

Chapter 10. Expected Financial Plan

Introduction

eNEO 2050 identifies and prioritizes projects and strategies to maintain, enhance, and expand the region's multimodal transportation network through the year 2050. The purpose of the financial plan is to demonstrate that eNEO2050 is implementable and fiscally constrained. This means projects and strategies contained in the transportation plan (the Final Plan, or Plan) cannot exceed the amount of funding "reasonably expected to be available" during the life of the plan. The Plan will identify all necessary financial resources reasonably expected to be available to carry out the projects and strategies.

The Plan may also include visionary, or illustrative, projects that are cost prohibitive for adoption in the Plan but are critical to achieve the Plan's vision. These projects may advance if funding becomes available and if the projects align with NOACA planning requirements during the life of the Plan.

The financial plan consists of the following key components:

- Primary Transportation Revenue Sources
- Forecasted Revenue Scenarios
- Cost Assumptions
- Forecasted Projects

The financial plan also includes an evaluation and recommendation of financing strategies to fund additional or illustrative projects and programs. In the case of new funding sources, NOACA staff will identify strategies to ensure their availability.

Primary Transportation Revenue Sources

Federal, state, and local generated revenue sources make up the majority of funding to support transportation system projects in the Plan. On the federal level, the current Fixing America's Surface Transportation Act (FAST Act) transportation authorization bill apportions funding to the state from the Highway Trust Fund (HTF), which consists primarily of federal motor fuel tax revenues (currently 18.4¢ per gallon). Transfers from the general fund and the Leaking Underground Storage Tank Trust Fund supplement the HTF to keep it solvent.¹

The FAST Act was signed into law on December 4, 2015, and expired on September 30, 2020. A Continuing Resolution was approved, which extended FAST Act funding authorizations for a period of one year, through September 30, 2021.

The FAST Act authorized \$305 billion nationwide over fiscal years 2016 through 2020 for highway and public transportation investments. The FAST Act provided more funding than the previous Moving Ahead for Progress in the 21st Century (MAP-21) reauthorization bill did, with an annual average increase of 2% for highway spending and 1% for public transportation spending.²

On the state level, revenues generated through the motor fuel tax (MFT) (currently 38.5¢ per gallon) are collected and distributed by law to state and local governments for transportation-related investments. In 2019, the State of Ohio passed legislation to increase taxes and fees associated with gasoline, diesel, and alternate fuels to provide additional funding for transportation projects:

¹ The Leaking Underground Storage Tank Trust Fund is a separate trust fund set up for certain environmental cleanup purposes, which is financed with a small portion of motor fuel taxes.

² U.S. Department of Transportation, Federal Highway Administration, *Fixing America's Surface Transportation Act or (FAST Act) A Summary of Highway Provisions* (Washington, D.C.: Office of Policy and Governmental Affairs, July 2016); https://www.fhwa.dot.gov/fastact/fastact_summary.pdf.

- Gasoline fuel tax increased from 28¢ per gallon to 38.5¢ per gallon
- Diesel fuel tax increased from 28¢ per gallon to 47¢ per gallon
- New fully electric vehicle (EV) annual vehicle registration fee of \$200
- New electric/gasoline hybrid annual vehicle registration fee of \$100

Table 10-1 contains a breakdown of the MFT by enabling legislation in the Ohio Revised Code (ORC) and the associated distribution at the state, municipal, county, and township level. Also included is the set-aside for the Local Transportation Improvement Program (LTIP) administered by the Ohio Public Works Commission.

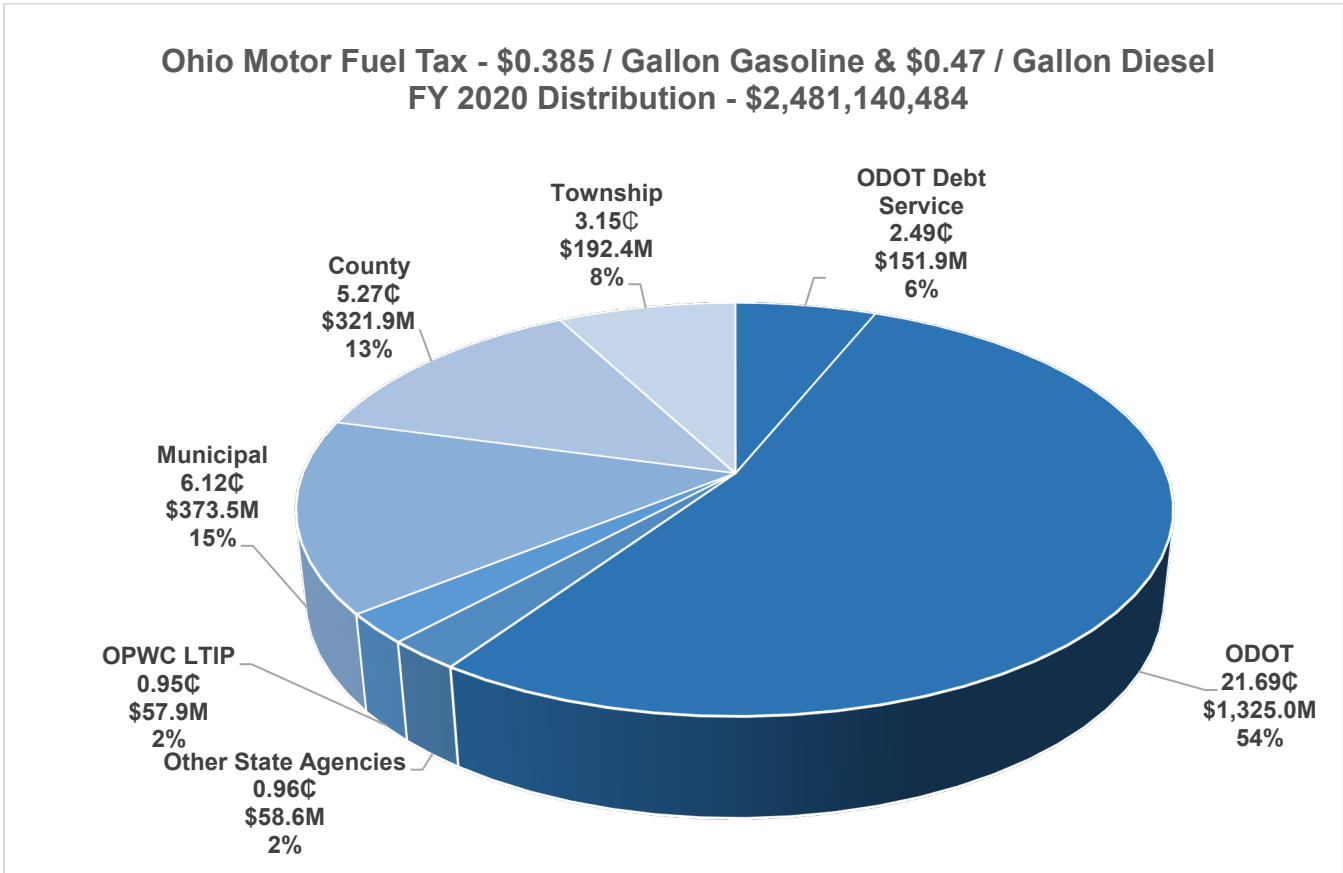
Table 10-1. Motor Fuel Tax Legislative Distribution³

ORC Section	¢ Per Gallon	State	Municipal	County	Township	OPWC LTIP
5735.051(A) 5735.051(A)(1) 5728.06(B) 5735.051(A)(2)	0.9	0.9 (100%)	-	-	-	-
5735.051(A) 5735.051(A)(2)(a)(i)	1.0	-	-	-	-	1.0 (100%)
5735.051(A) 5735.051(A)(2)(a)(iii)	14.0	10.5 (75%)	1.5 (10.7%)	1.3 (9.3%)	0.7 (5%)	-
5735.051(A) 5735.051(A)(2)(b)	1.1	-	0.47 (42.9%)	0.41 (37.1%)	0.22 (20%)	-
5735.051(B)	2.0	1.35 (67.5%)	0.28 (13.9%)	0.24 (12.1%)	0.13 (6.5%)	-
5735.051(C)	8.0	6.5 (81.3%)	0.64 (8.0%)	0.56 (7.0%)	0.3 (3.8%)	-
5735.051(D)	1.0	1.0 (100.0%)	-	-	-	-
5735.051(E)	10.5	5.7 (55.0%)	3.7 (19.3%)	3.2 (16.7%)	1.7 (9.0%)	-
Gasoline Total	38.5	25.95 (67.4%)	4.89 (12.7%)	4.31 (11.2%)	2.35 (6.1%)	1.0 (2.6%)
5735.051(E)	47.0	30.65 (65.2%)	6.59 (14.0%)	5.71 (12.2%)	3.05 (6.5%)	1.0 (2.1%)
Diesel Total	47.0	30.65 (65.2%)	6.59 (14.0%)	5.71 (12.2%)	3.05 (6.5%)	1.0 (2.1%)

³ Ohio Department of Transportation (ODOT), *Division of Finance Financial and Statistical Report (SFY 2020)*, Transportation Funding Sources, (Columbus, Ohio: October, 2020), 4; <https://www.dot.state.oh.us/Divisions/Finance/Annual%20Reports/2020%20Annual%20Statement.pdf> (accessed October 2020).

At current consumption rates, each 1.00¢ of the state MFT generates approximately \$61 million of funding for transportation system maintenance and operation. As illustrated in Figure 10-1, the Ohio Department of Transportation (ODOT) receives a majority of the funding generated through the state MFT tax (gasoline/diesel) at 24.18¢ (61%), while municipalities receive 6.12¢ (15%), counties receive 5.27¢ (13%), townships receive 3.15¢ (8%), and the Ohio Public Works Commission (OPWC) receives 0.95¢ (2%) for its LTIP.

Figure 10-1. FY 2020 Ohio Motor Fuel Tax Distribution⁴



Source: ODOT

Annual registration fees for fully electric and hybrid vehicles (\$200 and \$100 per vehicle, respectively) are distributed based on the same percentage rates as the state MFT tax. These fees allow for estimated funding to remain constant through the life of the plan as the expected increase in shift from gasoline to alternate fuel vehicles occurs.

Other local sources include the State Motor Vehicle License Tax, collected through the vehicle registration fee, and other local taxes often committed as matching funds to federal or state-funded projects in the Plan and Transportation Improvement Program (TIP).

Subsequent sections of this chapter describe all federal, state, and local funds that are reasonably expected to become available for transportation projects by highway/nonmotorized and transit funding categories.

⁴ Ibid.

Highway and Nonmotorized Project Funding Sources

Funds are made available through various federal, state, and local sources for highway and nonmotorized projects. Federal Highway Administration (FHWA) programs provide the federal funds. ODOT and NOACA administer the funding programs. State and local funds derive primarily through taxes and fees associated with gasoline and motor vehicle registration taxes, which ODOT and local governments administer.

Federal Sourced

The FAST Act apportions funding for highway and nonmotorized transportation projects through six core programs (see Figure 10-2). Each program has a specific purpose to achieve specific goals.

Figure 10-2. FHWA Core Funding Programs



National Highway Performance Program (NHPP)

This program provides support for the condition and performance of the National Highway System (NHS) and for the construction of new facilities on the NHS, and ensures that investments of federal-aid funds in highway construction support progress toward the achievement of performance targets established in a state's asset management plan for the NHS. ODOT administers funds apportioned directly to Ohio.

Surface Transportation Block Grant Program (STBG)

The Surface Transportation Block Grant Program (STBG) provides flexible funding to states and localities to support projects that preserve and improve the conditions and performance on any federal-aid highway, bridge, and tunnel on any public road; pedestrian and bicycle infrastructure; and transit capital projects, including intercity bus terminals. ODOT-controlled STBG funding is primarily for the preservation of state-maintained roadways and state and U.S. routes within municipalities.

