounding areas. The recommended BRT network will feature four corridors that will fill important gaps in the transit network by offering fast and dependable service to many of the important trip generators in Bergen County and nearby cities, towns, and activity centers.

14. Northern Bus Garage

Increasing NJ Transit bus fleet capacity

- \$ TBD
- Job creation TBD

NJ Transit requires property to construct a new bus garage with capacity of up to 500 new 45-foot buses for NJ Transit's Northern Division, alleviate overcrowding in existing garages, allow for future growth, and accommodate modernization of the bus fleet. NJ Transit's bus garages in Northern New Jersey are currently operating at 128% of their design capacity. In March 2020, the NJ Transit Board of Directors approved a plan to acquire four parcels of abandoned and for-sale property in Ridgefield Park for the construction of the new bus garage.

15. Bergen County & Main Line Electrification

Improving speed and reliability

- \$630 million¹⁴
- 31,311 jobs

This project involves electrifying 35 miles of track between Waldwick and Secaucus Junction to provide more reliable and faster commuter rail service. The project should also examine the feasibility of reducing the number of grade crossings and retrofitting stations to accommodate high platform boarding.

16. Pascack Valley Line Electrification

Improving speed and reliability

- \$468 million^{ibid.}
- 23,260 jobs

The project involves electrifying 26 miles of track between Spring Valley, NY and Secaucus Junction to provide more reliable and faster commuter rail service. The project should also examine the feasibility of reducing the number of grade crossings and retrofitting stations to accommodate high platform boarding.

17. New Brunswick Area LRT

Light rail service in Middlesex County

- \$1.1 billion¹⁵
- 54,670 jobs

Variations of this project have been studied for decades. In February 2016, legislation was in the works to allocate \$10 million toward the planning phase of the project. The latest proposal calls for a light rail hugging Route 18, starting at Interstate 287 in South Plainfield and snaking through Piscataway, New Brunswick, and East Brunswick. The last serious pause given to the proposal was the Greater New Brunswick Area Corridor Study, a \$200,000 study published in 2001. The total cost of the project will depend on the final alignment. A full buildout of the route could potentially provide a cross-county light rail connection from the Bound Brook Station on the Raritan Valley Line, through Piscataway and downtown New Brunswick, then follow the Raritan River Rail Road right-of-way (currently owned by Conrail) through Sayreville and terminate at the South Amboy Station on the North Jersey Coast Line.

18. HBLR Route 440 Extension

Extending HBLR to Hackensack waterfront development in Jersey City

- \$220 million¹⁶
- 10,934 jobs

This project will extend the HBLR West Side Avenue Branch from its current terminus at West Side Avenue to a new terminus across Route 440. The approximately 0.7 mile extension will include one new station west of Route 440 to support Jersey City's planned development on the Hackensack waterfront. The project is currently in the preliminary engineering phase. In the future, the line could potentially be extended further west along the former Newark and New York Railroad right-of-way to Kearny Point and Newark Penn Station, though this has not been officially studied.

19. West Shore Line

Light rail service in Bergen County

- \$1.4 billion¹⁷
- 69,580 jobs

Reactivating 30 miles of the West Shore Line for passenger service has previously been studied by NJ Transit for a new commuter rail line. In that study, the rail line would start in West Nyack, NY and traverse new tracks through the Meadowlands to Secaucus Junction and terminate at Hoboken Terminal. However, if the Northern Branch is reactivated for HBLR service, 10 miles of the West Shore Line could potentially be used as another branch of HBLR service that terminates as far north as Dumont, NJ and would not require building a new right-of-way through the Meadowlands.

20. Passaic-Bergen Rail Project

Light rail service for Passaic and Bergen counties

- \$1.4 billion^{ibid.}
- 69,580 jobs

The Passaic-Bergen Passenger Rail Project is a project by NJ Transit to reintroduce passenger service on a portion of the NYS&W right-of-way in Passaic and Bergen counties. Initial plans called for commuter rail service to run 10 miles from Hawthorne south to Paterson and, then east to Hackensack. However, if the Northern Branch and West Shore Line are reactivated for HBLR service, this line could potentially become another branch of HBLR service, creating a more extensive light rail network.

21. Newark Subway to Paterson

Extending light rail service from Newark to Paterson

- \$1.54 billion^{ibid.}
- 76,538 jobs

This project has been discussed for decades and was more recently included in the Regional Plan Association's Fourth Regional Plan. A new light rail service would utilize the dormant Erie Railroad Main Line right-of-way, providing Clifton, Nutley, and Belleville with direct connections to Paterson and Newark Penn Station.