NOACA receives its STBG funding allocation by federal formula distribution to MPOs of regions with a population greater than 200,000. In addition, ODOT suballocates a portion of state-controlled STBG funding to all Ohio MPOs at its discretion. NOACA STBG funds primarily prioritize projects that support transportation asset management planning to preserve and enhance the operation and performance of federal-aid highways and regional transit systems. These funds are eligible for construction of bridge, pedestrian, and bicycle infrastructure; and transit capital projects. The NOACA Board of Directors also currently sets aside \$2 million of STBG funds annually for the Transportation for Livable Communities Initiative (TLCI) program. The TLCI program supports transportation studies and implementation projects that focus on enhanced livability.

STBG Set-Aside: Transportation Alternative Program (TAP). NOACA still refers to STBG Set-Aside funds as TAP funds. The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities; infrastructure projects to improve nondriver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects to plan, design, or construct boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.

STBG Set-Aside: TAP Recreational Trails Program (RTP). The RTP provides federal funds to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized uses. Federal transportation funds benefit recreation, including hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, and other off-

road motorized vehicle use. RTP receives a set-aside of funds from the STBG set-aside for the TAP program. The amount set aside is equal to the State's FY 2009 RTP apportionment. Ohio Department of Natural Resources (ODNR) manages the RTP in Ohio.

Highway Safety Improvement Program (HSIP)

The purpose of the HSIP program is to achieve a significant reduction in motor vehicle crashes that result in fatalities and serious injuries on all public roads, including non-state-maintained public roads. The HSIP requires a data-driven, strategic approach that focuses on performance to improve highway safety on all public roads. ODOT and the County Engineers Association of Ohio (CEAO) administer HSIP program funds.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

CMAQ provides flexible funding to the state for transportation projects and programs to help meet the requirements of the Clean Air Act. Funds must be expended in areas that are in non-attainment or maintenance of National Ambient Air Quality Standards (NAAQS). ODOT administers funds apportioned directly to Ohio.

ODOT retains CMAQ funds to fund eligible highway projects, programs that assist transit agencies with capital projects, and a Diesel Emissions Reduction Grant (DERG) program administered in partnership with Ohio EPA.

ODOT suballocates approximately 70% of the state's CMAQ apportionment to the eight large MPOs in Ohio, including NOACA, that contain NAAQS maintenance or non-attainment areas. These funds help MPOs implement programs and projects that improve air quality. This is the Statewide CMAQ Program. Under this program, the eight large MPOs collectively establish, prioritize, and manage annual programs of CMAQ projects. In the NOACA region, these funds commonly support air quality planning, transit vehicle replacements, bicycle facilities, intelligent transportation system improvement, traffic signal upgrades and operations, transit center improvements, and park-and-ride lot construction. It is important to note that CMAQ funds cannot be used for general roadway or bridge maintenance projects.

Based on historic NOACA project allocations, the Plan assumes 50% of NOACA CMAQ funding for transit, 25% for nonmotorized modes, and 25% for roadway operational improvements.

Rail Highway Crossings Program

The Railway-Highway Crossings program provides funds for safety improvements to reduce the number of crashes that result in fatalities and injuries at public railway-highway grade crossings. ODOT administers funds apportioned directly to Ohio.

National Highway Freight Program

The FAST Act established a new National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and to support several goals, including:

- Invest in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity;
- Improve the safety, security, efficiency, and resiliency of freight transportation;
- Improve the state of good repair of the NHFN;
- Use innovation and advanced technology to improve NHFN safety, efficiency, and reliability;
- Improve the efficiency and productivity of the NHFN;
- Improve flexibility to support planning and address highway freight connectivity; and
- Reduce the environmental impacts of freight movement on the NHFN.

NHFP funds must contribute to the efficient movement of freight on the NHFN, identified in a freight investment plan included in the State's freight plan. ODOT administers funds apportioned directly to Ohio.

State Sourced

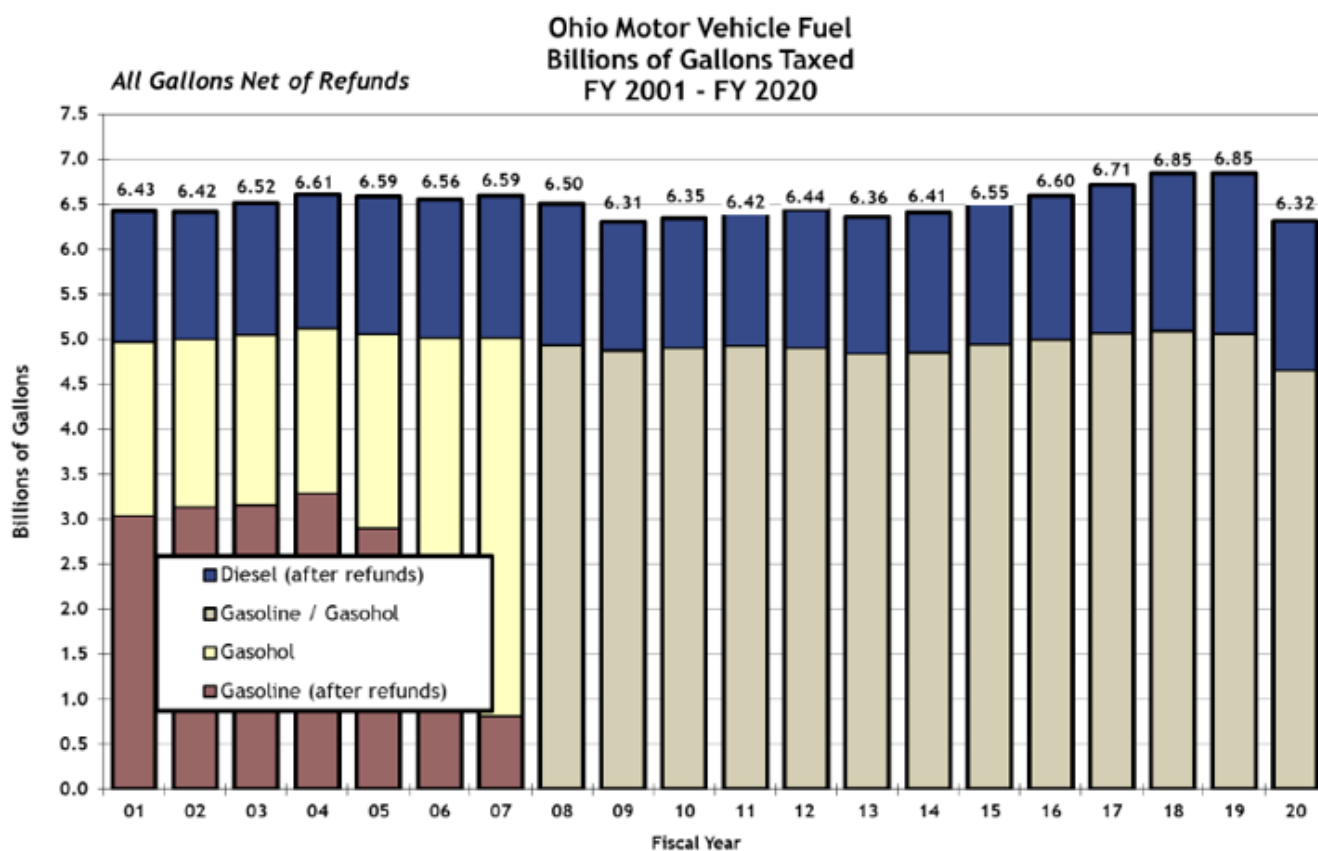
Motor Fuel Tax (MFT)

The state MFT generates the primary source of state funding. In 2020, the state MFT generated \$1.8 billion, of which \$1.125 billion went to ODOT and \$0.675 billion went to local governments for transportation projects. ODOT primarily uses state MFT funding to match federal funding, pay down debt service, and fund major new and safety project investments as well as non-federal-aid-eligible project activities.

As noted previously, local governments receive approximately 37% of the state MFT. Funds are collected and distributed at the state level. All 88 counties and all townships receive equal state MFT distribution. Motor vehicle license registrations determine the municipal share. In addition, the Ohio Public Works Commission receives one cent per gallon of the state MFT for its Local Transportation Improvement Program, highlighted below under the OPWC section.

State MFT is projected to increase through the 2050 planning horizon, due to a modeled 1% year over year increase in vehicle miles traveled (VMT). VMT increases mean more gallons of gas consumed and taxed. As a result, ODOT estimates a 1% growth in funding for those years. Figure 10-3 illustrates the historic gallons of fuel taxed through 2020. The lower levels of consumption in 2020 were attributable to the COVID-19 pandemic.

Figure 10-3. Ohio Motor Fuel Tax Historic Gallons Taxed⁵



Note 1: For FY08 and forward, detailed gasohol information is not available. Gasoline and gasohol are combined.

⁵ Ibid., 5.

Ohio Public Works Commission (OPWC)

The OPWC provides financing for local road and bridge projects through both the State Capital Improvement Program (SCIP) and the LTIP. Geographic districts across the state receive OPWC fund allocations. The NOACA region comprises all of OPWC District 1 and portions of Districts 7 and 9. Historically, NOACA counties in Districts 7 and 9 (name the counties) have made up 87% share of the funding in those districts. Therefore, the assumption is that 100% of District 1 funds and 87% of Districts 7 and 9 funds will be available for road and bridge projects contained within the Plan.

The SCIP is a grant/loan program for roads, bridges, and water-based infrastructure. The SCIP uses state general revenues as debt support to issue general obligation bonds up to \$151 million statewide for grants. The Plan assumes that 50% of SCIP grant funds will be spent on road and bridge projects versus water-based infrastructure.

The LTIP is a grant program for roads and bridges only. The Ohio State legislature created the LTIP in 1989 and, as previously mentioned, provides the equivalent of one cent per gallon in gasoline tax receipts annually (currently approximately \$60 million statewide).

State Motor Vehicle License and Permissive Taxes

The Ohio Bureau of Motor Vehicles (Ohio BMV) is responsible for the collection and distribution of taxes from the sale of license plates (collected at the point of sale). Ohio BMV allocates funding from the motor vehicle license tax directly to political subdivisions as follows:

- 34% distributed at the district level (this includes municipal and township registration)
- 47% distributed to the county in which the resident resides
- 9% distributed to counties by road mileage
- 5% distributed to townships by road mileage
- 5% distributed equally among the counties

Permissive license tax fees are also available in each county and taxing district. Permissive license tax is an optional tax levied by counties or taxing districts on vehicle registrations. The Plan incorporates permissive taxes levied by taxing districts into its revenue assumptions.

The federal-aid system represents 26% of the total roadway miles in the region, while 74% are local roads. Therefore, for the purposes of the Plan, only 26% of the total revenue generated from this source will be available for projects on the federal-aid system, and 74% will be available for local roads also maintained by taxing districts.

Ohio Department of Natural Resources (ODNR): Clean Ohio Trail Program

The Clean Ohio Trails Fund supports trail-related projects, including land acquisition for a trail, trail development, trailhead facilities, and engineering. ODOT administers and distributes federal and state highway and nonmotorized project funding through a variety of programs that target specific needs and geographies.

Appendix 10-1 describes state-developed programs (available for the NOACA region) through which ODOT allocates federal funds to highway and nonmotorized projects.

NOACA administers approximately \$50 million of federal-aid funding each year. In addition to revenue sources from ODOT and FHWA, NOACA can influence local investments used to match federal funds and state funds through its project selections.

The NOACA-administered funding sources used for highway and nonmotorized projects include:

- NOACA CMAQ - Federal
- NOACA STBG - Federal
- NOACA STBG set-aside for Transportation Alternatives

Transit Project Funding Sources

Transit is an important aspect of the transportation network, and mobility choices are vital to the health and vibrancy of a region. Public transit options reduce congestion, personal transportation costs, and carbon output. Public transit is not just a form of alternative transportation, but provides options for lower-income households, the elderly, and people with disabilities. Public transit provides access to health care, entertainment, and educational facilities, among other daily activities and destinations.

The NOACA region is home to five individually operated transit agencies for each county service area:

- Greater Cleveland Regional Transit Authority (GCRTA) – Cuyahoga County
- Laketrans – Lake County
- Lorain County Transit (LCT)
- Medina County Public Transit (MCPT)
- Geauga County Transit (GCT)

The region receives transit funding from several Federal Transit Administration (FTA) programs, the state's General Revenue Fund (GRF) allocation (beginning in 2020), NOACA-administrated funding programs, and local funding sources.

Federal Sourced

Section 5307 Urbanized Area Formula

Section 5307 program funds make up about 45% of available federal funds. In Ohio urbanized areas with a population of 200,000 and more, transit agencies that apply for these funds receive them directly from the apportioned amount. In the NOACA region such agencies include the Greater Cleveland Regional Transit Authority (GCRTA), Laketrans, Lorain County Transit (LCT), and Medina County Public Transit (MCPT). For urbanized areas under 200,000 in population, the governor distributes the apportioned funds. In the NOACA region, this includes only Geauga County Transit (GCT).

Transit agencies can spend Section 5307 resources on capital projects, planning, and preventative maintenance, but not service operations (in most cases). Some exceptions are available for urban areas with a population of less than 200,000; these agencies may use Section 5307 funds for operating assistance, and in limited cases, urban areas with populations of 200,000 or more may use Section 5307 funds for operations if they operate 100 or fewer vehicles during peak periods.

Section 5311 Non-Urbanized (Rural) Area Formula

The Section 5311 program makes up about 9% of available federal funds. The program provides funding for rural transit capital, operating, and planning activities. ODOT receives Section 5311 funds and then allocates them to rural transit operators. ODOT sets aside a small portion of the program funds for formula allocation to intercity bus services and the Appalachian Development program.

Section 5310 Enhanced Mobility for Older Adults and People with Disabilities

Roughly 2% of available federal program funds are for use in urban (80%) and rural areas (20%) to support services for older adults and people with disabilities. Capital projects planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities must receive at least 55%. Up to 45% of Section 5310 funds may go to operating assistance. Program administration and technical assistance are also eligible. NOACA serves as direct recipient for the 5310 program funds for the urbanized area. ODOT serves as direct recipient for the rural areas of the region.

Section 5337 State of Good Repair

Section 5337 program funds make up roughly 20% of available federal funds. The 5337 program was new under the Moving Ahead for Progress in the 21st Century Act (MAP-21) reauthorization bill and supports existing fixed guideway (rail, streetcar, and BRT) services in operation for at least seven years. It replaces the former Section 5309 Fixed Guideway Modernization Program. GCRTA is the only transit agency in the NOACA region with existing fixed guideway that meets the program requirements.

Section 5339 Bus and Bus Facilities

The Section 5339 program funds make up roughly 4% of available federal funds and replace the former discretionary Section 5309 Bus and Bus Facilities program. Funding is available for capital purposes, including preventive maintenance; operating assistance is not an eligible expense.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

As previously mentioned, CMAQ provides flexible funding to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Based on historic NOACA project allocation, the Plan assumes 50% of CMAQ for transit, 25% for bicycle and pedestrian, and 25% for roadway operational improvements.

Ohio Public Transportation Grant Program (OPTGP)

Supported by CMAQ and STBG through ODOT, the Urban Transit Program encompasses funding administered by ODOT for transit service in Ohio's urbanized areas with populations of 50,000 or greater. The program goals are to facilitate the most efficient and effective use of both federal and state funds in the provision of transportation services. The small urban transit systems receive state funds to leverage federal dollars, and the large eight transit systems receive federal funds ODOT allocates.

State and Local Sourced

Ohio Transit Preservation Partnership Program 2 (OTPPP2) – State

ODOT instituted the Ohio Transit Partnership Program (OTP2) to provide state funds to the rural and urban transit systems in Ohio, beginning in state fiscal year 2020. This program replaced the original Ohio Transit Preservation Partnership Program (OTPPP), which provided federal funds (flex) to urban systems since 2012. The OTPPP is a discretionary program and projects compete with an emphasis on Tier I preservation projects that maintain, sustain, or keep Ohio transit systems in a good, sound state. Tier II priorities include projects that promote regionalization, coordination, technology, service expansion, workforce initiatives, and healthcare initiatives.

Local Taxes and User Fees – Local

Local-generated (or Locally generated) revenue sources make up the majority of funding available for transit operations and capital projects in the NOACA region. Local sources primarily consist of taxes (property, sales, and use tax) and fare box revenues.

Federal and state defined programs are distributed or competitively sought based on a variety of formulas set by federal and state regulations and ODOT priority. They are broadly designed to allocate resources based—depending on the program—on factors that include population, population density, number of low-income individuals, elderly individuals, individuals with disabilities, and a number of transit service characteristics (e.g., revenue vehicle miles, route miles, etc.).

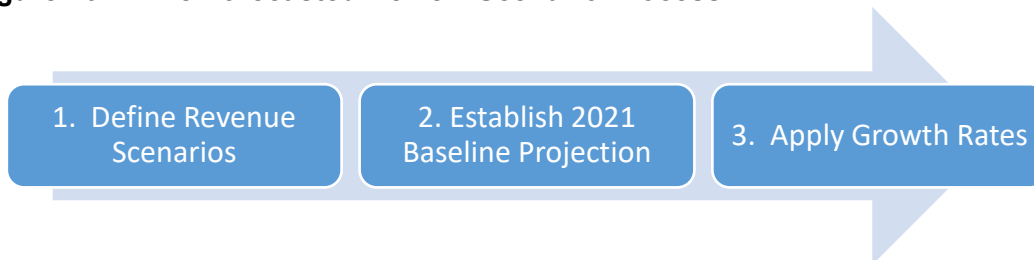
Ohio is among the states with the lowest state-funded support for public transit. Based on recent funding data submitted by transit agencies to the FTA, Ohio ranks in the bottom 14 among its neighboring states. Pennsylvania provides the highest support for transit operating expenses (47% share).

Forecasted Revenue Scenarios

The financial resources projected to be available for the *eNEO2050* planning horizon come from the various federal, state, and local funding sources explored in previous sections of this chapter. As previously noted, ODOT controls certain funds and allocates them through its project selection process for the particular fund program type. NOACA controls some of the funds and allocates them through its project selection process. Three of the five transit agencies in the region have urban direct recipient designation to receive direct federal assistance and manage project selection and implementation. Local jurisdictions provide funding, which is used to match federal funds and state funds, and for direct operations and maintenance of the local system.

This section defines baseline and growth assumptions used for the development of the forecasted revenue scenarios. This process involved three defined steps (see Figure 10-4).

Figure 10-4. The Forecasted Review Scenario Process



Step 1: Define Revenue Scenarios

Two revenue forecasting scenarios were built within the context of what could reasonably be expected to be available:

- Scenario 1 – Status Quo: “Get what you get”
- Scenario 2 – Equitable: “Get what is fair”

Recognizing that the federal, state, and local funding sources described in the previous sections are largely collected and allocated for specific project eligibility, the revenue and planned projected expenditures are focused into three categories: 1. Roadway, 2. Bicycle/Livability, and 3. Transit.

The *Status Quo* scenario is the approach NOACA has opted to follow to establish revenue assumptions for previous NOACA long-range transportation plans (LRTPs). This scenario establishes revenue levels based on funding historically received in the NOACA region, primarily the funding available for roadway and bicycle/livability projects controlled by ODOT.

The *Equitable* scenario is based on the ideology that federal and state funding allocations should be aligned with federal and state program intent and proportionate to the NOACA region’s share of statewide assets and population.

Step 2: Establish 2021 Baseline Projections

Status Quo Scenario: “Get what you get”

Roadway and Nonmotorized Transportation Baseline Assumptions

NOACA staff developed these assumptions based on historic (SFYs 2018-2024) regional expenditure data (federal, state, and local) queried from ODOT’s Ellis project management database. Expenditure refers to encumbered and committed dollars. This timeframe represents the previous 2018-2021 and current 2021-2024 Transportation Improvement Programs (TIPs). NOACA staff removed projects classified as Emergency or American Recovery and Reinvestment Act (ARRA) stimulus funding from the analysis. These programs represent temporary influxes of funding that inflate revenue projections and do not indicate future funding levels. Expenditures were then categorized by federal, state, and local match dollars. NOACA staff then calculated averages for each type of funding by summation of yearly expenditures and division by the number of fiscal years.

Transit Baseline Assumptions

Baseline FTA federal funding levels are equal to 2021 apportionments to urbanized transit providers (GCRTA, LAKETRAN, LCT, and MCPT) and historic allocations of FTA funding controlled by ODOT to rural transit providers (GCT).

State General Revenue Fund funding that supports the ODOT OTPP2 program is equal to the 2020 program allocation of \$28.2 million. 2020 is the first and only year of OTPP2 program allocation since the approval of increased GRF funding to transit in the 2019 state budget.

Equitable Scenario: “Get what is fair”

Roadway and Nonmotorized Transportation Baseline Assumptions

See Table 10-2 for federal core program funding and state-controlled MFT funding levels based on NOACA share of statewide population and assets.

Table 10-2. NOACA Share of Federal Core Program Funding and State-Controlled MFT Funding Levels

FEDERAL – State-Controlled		
Federal Source	Equitable Methodology	NOACA Share %
National Highway Performance Program	% share of statewide NHS VMT	20%
Surface Transportation Block Grant	% share of statewide population	24%
Highway Safety Improvement Program	% share of statewide Fatal/Serious Injury crashes	14%
Rail Highway Crossings Program	% share of statewide RR grade crossings	8%
Congestion Mitigation and AQ	% share of statewide AQ population	26%
National Highway Freight Program	% share of statewide NHFN lane miles	13%
Recreational Trails Program	% share of statewide population	24%

STATE – State-Controlled MFT		
State Source	Equitable Methodology	NOACA Share %
State-controlled MFT to NOACA Region	% share of statewide population	24%

Transit Baseline Assumptions

As with the Status Quo Scenario, FTA federal funding levels are equal to 2021 apportionments to urbanized transit providers (GCRTA, LAKETRAN, LCT, and MCPT) and historic allocations of FTA funding controlled by ODOT to rural transit providers (GCT).

State General Revenue Funds (GRF) funding under the equitable scenario is based on the NOACA share of statewide transit trips (see Table 10-3). Transit trips in the NOACA region (40.5 million) account for 40% the total transit trips statewide (100.5 million). Therefore, under the Equitable Scenario the NOACA region should realize an investment equal to 40% (\$28.2 million) of the total state GRF funding dedicated to transit (\$70 million). This is significantly higher than the \$11 million allocated to the region in 2020 under the first year of the program.

Table 10-3. State and NOACA Distribution of General Revenue Funds for Transit

TRANSIT – State GRF		
Tax Rate	Trips (M)	GRF (\$M)
Statewide	100.5	\$70.0
NOACA	40.5	\$28.2
NOACA Share (%)	40%	40%

Baseline Revenue Tables

Tables 10.4–10.7 contain the calculated 2021 baselines for each forecasted revenue scenario based on the described assumptions. The highlighted sources indicate increased revenue estimates with the Equitable Scenario versus the Status Quo Scenario. Under the Equitable Scenario, where federal and state funding revenues controlled by the state are distributed based on regional share of statewide population and assets, NOACA would realize a baseline increase of nearly \$111.0 million for roadway projects and \$17.2 million for transit projects. Overall, the Equitable Scenario would provide an increase of \$128 million for the 2021 baseline year.