22. HBLR to Secaucus

Extending HBLR service to Secaucus Junction via Bergen Arches

- \$588 million^{ibid.}
- 29,224 jobs

The Bergen Arches is an abandoned right-of-way through Bergen Hill in Jersey City. Various projects have been proposed for the abandoned track bed including a 4.2 mile extension of the Hudson-Bergen Light Rail, which would connect downtown Jersey City with a regional rail transfer station at Secaucus Junction.

23. Newark-Elizabeth Rail Link (MOS-2)

Light rail service between Newark Penn Station and Newark Airport

- \$420 million^{ibid.}
- 20,874 jobs

The Newark-Elizabeth Rail Link is a NJ Transit proposed 8.8 mile-long light rail, which would connect the downtown areas of Newark and Elizabeth with Newark Airport. The construction of the project was being planned in stages, or "minimal operable segments" (MOS). The first minimum operable segment (MOS-1) opened to the public on July 17, 2006, as the Newark Light Rail Broad Street Line, connecting Broad Street Station and Newark Penn Station. The second segment (MOS-2) would connect Penn Station with the airport 3 miles away, while the third segment became known as the Union County Light Rail. NJ Transit cited the project in its 2016 Capital Improvement Program without any specific allocation.

24. Union County LRT

Light rail service between Elizabeth and Newark Airport

- \$812 million^{ibid.}
- 40,356 jobs

The Union County Light Rail is a proposed light rail system connecting Newark Airport to Midtown Elizabeth. It would have eight or nine stations in Elizabeth, one at Newark Airport and possible future stations in other towns. The line connecting Midtown (Broad Street) Station and Newark Airport would be 5.8 miles and be built on former Conrail lines, now under ownership of NJDOT, traversing Elizabeth from east to west. Further extension along the right-of-way westward to Cranford or points further west on the Raritan Valley Line was also forwarded by citizen groups. In 2006, NJ Transit removed the project from its list of candidate projects in its Capital Improvement Program, effectively ending the project.

25. River Line to West Trenton

Extending light rail service to West Trenton Station

- \$658 million^{ibid.}
- 32,703 jobs

NJ Transit has proposed several possible extensions and stations to the River Line, either as parts of the initial construction plan which were deferred, or as potential future projects. One extension would take the River Line beyond the State House through Trenton to West Trenton Station in Ewing, connecting with SEPTA's West Trenton Line service to Philadelphia. NJ Transit listed this extension on its 2020 Transit wish list, but has not taken further action.

26. Phillipsburg Extension

Extending Raritan Valley Line to Phillipsburg

- \$936 million¹⁸
- 46,519 jobs

Service beyond High Bridge to Phillipsburg Union Station was discontinued in December 1983 because of low ridership. Since 1984, there have been repeated calls for resumption of service to Phillipsburg to relieve traffic congestion on the parallel Interstate 78 and Route 22. NJ Transit has been responsive to the idea and initiated an environmental impact statement for the project.

27. New York, Susquehanna & Western Line

Expanding commuter rail service in Bergen and Passaic counties

- \$627 million^{ibid.}
- 31,162 jobs

This project involves reactivating passenger rail service on the NYS&W Line between Pompton Junction and Hawthorne, where it will connect to NJ Transit's Main Line. The project should examine the feasibility of electrifying the line, reducing the number of grade crossings, and retrofitting stations to accommodate high platform boarding.

METHODOLOGY

Public dollars devoted to making capital improvements to public transportation systems support thousands of manufacturing jobs, in communities small and large, in nearly every state across the country. The supply chain for public transportation touches every corner of the country and employs thousands of Americans who produce tracks, seats, windows, communications, equipment, wheels, and everything else in between.

A new analysis by the American Public Transportation Association found that approximately 49,700 jobs are created for every \$1 billion invested in public transportation.¹⁹ TSTC calculated the total number of jobs each project would support by multiplying the estimated project cost by the ratio provided by APTA's analysis.

For projects in this document that do not yet have an official cost estimate, TSTC created an estimate by using the cost of comparable projects. The cost of electrification projects were calculated by using the \$18 million per mile cost established by the Long Island Rail Road.²⁰ The cost of light rail projects were calculated by using the official cost of the Northern Branch Corridor project and dividing by the number of project miles, for an average of \$123.8 million per mile of new light rail construction. The cost of commuter rail projects were calculated by using the \$46.8 million per mile cost established by the Lehigh Valley Planning Commission.²¹

Outdated cost estimates of projects were adjusted for inflation.