Table 10-4. 2021 Baseline Revenue Calculations – Roadway

Source	Revenue Scenario	
	Status Quo	Equitable
<u>Federal</u>		
FHWA - ODOT	\$ 193,060,276	\$ 230,060,276
FHWA - NOACA	\$ 38,128,614	\$ 38,128,614
Subtotal	\$ 231,188,890	\$ 268,188,890
<u>State</u>		
State MFT - ODOT	\$ 105,659,000	\$ 176,400,000
State MFT - Local	\$ 31,489,400	\$ 31,489,400
OPWC	\$ 25,756,332	\$ 25,756,332
Subtotal	\$ 162,904,732	\$ 233,645,732
<u>Local</u>		
Vehicle Registrations	\$ 23,826,659	\$ 23,826,659
Match	\$ 18,493,732	\$ 21,725,962
Subtotal	\$ 42,320,391	\$ 45,552,621
Grand Total	\$ 436,414,013	\$ 547,387,243

Table 10-5. 2021 Baseline Revenue Calculations – Nonmotorized

Source	Revenue Scenario	
	Status Quo	Equitable
<u>Federal</u>		
FHWA - ODNR	\$ 396,897	\$ 396,897
FHWA - NOACA	\$ 8,719,776	\$ 8,719,776
Subtotal	\$ 9,116,673	\$ 9,116,673
<u>State</u>		
ODNR - COT	\$ 820,000	\$ 820,000
Subtotal	\$ 820,000	\$ 820,000
<u>Local</u>		
Match	\$ 2,552,502	\$ 2,552,502
Subtotal	\$ 2,552,502	\$ 2,552,502
Grand Total	\$ 12,489,174	\$ 12,489,174

Table 10-6. 2021 Baseline Revenue Calculations - Transit

Source	Revenue Scenario	
	Status Quo	Equitable
<u>Federal</u>		
FTA - Formula	\$ 32,504,107	\$ 32,504,107
FHWA - NOACA	\$ 7,430,612	\$ 7,430,612
FHWA - OEPA	\$ 2,044,131	\$ 2,044,131
FHWA - ODOT	\$ 4,012,261	\$ 4,012,261
FTA/FHWA - Discretionary	\$ 2,500,000	\$ 2,500,000
Subtotal	\$ 48,491,111	\$ 48,491,111
<u>State</u>		
State GRF	\$ 11,000,000	\$ 28,165,984
Subtotal	\$ 11,000,000	\$ 28,165,984
<u>Local</u>		
Capital	\$ 3,914,580	\$ 3,914,580
Match	\$ 12,378,294	\$ 12,378,294
Subtotal	\$ 16,292,874	\$ 16,292,874
Grand Total	\$ 75,783,985	\$ 92,949,969

Table 10-7. 2021 Baseline Revenue Calculations – Summary by Category

2021 Baseline Summary by Revenue Category

Revenue Category	Revenue Scenario	
	Status Quo	Equitable
Roadway	\$ 436,414,013	\$ 547,387,243
Nonmotorized	\$ 12,489,174	\$ 12,489,174
Transit	\$ 75,783,985	\$ 92,949,969
Total	\$ 524,687,172	\$ 652,826,386

Step 3: Annual Growth Rates through 2050

The next step is to apply annual growth rates to the 2021 baseline through the *eNEO2050* planning horizon year. Revenue scenarios and cost estimates that support the metropolitan transportation plan must use inflation rates to reflect “year of expenditure dollars,” based on reasonable financial principles and information, and developed cooperatively by NOACA, ODOT, and public transportation operators.

NOACA has established three scenarios: Continued Growth, the most likely scenario; High Growth; and No Growth. The primary factor of difference between the developed scenarios is the estimated growth of federal funding. The FAST expired at the end of 2020 and, as of the date of this draft plan, the government has not yet passed a new federal transportation reauthorization bill into law.

Federal Revenue Assumptions

High Growth Scenario

Assumes an annual federal growth rate double to the FAST Act annual growth rate—4% for roadway and nonmotorized dedicated revenues and 2% for the Mass Transit Account for transit projects.

Continued Growth Scenario

Assumes an annual federal growth rate of 2% for roadway and nonmotorized dedicated revenues and 1% for transit revenues equal to the average increases realized over the life of the FAST (2016-2020).

No Growth Scenario

Assumes no federal growth past current FAST Act funding apportionments for roadway, nonmotorized, and transit-dedicated revenue. Essentially, revenues reflect final 2020 apportionment levels.

State Revenue Assumptions

Roadway and Nonmotorized Sources

Apply an annual growth rate of 1% through 2029 and 0.3% for each year thereafter, through 2050, based on NOACA transportation demand model projections of annual increase in vehicle miles traveled (VMT) for the region. This assumption is unchanged across all growth scenarios.

Transit Sources

In 2019 the Ohio legislature committed state General Revenue Funds (GRF) to the statewide OTP2 for transit agency projects. While NOACA hopes that the state commits additional funding to transit in the future, this plan conservatively assumes no growth for the state GRF funded OTP2 program through 2050. This assumption is unchanged across all growth scenarios.

Local Revenue Assumptions

Roadway and Nonmotorized Sources

Local funding projections are based on estimates of motor fuel and vehicle registration taxes distributed to local governments. Projections account for federal and state matching needs first, with the remainder expected to be available for operations and maintenance of the system. Based on historic expenditures, local match to ODOT is indexed at a rate of 3% of total federal

and state funding. Local match to NOACA and other available programs is based on the individual requirements of those programs, which is typically 20%.

An assumption of continued growth for federal and state funding assumes continued growth for local funds.

Local Motor Fuel Tax: Assumes a growth rate consistent with the annual growth rate of 1% through 2029 and 0.3% for each year thereafter through 2050 based on NOACA transportation demand model projections of annual increase in vehicle miles traveled (VMT) for the region.

Vehicle Registration Tax (VRT): Assumes a growth rate equal to 0.06%, which is the average annual increase of actual disbursements to local governments for the immediate five-year period (2016-2020). This does not include permissive vehicle registration taxes.

Transit Sources:

Total local revenue for capital projects is the difference between the amounts of federal and state projected assistance and the overall capital and operating budgets. The less federal and state revenue projected, the more the burden shifts to local funding to maintain service.

Table 10-8 contains summaries of total estimated revenues by scenario after application of the growth rates to the baseline.

Appendix 10-2 contains the annual growth rates for scenario by revenue source.

Appendix 10-3 contains the estimated revenues for each of the scenarios with applied growth rates. These tables represent the final revenue estimates for which project costs will be compared for demonstration of fiscal constraint.

Table 10-8. Summary of Estimated Revenues by Scenario

Status Quo Scenario		Not Adjusted			Adjusted for 2020\$		
		Growth Scenario (\$B)			Growth Scenario (\$B)		
	Category	No (0%)	Continued (2%)	High (4%)	No (0%)	Continued (2%)	High (4%)
	Roadway	\$17.70	\$19.70	\$22.60	\$10.05	\$11.61	\$14.13
	Transit	\$2.30	\$2.70	\$3.40	\$1.65	\$2.08	\$2.84
	Bike / Livability	\$0.40	\$0.50	\$0.60	\$0.27	\$0.35	\$0.47
	TOTAL	\$20.40	\$22.90	\$26.60	\$11.97	\$14.04	\$17.44

Equitable Scenario		Not Adjusted			Adjusted for 2020\$		
		Growth Scenario (\$B)			Growth Scenario (\$B)		
	Category	No (0%)	Continued (2%)	High (4%)	No (0%)	Continued (2%)	High (4%)
	Roadway	\$21.80	\$24.20	\$27.60	\$12.42	\$14.44	\$17.35
	Transit	\$2.70	\$3.20	\$3.80	\$2.02	\$2.45	\$3.07
	Bike / Livability	\$0.40	\$0.50	\$0.60	\$0.27	\$0.35	\$0.47
	TOTAL	\$24.90	\$27.90	\$32.00	\$14.71	\$17.24	\$20.89

Opportunities for Innovation and Increased Revenues

Innovative Financing Strategies

As the cost of transportation projects continues to outpace available financial resources, US DOT and state departments of transportation have identified and approved strategies to expand the capacity of the federal-aid and state-funded programs to implement projects.

Innovative financing tools assist ODOT and external funding program managers, such as NOACA, to advance projects while they reduce costs. This enhances efficiency and generates revenue. ODOT and NOACA will continue to pursue the innovative financing strategies identified below, where eligible, to advance the priority projects identified in the Plan. These strategies do not provide additional revenue; rather they are financing mechanisms that spread or delay the cost of a project, typically with interest, over a defined number of years. These strategies allow ODOT and NOACA to implement projects sooner than if they were funded with traditional allocations. These strategies are typically reserved for high-cost projects that could not be implemented with traditional program funding allocations.

MPO Funding Exchange

ODOT allows MPOs to exchange funding in an effort to accelerate project delivery while ensuring maximum use of all available funds. To accomplish this, MPOs that are not able to use all of their allocated funding in a given state fiscal year may trade it all or a portion of it with another MPO to advance projects from the next fiscal year. The process is referred to as an

exchange of budget. There are no costs or penalties incurred by either MPO in the execution of the budget exchange. Also, there are no funding or scheduling impacts to any other projects approved in the NOACA TIP. ODOT encourages the use of this process to ensure the timely expenditure of MPO-allocated funds and to realize a quicker public benefit. NOACA has used this strategy on an annual basis to advance ready projects.

Recommendation: NOACA aggressively pursues budget exchanges with other MPOs to advance projects identified in the TIP. Since SFY 2015, NOACA has borrowed more than \$40 million to advance projects for implementation by one fiscal year and repaid those funds in the following fiscal year. Assuming an average inflation of 3%, that equates to a savings of \$1.2 million in interest and delivery of the public benefit associated with the transportation improvement one year sooner.

NOACA will continue to pursue MPO budget exchanges as a means to advance projects in the TIP to save inflation costs and realize project benefits sooner.

Transportation Infrastructure Financing and Innovation Act (TIFIA)

The Transportation Infrastructure Financing and Innovation Act (TIFIA) provides federal credit assistance to eligible surface transportation projects. Innovative financing tools help project sponsors reduce costs, enhance efficiency, and generate revenue. TIFIA could be leveraged to close the funding gap for high-cost projects that have secured significant levels of funding or financing. To date, there have been no projects in the NOACA region that have explored TIFIA project financing.

Recommendation: NOACA will continue to inform sponsors of high-cost projects about the TIFIA requirements and benefits. NOACA will also help project sponsors submit applications for TIFIA project financing.

Advance Construction

ODOT uses advance construction to help manage fund appropriations and obligation limitations provided by the FHWA. Advance construction allows ODOT to gain federal authorization to begin federally eligible activities without obligating funding. At the time of authorization, FHWA confirms that ODOT has followed all requirements necessary to execute a federal agreement. By placing the funds into advance construction, FHWA does not guarantee funding for the project but indicates the activities would be eligible. ODOT places most of its projects in advance construction at the time of authorization.

The advance construction is placed into two groups: short term and long term. Short term is used for projects in which the funding will be converted as project expenditures take place and are exhausted by the completion of the federally eligible activities. ODOT can convert its appropriations and obligation limitation for costs that are currently incurred and maintain a balance throughout the federal fiscal year. Long term it is used primarily for Grant Anticipated Revenue Vehicles (GARVEE) bonds and MPO or CEAO SIB (State Infrastructure Bank) loans used and managed by ODOT (see below).

Recommendation: NOACA (with ODOT) will explore the use of advance construction as a strategy to authorize projects with local funds to be converted to NOACA federal funds when available.

Grant Anticipated Revenue Vehicles (GARVEEs)

GARVEEs enable states to pay debt service and other bond-related expenses with future federal-aid highway funds. The law authorizing GARVEEs, however, makes it clear that a debt-financing instrument's eligibility for reimbursement with future federal-aid highway funding does not constitute a commitment, guarantee, or other obligation by the United States, nor does it create any right of a third party (such as an investor) against the federal government for payment.

The GARVEE bonds retire by future federal funding received through the active and future highway authorization laws. Prior to a bond sale, the entire amount of the bond is put into advance construction by ODOT for the projects funded with its proceeds. These amounts convert over an eight- to 12-year period to retire the bonds. These payments are made on either a level principal or level interest payment schedule, depending on the bond structure.

ODOT does not allow NOACA-administered federal funds to be an eligible source of repayment for its GARVEE or State Infrastructure Bank (SIB) Bond Programs.

Recommendation: NOACA (with ODOT) will continue to explore the eligibility of NOACA administered funds as a means to secure GARVEE-backed financing.

State Infrastructure Bank (SIB)

ODOT maintains a direct SIB loan and bond financing program, authorized under the ORC, Chapter 5531, to develop transportation facilities throughout Ohio. The SIB is used as a method to fund highway, rail, transit, intermodal, and other transportation facilities and projects that produce revenue to amortize debt. Per the SIB policy, the SIB prioritizes projects that contribute to the connectivity of Ohio's transportation system and further goals such as corridor completion, economic development, competitiveness in a global economy, and quality of life.

The Ohio State Legislature capitalized the Ohio SIB with a \$40 million authorization of state general revenue funds (GRF), \$10 million in state motor fuel tax funds, and \$87 million in federal Title XXIII Highway Funds. Any highway or transit project eligible under Title XXIII, as well as aviation, rail, and other intermodal transportation facilities, is eligible for direct loan funding under the SIB.

ODOT's objective is to maximize the use of federal and state funds to make direct loans to eligible projects. SIB loans are loans taken out by a NOACA or a local sponsor and paid off with federal MPO or CEAO funding. These loans have a typical repayment term of 10 years and are paid down using a level principal amortization schedule. Repayments are then re-loaned to subsequent projects, hence creating a SIB revolving loan program.

In recent years NOACA has aggressively pursued funding through the SIB loan program to advance several high-cost projects identified in the TIP. NOACA has also used SIB funding to implement priority initiatives of its Board of Directors such as the Provisional Transportation Asset Management Policy (PTAMP), which advanced more than \$36 million to roadway preservation backlog projects in SFY 2015-2016. To date NOACA has secured more than \$65 million in financing through the SIB to advance transportation projects.

Recommendation: NOACA will continue to pursue SIB loan program financing as a means to advance needed high-cost projects for the region. This effectiveness of this strategy is based on the availability of SIB loan program funding at the time of project application.

Public-Private Partnerships (P3s)

With the passage of Ohio House Bill 114, ODOT has, like other state departments of transportation, embraced Public-Private Partnerships (P3s) for the delivery of public projects and services. P3s can provide numerous benefits in the finance, design, construction, maintenance, and operation of transportation facilities. ODOT has used P3s to advance several high-cost projects statewide, including Interstate 90 Innerbelt bridges.

NOACA also used a P3 model to develop a Hyperloop Feasibility Study in 2020. NOACA entered into an agreement with Hyperloop Transportation Technologies (HTT), a private Hyperloop company, for a 50/50 funding and resource share to develop the study.

Recommendation: NOACA will continue to explore P3 opportunities to develop and finance mutually beneficial transportation projects.

Toll Credits

Toll Credits (TCs) are credits that states earn from nonfederal capital expenditures that public or private agencies, such as the Ohio Turnpike, make “to build, improve, or maintain highways, bridges, or tunnels that serve the public purpose of interstate commerce.”

Section 120(j) of Title 23 permits TCs to fulfill some or all of the federal matching fund requirements normally associated with eligible Title 23 and Title 49 surface transportation capital, operating, or planning project financing. The application of TCs increases the federal share of a project, which reduces nonfederal match requirements. It is important to note that TCs are not “cash” or additional funding, but instead are credits applicable to surface transportation federal aid projects.

NOACA has authorized the use of TCs for the following activities, subject to ODOT’s continued allocation of TCs to NOACA. Currently, TCs are authorized through SFY 2027.

1. *Urban Core Communities*: Projects sponsored by, and located within, communities identified in the current NOACA *Urban Core Communities Policy* are eligible for 90% NOACA funding participation, using 10% TCs.
2. *Disadvantaged Communities*: Projects sponsored by, and located within, communities identified in the current NOACA *Disadvantaged Communities Policy* are eligible for 95% NOACA funding participation, with 15% TCs to increase funding over the standard 80% rate.
3. *Environmental Justice Areas*: Projects sponsored by, and located within, environmental justice areas as defined by low-income and minority transportation analysis zones (TAZs) are eligible for 100% NOACA funding participation, with 20% TCs to increase funding over the standard 80% rate.
4. *Transportation for Livable Communities Initiative (TLCI)*: Planning and implementation projects identified for funding through the NOACA TLCI Program are eligible for 100% NOACA funding participation, with 20% TCs to increase funding over the standard 80% rate.

Recommendation: NOACA will continue use TCs provided by ODOT to increase the federal funding participation for projects in accordance with NOACA policy.

Opportunities for Increased Revenue

NOACA recognizes the need for increased revenue to support the maintenance and enhancement of the state and regional transportation system. Therefore, NOACA strongly supports increased funding for *eNEO2050* implementation through the following opportunities.

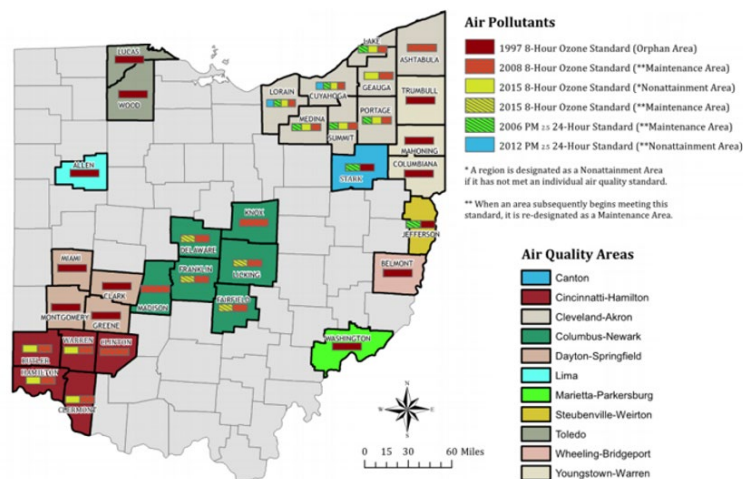
Funding Policies that Consider Disproportionate Air Quality

NOACA will continue to advocate for federal and state policies that direct increased funding to the region to address the disproportionate amount of air pollutants in the region compared to the rest of the state.

Figure 10-5 contains a statewide map that indicates counties in non-attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) pollutants. All five NOACA counties are in non-attainment for the 2015 8-hour Ozone standard.⁶

Through its air quality planning efforts, NOACA continues to collect information on regional air quality, educate the public, and increase transportation choice within the region (i.e., reduce single-occupancy vehicle trips). The agency also operates or implements a number of programs to serve these goals, such as Gohio Commute, the Commuter Choice Awards, Air Quality Advisories, CMAQ, and TLCI. Increased funding for additional programs and projects will help NOACA improve air quality through reduced mobile emissions.

Figure 10-5. 2020 NAAQS Non-attainment and Maintenance Counties⁷



Source: ODOT

⁶ Northeast Ohio Areawide Coordinating Agency (NOACA), *2020 Air Quality Trends Report* (Cleveland: NOACA, March 2021); <https://www.noaca.org/regional-planning/air-quality-planning/air-quality-trends-reports> (accessed April 25, 2021).

⁷ Ohio Department of Transportation (ODOT), *Ohio Statewide Transportation Improvement Program (STIP): State Fiscal Years 2021-2024* (Columbus, Ohio: ODOT, July 2020), Chapter 5: Air Quality Conformity, 19; <https://www.dot.state.oh.us/Divisions/Planning/STIP/20212024/2021-2024%20STIP.pdf> (accessed October 2020).

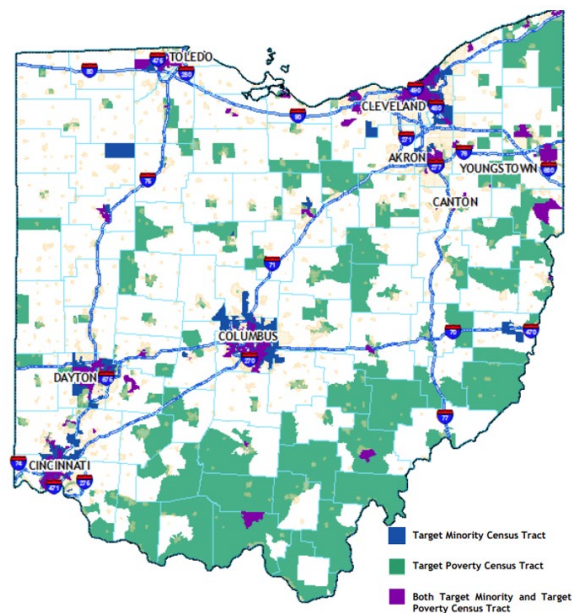
Funding Policies that Consider High Environmental Justice Populations

On June 26, 2020, the NOACA Board of Directors adopted a Commitment to Racial Equity resolution. The resolution states that NOACA will commit to more comprehensive planning, with particular focus on the relationships among transportation, environment, housing, land use, economic development, and health outcomes. The intent is to achieve equitable planning solutions for the future but also correct structural and systemic racial inequity from historic transportation and land-use policy. It is hoped the economic and social outcomes of this commitment will create a healthier and more prosperous Northeast Ohio for all.

Figure 10-6 shows a statewide map of ODOT target investment areas for minority and poverty census tracts. The NOACA region represents a significant portion of the statewide minority and poverty populations, as do the Cincinnati and Columbus urbanized areas.

In accordance with the Board's commitment to racial equity, NOACA will continue to advocate for federal and state policies that direct increased funding to the region to promote equity and increase transportation options for low-income and minority populations. NOACA will also use equity-based criteria to plan and fund transportation projects to ensure equitable investment.

Figure 10-6. ODOT Minority and Poverty Target Investment Areas⁸



Source: ODOT

⁸Ibid., Chapter 6: EJ, ADA, & Title VI Compliance.