SOURCES

¹ Schneider, Benjamin. "CityLab University: Induced Demand." *CityLab*, Bloomberg L.P., 6 September 2018, <https://www.citylab.com/transportation/2018/09/citylab-university-induced-demand/569455/>

² "Recent Lessons from the Stimulus: Transportation Funding and Job Creation." *Smart Growth America*, February 2011, <https://smartgrowthamerica.org/app/legacy/documents/lessons-from-the-stimulus.pdf>

³ Penner, Larry. "Regional Transportation Projects Need One Elusive Thing -- Funding." *NorthJersey.com*. 21 February 2018, northjersey.com/story/opinion/contributors/2018/02/21/amtrak-mta-njtransit-regional-transportation-projects-need-one-elusive-thing-funding/360110002

⁴ Hunter Flyover. *Northeast Corridor Commission*. nec-commission.com/project/hunter-flyover/

⁵ Berger, Paul. "Hudson Rail Project to Cost \$23.9B, Take 15 Years to Finish." *NorthJersey.com*. 29 January 2016, northjersey.com/story/news/2016/01/29/hudson-rail-project-to-cost-239b-take-15-years-to-finish/94445096/

⁶ Mid-Line Loop. *Northeast Corridor Commission*. nec-commission.com/project/mid-line-loop/

⁷ Gateway: Highline Renewal and State of Good Repair. *Northeast Corridor Commission*. nec-commission.com/project/gateway-component-highline-renewal-and-state-of-good-repair/

⁸ "NEC Infrastructure Projects of Relevance to New Jersey." *NJ-ARP*. nj-arp.org/assets/nec%20infrastructure%20projects%20of%20relevance%20to%20nj.pdf

⁹ Penner, Larry. "Regional Transportation Projects Need One Elusive Thing -- Funding." *NorthJersey.com*. 21 February 2018, northjersey.com/story/opinion/contributors/2018/02/21/amtrak-mta-njtransit-regional-transportation-projects-need-one-elusive-thing-funding/360110002

¹⁰ Cost estimate of electrification projects. *Tri-State Transportation Campaign*. April 2020.

¹¹ Penner, Larry. "Regional Transportation Projects Need One Elusive Thing -- Funding." *NorthJersey.com*. 21 February 2018, northjersey.com/story/opinion/contributors/2018/02/21/amtrak-mta-njtransit-regional-transportation-projects-need-one-elusive-thing-funding/360110002

¹² Duhart, Bill. "Camden-Gloucester Light Rail Line Could Start Construction in 'a Couple of Years,' Sweeney Says." *NJ.com*. 24 September 2019, nj.com/bergen/2019/09/camden-gloucester-light-rail-line-could-start-construction-in-a-couple-of-years-sweeney-said.html

¹³ Bergen County Bus Rapid Transit Study. *New Jersey Transit*. January 2016, njtransit.com/pdf/bergencounty_brt_implementation_study.pdf

¹⁴ Cost estimate of electrification projects. *Tri-State Transportation Campaign*. April 2020.

¹⁵ Cost estimate of light rail projects. *Tri-State Transportation Campaign*. April 2020.

¹⁶ “Governor Murphy and Hudson County Officials Celebrate Early Construction on Hudson-Bergen Light Rail Extension.” *NJ.gov*. 3 March 2020, nj.gov/governor/news/news/562020/202000303a.shtml

¹⁷ Cost estimate of light rail projects. *Tri-State Transportation Campaign*. April 2020.

¹⁸ Cost estimate of commuter rail projects. *Tri-State Transportation Campaign*. April 2020.

¹⁹ “Economic Impact of Public Transportation Investment: 2020 Update.” *American Public Transportation Association*. February 2020, apta.com/wp-content/uploads/apta-econ-impact-transit-investment-2020-es.pdf

²⁰ “LIRR to Power up a Seldom-Used Rail Link to Alleviate Service Disruptions.” *Newsday*. 26 September 2018, newsday.com/long-island/transportation/ronkonkoma-electrify-lirr-capital-program-1.21269955

²¹ “Central New Jersey Raritan Valley Transit Study.” *Lehigh Valley Planning Commission*. March 2010, lvpc.org/pdf/centralnj-raritanvalleytransitstudy-pacomponent.pdf

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