Transportation User Fees

In 2019, the State of Ohio legislature increased the state MFT to provide additional revenue for transportation projects. As lawmakers deliberated the increase, the NOACA Board of Directors passed a resolution to support increased revenue for transportation projects, such as the motor fuel user fee, and to advocate for the following:

- Align the amount of the user fee appropriately to the demonstrated need.
- Distribute revenue in an equitable manner, with calculations that better ensure that it goes back to, or is expended in, the communities and regions where it was collected. Current formulas, based on equal splits, registrations, and center line miles, may not provide a fair and adequate allocation of funds to cities, counties, and townships. These formulas are particularly detrimental to urbanized areas such as Northeast Ohio. A more accurate method of distribution would be to use VMT, or perhaps some combination of VMT and other formulas. When NOACA staff compare the current distribution formula to a VMT-based formula, the NOACA region loses \$26 million (36%) of what it should receive annually.
- Increase funding for public transportation at a level representative of the value that it provides to the entire transportation system. This value includes important benefits to motorists, such as reduced wear and tear on our roads (and associated maintenance costs), improved public safety, and reduced traffic congestion (and the cost to add new roadway capacity).
 - Determine and codify an adequate percentage of total transportation funding that should be directed to transit to help Ohio achieve parity with per capita funding levels in other states. (Ohio is the seventh most populous state, but ranks in the bottom quintile for transit funding).
 - Increase FHWA flex funds to transit providers by an additional \$22.5 million annually for transit vehicle replacements. The 2015 ODOT Transit Needs Study recommends flexing a total of \$62.5 million to meet vehicle needs. The current budget proposal includes \$40 million, an increase of \$7 million over the \$33 million contained in the SFY 2019 budget.
 - Continue to exempt transit systems from the motor fuel user fee.
- Fund maintenance of both state and locally owned roads and bridges to a state of good repair prior to additional funding to support major new capacity projects as contained in the Transportation Review Advisory Council (TRAC). In Northeast Ohio, cost estimates for repair and maintenance of existing assets within the locally maintained non-interstate system reflect a backlog need of \$892 million for pavements and \$239 million for bridges. This deteriorating infrastructure poses critical safety concerns, and costs each local resident an extra \$887 per year for additional repair costs, accelerated deterioration and depreciation, increased maintenance costs, and additional fuel costs. Among metro areas with at least 500,000 residents, Cleveland ranks seventh in the country for highest extra costs.
 - Increase the percentage of total motor fuel user fee revenues that go to, or are expended in, counties, cities, and townships beyond the 31% currently allocated, to at least the 40% level as indicated by ODOT.
 - More investment is needed in cost-effective strategies to improve efficiency and reduce congestion on the region's transportation system, rather than increase roadway capacity. New capacity induces demand, which creates more traffic congestion.

NOACA will continue to support opportunities for increased revenue for transportation projects, such as MFT increases, while it also ensures equitable approaches to distribution and alignment with regional priorities.

Other Taxes and Fees

ODOT and local and regional agency project sponsors could explore several tax and fee types to increase revenue for transportation system operations and maintenance. NOACA does not advocate for, or rely upon, additional taxes or fees to support projects identified in the Plan. These include, but are not limited to:

- *Sales Tax* – increased sales tax by district to support public transportation operations and capital infrastructure
- *Property Tax* – on all real and public utilities property
- *Fuel tax* – on gasoline and diesel
- *Vehicle Registration Tax* – for a “regional transportation improvement project” as permitted by law, as the eight already defined “permissive” taxes that counties may assess are unavailable for rail transit
- *Environmental Tax* – the “Environmental Tax” currently does not exist, but would be a new type of tax similar to the “sales tax,” assessed once at the point of purchase (unlike the property, fuel, and vehicle registration taxes)
- *Tolls* – tolling involves the imposition of a per-use fee on motorists for a given highway facility. Historically, these fees have generally been flat tolls that may vary by number of axles and distance driven, but not by time of day
- *Congestion Pricing* – congestion pricing can act as a tool for demand management. The variability of pricing depending on traffic conditions and policies capitalizes on market forces to manage the utility of finite roadway capacity
- *VMT User Fee* – Distance-based fees levied on a vehicle user for use of a roadway system. As opposed to tolls, which are facility specific and not necessarily levied strictly on a per-mile basis, these fees are based on the distance driven over a defined network of roadways.

The revenue impact of the above taxes and fees vary significantly given the type, geographic application, and potential range of the tax or fee assessed.

The following are federal discretionary programs that may also provide additional sources of revenue.

Better Utilizing Investments to Leverage Development (BUILD)

Since 2009, Congress has dedicated nearly \$8.9 billion for twelve rounds of BUILD grants, previously called Transportation Investment Generating Economic Recovery (TIGER), to fund projects that emphasize improved access to reliable, safe, and affordable transportation for communities. Such projects also improve infrastructure condition; address public health and safety; and promote regional connectivity or facilitate economic growth or competitiveness of the nation, a region, or a metropolitan area. BUILD allows project sponsors at the state and local levels to obtain funding for multimodal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. BUILD can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, and others, in contrast to traditional federal programs that provide funding to very specific groups of applicants (mostly state DOTs and transit agencies).

Infrastructure for Rebuilding America (INFRA)

The FAST Act authorized the INFRA program, previously called the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) program, at \$4.5 billion for fiscal years 2016 through 2020. This amount included \$850 million for FY 2017 from the Secretary of Transportation. Like BUILD, INFRA can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, and others in contrast to traditional federal programs that provide funding to very specific groups of applicants (mostly state DOTs and transit agencies).

The INFRA program provides funding for highway and multimodal freight projects that generate national or regional economic, mobility, and safety benefits while these projects address critical freight issues that face our nation's highways and bridges. For the first time in 2021, the US DOT will add additional priority for projects that address racial equity, environmental justice, or climate change. Project evaluation depends on whether they were part of a comprehensive strategy to address climate change, or whether they support strategies to reduce greenhouse gas emissions such as deployment of zero-emission-vehicle infrastructure, or they encourage modal shift and VMT reduction.

Fixed Guideway Capital Investment Grant (CIP)

The discretionary Capital Investment Grant (CIG) program provides funding for fixed guideway investments such as new and expanded rapid rail, commuter rail, light rail, streetcars, bus rapid transit, and ferries, as well as corridor-based bus rapid transit investments that emulate the features of rail. There are four categories of eligible projects under the CIG program: New Starts, Small Starts, Core Capacity, and Programs of Interrelated Projects.

- *New Starts* projects are new fixed guideway projects or extensions to existing fixed guideway systems with a total estimated capital cost of \$300 million or more, or that are seeking \$100 million or more in Section 5309 CIG program funds.
- *Small Starts* projects are new fixed guideway projects, extensions to existing fixed guideway systems, or corridor-based bus rapid transit projects, with a total estimated capital cost of less than \$300 million, or that are seeking less than \$100 million in Section 5309 CIG program funds.
- *Core Capacity* projects are substantial corridor-based capital investments in existing fixed guideway systems that increase capacity by not less than 10 percent in corridors that are at capacity today or will be in five years. Core capacity projects may not include elements designed to maintain a state of good repair.
- *Programs of Interrelated Projects* are made up of any combination of two of the above projects. The projects in the program must have logical connectivity to one another, and all must begin construction within a reasonable time frame.

Each type of project has a unique set of requirements, although many similarities exist among them. All projects must be evaluated and rated by FTA in accordance with statutorily defined criteria at various points in the development process. To be eligible to receive a construction grant, all projects must go through a multistep, multiyear process and receive at least a "Medium" overall rating, in addition to other requirements.

Other sources may be pursued as well to include private sources such as civic foundations or developers that stand to benefit from a regional investment in transportation infrastructure. A

strategic approach should be used to raise funds, which when best leveraged, will produce the highest possible “match” from federal sources.

Cost Estimate Assumptions and Forecasted Projects

Cost Estimate Assumptions

To estimate project inflation over the life of *eNEO2050*, NOACA relied upon ODOT’s 2020 *Construction Cost Outlook and Forecast* report.⁹ The ODOT Bid Analysis & Review Team in the Office of Estimating prepares the report annually. ODOT analyzes key factors and inputs in the report, including state and global economies and construction input trends associated with labor, contractor, and supplier margins; oil and gas; and other commodities, such as asphalt, concrete, and steel.

The expected ODOT Construction Cost Inflation Forecast is in Table 10-9. The table presents estimated inflation for high, most likely, and low scenarios. NOACA is using the “most likely” scenario to estimate all project costs planned in *eNEO2050*.

Table 10-9. Annual Inflation Factors

	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026- 2029	CY 2030- 2050
High	7.4%	7.1%	7.3%	6.5%	-	-
Most Likely	2.9%	2.6%	2.8%	3.5%	3.0%	2.0%
Low	0.4%	0.1%	0.3%	0.5%	-	-

From CY2026 through CY2029, inflation is forecast to be 3.0% based upon average rates over 30 to 60 years as measured by the Gross Domestic Product (GDP) deflator and the Consumer Price Index (CPI). The long-term forecast from 2030 onward is 2.0%, according to ODOT, based on the Federal Reserve’s long-run inflation target rate.

Compounded, costs will increase an estimated 92%. Therefore, what costs \$1.00 to purchase in the plan adoption year of 2022 will cost \$1.92 in the 2050 horizon year. For this reason, it will be important to monitor inflation and adjust estimates of planned projects accordingly if the region is going to deliver the planned program of projects successfully in the optimal year of implementation.

All projects represented in the plan are also adjusted for expected construction administration and engineering costs in accordance with ODOT guidance.

⁹ Ohio Department of Transportation (ODOT), *January 2020 Construction Cost Outlook and Forecast*, (Columbus, Ohio: January 2020); <https://www.dot.state.oh.us/Divisions/ConstructionMgt/Estimating/Pages/BART.aspx> (accessed October 2020).

Forecasted Projects

The development of the LRTP scenarios begins with the categorization of a set of proposed projects, their implementation decades, and technology levels to be used. The general descriptions for the scenarios detailed in Chapter 9 are:

- *Scenario 1: MAINTAIN* – allocate 100% of the annual budgets to transportation system maintenance only.
- *Scenario 2: CAR* – add the major highway capacity projects and viable freeway interchanges to support the Single Occupancy Vehicle (SOV) mode.
- *Scenario 3: TRANSIT* – add the improved 2017 visionary rail network and the transit agencies' future bus/BRT network plans to develop a multimodal transportation system.
- *Scenario 4: TOTAL* – add the major highway capacity projects, allocate freeway and arterial smart lanes to autonomous cars and trucks, and add the improved 2017 visionary rail network plus the transit agencies' future bus/BRT network plans to create an advanced multimodal transportation system.

Additionally, discussion of the future regional transportation network cannot move forward without acknowledgement of the role technology will play in the way people and goods move around the region and the infrastructure changes necessary to support it. The automobile industry continues to replace “Horse Power” with “Processing Power,” and there is little doubt that the Plug-in Hybrid Electric Vehicles (PHEV), Connected and Autonomous Vehicles (CAV), autonomous shuttles, and other technology-driven advancements are going to fill the transportation network in the near future. This technology will not replace the existing modes of travel overnight. This may take one or two decades, but it will certainly happen by the planning year 2050. Thus, each of the scenarios appropriately considers these technology advancements at different levels and stages of adoption.

To supplement NOACA scenario development, staff solicited projects from communities and regional transportation partners to capture all needs adequately. NOACA staff reviewed projects submitted by local and regional entities for alignment against NOACA plans and studies.

The process also identified projects proposed for the region that need further analysis to determine conformance with NOACA transportation and fiscal planning requirements before amendment to the fiscally constrained plan. Those projects are in the illustrative plan.

NOACA staff categorized projects contained in the Plan as follows:

- *Maintain* – Projects that preserve existing transportation system assets
- *Enhance* – Projects that enhance safety, operations, and multimodal options on the transportation system
- *Expand* – Projects that expand capacity of the transportation system through the addition of new infrastructure

NOACA staff then grouped and showed projects by mode and project types, as defined in Chapter 9. This is consistent with transportation revenue estimates to allow for accurate fiscal constraint analysis. The mode and project types include:

1. Roadway:
 - a. Roadway Preservation – Projects that preserve pavement and bridge conditions
 - b. Roadway Enhancement – Traditional projects that improve operations and safety for all modes

- c. Roadway Expansion – Projects that add significant capacity, including new roadways and interchanges and major roadway widening
- 2. Nonmotorized:
 - a. Bicycle Facilities – Projects that improve infrastructure and promote safe bike travel on the existing roadway network, including off-road multiuse pathways and on-road facilities such as separated bike lanes and sharrows
 - b. Pedestrian Facilities – Projects that connect gaps in the sidewalk network to increase accessibility and improve safety
- 3. Transit:
 - a. Transit Preservation – Projects that preserve vehicle and non-vehicle capital assets in a state of good repair
 - b. Transit Expansion – Projects that add new transit infrastructure to extend service to areas of the region that are underserved
- 4. Emerging Technology:
 - a. Emerging technology projects that include "smart" roadway features, alternate fuels and vehicle automation (i.e., shuttles, cars, trucks)
 - b. For the purposes of the Plan, staff allocated Emerging Technology projects to Roadway, Nonmotorized, and Transit as there is no dedicated revenue source for only technology projects.

Project Lists

The federal requirements (23 CFR 450.324) for transportation plans require a list of major projects proposed for implementation in the region during the Plan's life. NOACA defines major projects as those greater than \$12 million that also meet the federal definition of a Regionally Significant Project (23 CFR, Section 450.104), or projects not defined as exempt in EPA's transportation conformity regulations (40 CFR part 93, subpart A). Figure 10-7 and Table 10-10 contain a map and list, respectively, of major projects contained in *eNEO2050*. Table 10-11 contains a list of proposed major and minor illustrative projects included in *eNEO 2050* that are pending review against NOACA planning requirements and/or demonstration of fiscal constraint.

Fiscally constrained minor projects, or those that do not meet the definition of "major" (see above), appear in the appendices as follows:

Appendix 10-4: List of all minor projects ranging in cost of \$500,000 to \$11,999,999. This list is a comprehensive listing of all minor projects generated from NOACA pavement, bridge, and nonmotorized plans and tools; and through the community and regional agency project solicitation.

Appendix 10-5: Maps of Transportation Asset Management road rehabilitation projects (annual)

Appendix 10-6: Map of *eNEO2050* bicycle facilities projects

Appendix 10-7: Map of pedestrian facilities projects

Figure 10-7. Map of Major Projects

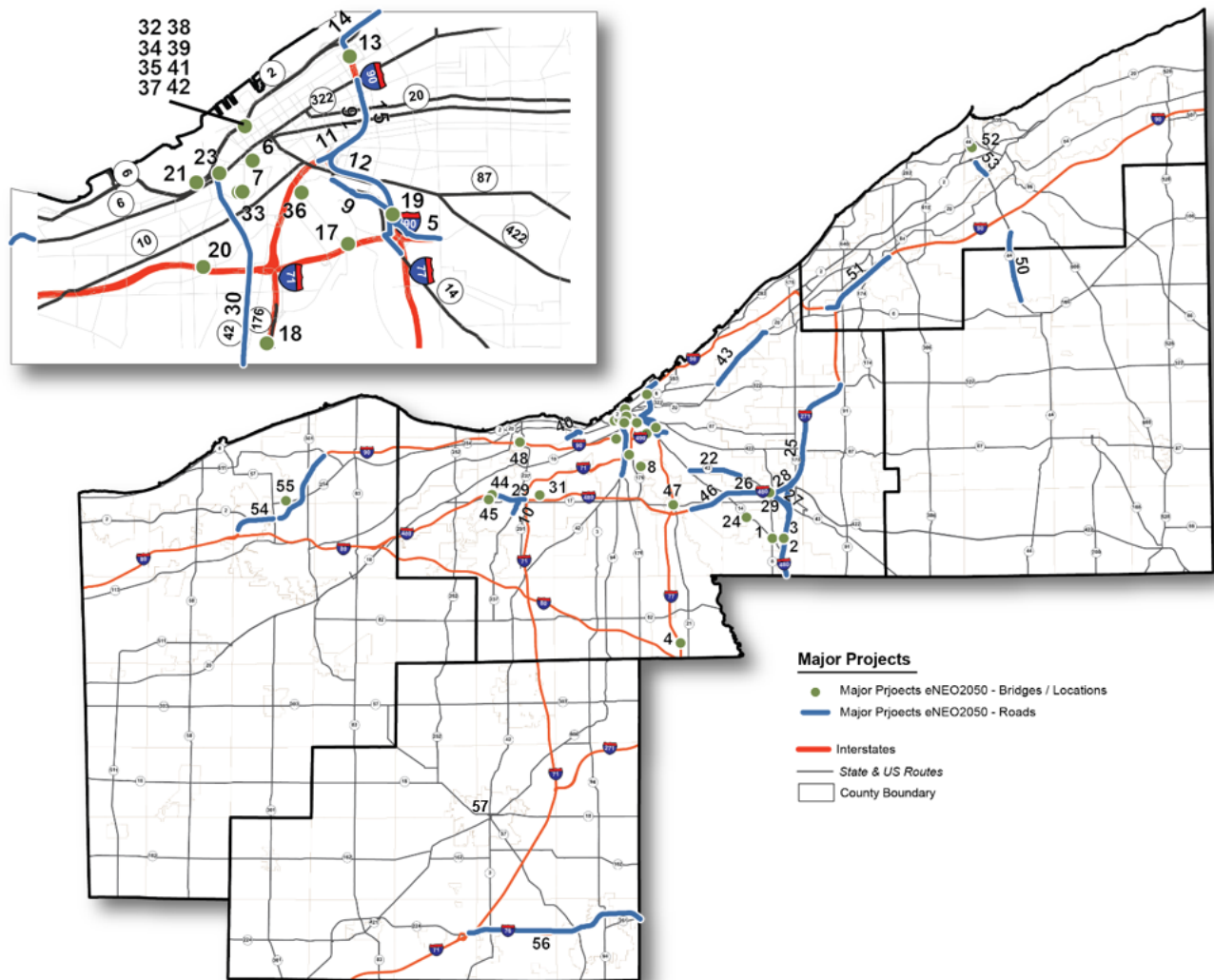


Table 10-10. List of eNEO 2050 Major Projects: Projects >\$12 Million or with Significant Impact to the System or Air Quality

MAP ID	COUNTY	LOCATION	PROJECT NAME	PROJECT DESCRIPTION	NEED SFY	ESTIMATED COST	MAINTAIN/ ENHANCE/ EXPAND	MODE	PRIMARY WORK TYPE
1	CUYAHOGA	BEDFORD	SR-8 (SFN 1801244)	REHABILITATION OF SFN 1801244 ON SR 8 OVER SR-14&TNKRS CREEK&WLE RR	2030-2040	\$15,168,404	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
2	CUYAHOGA	BEDFORD HEIGHTS	IR-271 N.B. (SFN 1810774)	REHABILITATION OF SFN 1810774 ON IR 271 N.B. OVER TNKRS CR&WLE RR& SOLON RD	2040-2050	\$14,274,802	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
3	CUYAHOGA	BEDFORD HEIGHTS	IR-271 S.B. (SFN 1810715)	REHABILITATION OF SFN 1810715 ON IR 271 S.B. OVER TNKRS CR&WLE RR&SOLON RD	2040-2050	\$13,947,311	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
4	CUYAHOGA	BRECKSVILLE	IR-77 0.42 / MILLER ROAD INTERCHANGE	IR-77 0.42/MILLER ROAD INTERCHANGE: COMPLETION OF THE EXISTING PARTIAL INTERCHANGE AT I-77 AND MILLER RD BY ADDING A NB EXIT RAMP AND A SB ENTRANCE RAMP INCLUDING AN AUXILIARY LANE BETWEEN THE NEW SB ENTRANCE RAMP AND THE I-80 EXIT RAMP.	2023	\$21,300,000	EXPAND	ROADWAY	NEW INTERCHANGE
5	CUYAHOGA	CLEVELAND	BROADWAY CONNECTOR BICYCLE-MULTIPURPOSE TRAIL	BICYCLE-MULTIPURPOSE FROM SLAVIC VILLAGE CONNECTOR NEAR BROADWAY/E.34TH ST TO E.55TH ST AND OPPORTUNITY CORRIDOR	2030	\$12,000,000	ENHANCE	NON-MOTORIZED	SEPARATED BIKEPATH
6	CUYAHOGA	CLEVELAND	CARTER LIFT BRIDGE REHABILITATION	BRIDGE PRESERVATION (PAINTING, STEEL REPAIRS, DECK REPLACEMENT, UPGRADE MECHANICAL AND ELECTRICAL)	2025	\$50,000,000	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
7	CUYAHOGA	CLEVELAND	COLUMBUS ROAD LIFT BRIDGE	BRIDGE PRESERVATION (PAINTING, STEEL REPAIRS, UPGRADE MECHANICAL AND ELECTRICAL)	2038	\$15,000,000	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
8	CUYAHOGA	CLEVELAND	DENISON-HARVARD (SFN 1832344)	REHABILITATION OF SFN 1832344 ON DENISON-HARVARD OVER CR122 JENN CUY R, RRS	2025-2030	\$28,721,702	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
9	CUYAHOGA	CLEVELAND	DOWNTOWN CLEVELAND CONNECTOR, PH 2 SEPARATED BIKEPATH	BIKEWAY EXTENSION FROM PERSHING TO PUBLIC SQUARE	2035	\$15,000,000	ENHANCE	NON-MOTORIZED	SEPARATED BIKEPATH

10	CUYAHOGA	CLEVELAND	HOPKINS AIRPORT / BEREA FREEWAY	IMPROVE THE BERA FREEWAY RAMP ACCESS TO CLEVELAND HOPKINS AIRPORT.	2026	\$17,200,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
11	CUYAHOGA	CLEVELAND	INNERBELT CCG3A IR-90 CENTRAL INTERCHANGE	CCG3A IR-90 16.28: IMPROVE IR-90 AT THE 'CENTRAL INTERCHANGE' FROM E.9TH TO CARNEGIE; INCLUDES CARNEGIE OVERHEAD BRIDGE.	2025	\$160,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
12	CUYAHOGA	CLEVELAND	INNERBELT CCG3B IR-77 14.57	CCG3B IR 077 14.57: RECONSTRUCTION OF THE IR-77 APPROACH TO THE 'CENTRAL INTERCHANGE'. WORK WILL INCLUDE WIDENING ALL MAINLINE BRIDGES, RESTRIPIING THE KINGSBURY RUN BRIDGE TO ACCOMMODATE AN AUXILIARY LANE, AND REPLACING THE MAINLINE PAVEMENT.	2026	\$160,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
13	CUYAHOGA	CLEVELAND	INNERBELT CCG4C NORFOLK SOUTHERN RAILROAD	CCG4C INNERBELT NS RR: SOUTH OF THE INNERBELT CURVE A NEW OVERHEAD NORFOLK SOUTHERN RR BRIDGE AT A NEW LOCATION TO ACCOMMODATE THE REALIGNMENT OF THE INNERBELT CURVE. THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE.	2029	\$55,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
14	CUYAHOGA	CLEVELAND	INNERBELT CCG4E CURVE	CCG4E INNERBELT CURVE: INNERBELT TRENCH TO E SHOREWAY, RELOCATION OF THE INNERBELT CURVE	2029	\$300,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
15	CUYAHOGA	CLEVELAND	INNERBELT CCG5B EB PAVEMENT	CCG5B INNERBELT EB PAVEMENT: EB INNERBELT TRENCH, FROM E 22ND ST TO SUPERIOR AVE	2031	\$250,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
16	CUYAHOGA	CLEVELAND	INNERBELT CCG5C WB PAVEMENT	CCG5C INNERBELT WB PAVEMENT: WB INNERBELT TRENCH FROM E 22ND ST TO SUPERIOR AVE	2031	\$170,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/ REHABILITATION/ STANDARDIZATION
17	CUYAHOGA	CLEVELAND	IR-490 (SFN 1811991)	REHABILITATION OF SFN 1811991 ON IR 490 OVER CUYAHOGA RIVER	2030- 2040	\$68,107,768	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
18	CUYAHOGA	CLEVELAND	IR-71 N.B. (SFN 1805371)	REHABILITATION OF SFN 1805371 ON IR 71 N.B. OVER SR 176(1328)JENNINGS FWY	2030- 2040	\$16,492,760	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
19	CUYAHOGA	CLEVELAND	IR-77 (SFN 1806726)	REHABILITATION OF SFN 1806726 ON IR 77 OVER KNGSBRY RUN&RTA38&NSC RR	2040- 2050	\$46,334,346	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION

20	CUYAHOGA	CLEVELAND	IR-90 (SFN 1807870)	REHABILITATION OF SFN 1807870 ON IR 90 OVER NSC RR & TRAIN AVE	2030-2040	\$12,670,101	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
21	CUYAHOGA	CLEVELAND	MILES RD (SR-43) REHABILITATION	REHABILITATE SR00043, FROM LEE RD TO BROADWAY AVE (SR-14), MAJOR REHAB/RECONSTRUCTION	2023	\$14,384,322	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
22	CUYAHOGA	CLEVELAND	SR-2 (SFN 1800035)	REHABILITATION OF SFN 1800035 ON SR 2 OVER CUY RIVER,RTA,FLATS	2025-2030	\$72,508,024	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
23	CUYAHOGA	CLEVELAND	US- 6 (SFN 1800930)	REHABILITATION OF SFN 1800930 ON USR 6 OVER CUY. RIVER & RTA	2025-2030	\$29,153,744	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
24	CUYAHOGA	CLEVELAND	WEST 3RD LIFT BRIDGE OVER CUYAHOGA RIVER ROAD REHABILITATION	BRIDGE PRESERVATION (PAINTING, STEEL REPAIRS, DECK REPLACEMENT, UPGRADE MECHANICAL AND ELECTRICAL)	2030	\$12,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
25	CUYAHOGA	CUYAHOGA COUNTY	IR-271 MAJOR REHAB	IR-271 MAJOR REHAB; IR-480N TO IR-90	2030	\$166,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
26	CUYAHOGA	CUYAHOGA COUNTY	IR-480 MAJOR REHAB	IR-480 MAJOR REHAB FROM I-77 TO I-480N	2027	\$160,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
27	CUYAHOGA	CUYAHOGA COUNTY	IR-480 MAJOR REHAB	IR-480 MAJOR REHAB FROM I-480N TO I-271	2028	\$38,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
28	CUYAHOGA	CUYAHOGA COUNTY	IR-480 MAJOR REHAB	IR-480N MAJOR REHAB FROM I-480 TO I-271	2028	\$46,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
29	CUYAHOGA	CUYAHOGA COUNTY	IR-480 MAJOR REHAB	IR-480 MAJOR REHAB; THE ROCKY RIVER TO I-71	2030	\$22,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
30	CUYAHOGA	CUYAHOGA COUNTY	ROCKSIDE RD CR 53 (MAJOR) BRIDGE	BRIDGE REHABILITATION/REPLACE	2041	\$23,000,000	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
31	CUYAHOGA	CUYAHOGA COUNTY	WEST 150TH ST (MAJOR) BRIDGE	BRIDGE REHABILITATION/REPLACE	2046	\$18,000,000	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
32	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	COMMUNICATION SYSTEM REPLACEMENTS	REPLACEMENT OF COMMUNICATION SYSTEM INCLUDING RADIOS, CAD/AVL, CELLUAR, ROUTERS ON A TWELVE YEAR CYCLE.	2032, 2044	\$30,000,000	MAINTAIN	TRANSIT	TRANSIT EQUIPMENT

33	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	CUYAHOGA VIADUCT DECK REPLACEMENT	MAJOR DECK REPLACEMENT TO EXTEND THE LIFE OF THE BRIDGE CONSTRUCTED IN 1929.	2043	\$106,000,000	MAINTAIN	TRANSIT	BRIDGE MAINTENANCE/ REHABILITATION
34	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	FARE COLLECTION SYSTEM REPLACEMENTS	REPLACEMENT OF FARE COLLECTION SYSTEM ON A TWELVE YEAR CYCLE.	2025, 2037, 2049	\$75,000,000	MAINTAIN	TRANSIT	TRANSIT EQUIPMENT
35	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	GCRTA BUS IMPROVEMENT PROGRAM	REPLACEMENT OF 30-35 BUSES ANNUALLY AS EXISTING VEHICLES REACH THE END OF THEIR USEFUL LIFE.	2025-2050	\$520,000,000	MAINTAIN	TRANSIT	VEHICLE REPLACEMENTS
36	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	METROHEALTH LINE BRT	VARIOUS ROADWAY, TRAFFIC SIGNAL, SIDEWALK AND TRANSIT SHELTERS AND AMENITIES TO CREATE A BRT ALONG WEST 25TH STREET. WILL INCLUDE ADDITION OF PEAK HOUR BUS LANES FOR OVER 50% OF THE PROJECT.	2025	\$40,000,000	ENHANCE	TRANSIT	ROAD RESURFACING/ REHABILITATION/ TRAFFIC SIGNALS/ TRANSIT SHELTERS
37	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	PRIORITY TRANSIT CORRIDORS	VARIOUS ROADWAY, TRAFFIC SIGNAL, SIDEWALK AND TRANSIT SHELTERS AND AMENITIES TO CREATE MORE EFFICIENT BUS SERVICE ALONG VARIOUS KEY TRANSIT CORRIDORS. MORE DETAILS WILL BE INCLUDED IN THE GCRTA STRATEGIC PLAN	2027-2034	\$160,000,000	ENHANCE	TRANSIT	ROAD RESURFACING/ REHABILITATION/ SIGNS/ TRAFFIC SIGNALS/ TRANSIT SHELTERS
38	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	RAIL CAR MID-LIFE OVERHAULS	MID-LIFE OVERHAULS OF NEW RAIL CARS APPROXIMATELY 20 YEARS OF SERVICE.	2050	\$60,000,000	MAINTAIN	TRANSIT	VEHICLE REPLACEMENTS
39	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	RAIL CAR REPLACEMENT PROGRAM	REPLACEMENT OF GCRTA HEAVY AND LIGHT RAIL VEHICLES INCLUDING ALL RENOVATIONS TO THE RAIL MAINTENANCE FACILITY AND RAIL STATION PLATFORMS TO ACCOMMODATE THE NEW VEHICLES. THIS IS THE REMAINDER OF THE PROJECT CONTAINED IN THE SFY2021-24 TIP.	2025-2030	\$150,000,000	MAINTAIN	TRANSIT	TRANSIT- VEHICLE REPLACEMENTS
40	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	RED LINE S-CURVE RELOCATION	RELOCATION OF THE RED LINE S-CURVE TO PROVIDE ADDITIONAL SEPARATION FROM THE NORFOLK SOUTHERN TRACKS. TIMING OF THE PROJECT WILL DEPEND ON THE PERFORMANCE OF MAJOR REPAIRS PERFORMED IN 2019.	2030	\$18,000,000	ENHANCE	TRANSIT	TRANSIT - RAIL INFRASTRUCTURE

41	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	SECTION 5307 URBAN CAPITAL PROGRAM	PORTION OF GCRTA CAPITAL IMPROVEMENT PROGRAM FUNDED BY FTA SECTION 5307. INCLUDES REHABILITATION OF FACILITIES, INFRASTRUCTURE, VEHICLE REPLACEMENT, STATION IMPROVEMENTS, EQUIPMENT, ETC.	2025-2050	\$780,000,000	MAINTAIN	TRANSIT	VEHICLE REPLACEMENTS/ RAIL INFRASTRUCTURE/ PARK AND RIDE LOTS/ FACILITY REHABILITATION
42	CUYAHOGA	CUYAHOGA COUNTY / GCRTA	SECTION 5337 STATE OF GOOD REPAIR PROGRAM	RAIL INFRASTRUCTURE PROJECTS TO REHABILITATED AND MAINTAIN THE RAIL SYSTEM.	2025-2050	\$520,000,000	MAINTAIN	TRANSIT	TRANSIT - RAIL INFRASTRUCTURE
43	CUYAHOGA	EAST CLEVELAND	EUCLID AVE (US-6) REHABILITATION	REHABILITATE US00006, FROM SUPERIOR RD TO IVANHOE RD/BELVOIR BLVD, MAJOR REHAB/RECONSTRUCTION	2023	\$13,109,275	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
44	CUYAHOGA	FAIRVIEW PARK	IR-480 (SFN 1812831)	REHABILITATION OF SFN 1812831 ON IR 480 OVER ROCKY RIVER	2030-2040	\$32,190,935	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
45	CUYAHOGA	FAIRVIEW PARK	SR-17 (SFN 1802046)	REHABILITATION OF SFN 1802046 ON SR 17 OVER ROCKY RIVER	2025-2030	\$18,176,255	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
46	CUYAHOGA	GARFIELD HEIGHTS	IR-480 / GRANGER ROAD INTERCHANGE	IR-480 / GRANGER RD INTERCHANGE: COMPLETION OF THE IR480/GRANGER ROAD PARTIAL INTERCHANGE IN THE CITY OF GARFIELD HEIGHTS. THE WESTBOUND EXIT AND EASTBOUND ENTRANCE RAMPS WILL BE ADDED, AND THE EXISTING WESTBOUND ENTRANCE RAMP WILL BE RECONSTRUCTED TO MEET CURRENT DESIGN STANDARDS.	2030-2040	\$13,000,000	EXPAND	ROADWAY	NEW INTERCHANGE
47	CUYAHOGA	INDEPENDENCE	IR-77 (SFN 1806173)	REHABILITATION OF SFN 1806173 ON IR 77 OVER CUY RVR&SR17&CANAL RD&CSX	2040-2050	\$60,194,581	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
48	CUYAHOGA	LAKEWOOD	IR-90 (SFN 1808567)	REHABILITATION OF SFN 1808567 ON IR 90 OVER ROCKY RIVER VALLEY	2025-2030	\$15,570,943	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
49	CUYAHOGA	WARRENSVILLE HEIGHTS	IR-480N (SFN 1814494)	REHABILITATION OF SFN 1814494 ON IR 480N OVER SR-8 (NORTHFIELD)&480 WB	2040-2050	\$13,342,980	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
50	GEAUGA	CHARDON//CONCORD TWP _s	SR-44 MAJOR REHAB	SR-44 MAJOR REHAB IN 2026	2026	\$10,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
51	LAKE	LAKE COUNTY	IR-90 MAJOR REHAB	LAK IR 090 MAJOR REHAB FROM ROCKEFELLER TO W OF KIRTLAND RD	2030	\$83,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION

52	LAKE	LAKETRAN	LAKETRAN CAPITAL BUS REPLACEMENTS	LAKETRAN'S COMMUTER EXPRESS AND FIXED ROUTE BUSES WILL BE REPLACED PER USEFUL LIFE GUIDELINES	2028-2045	\$20,000,000	MAINTAIN	TRANSIT	TRANSIT- VEHICLE REPLACEMENTS
53	LAKE	PAINESVILLE	SR-44 ST 05.10 / JACKSON STREET INTERCHANGE	SR-44 05.10/ JACKSON ST INTERCHANGE: COMPLETION OF THE SRT-44/ JACKSON STREET PARTIAL INTERCHANGE AND RELATED IMPROVEMENTS IN THE CITY OF PAINESVILLE.	2030-2040	\$15,000,000	EXPAND	ROADWAY	NEW INTERCHANGE
54	LORAIN	ELYRIA/ LORAIN COUNTY	IR-90 MAJOR REHAB	IR-90 MAJOR REHABILITATION IN LORAIN COUNTY, FROM OHIO TURNPIKE BRIDGE TO FRENCH CREEK BRIDGE, ALSO BEING EVALUATED FOR POTENTIAL CAPACITY ENHANCEMENTS	2024	\$52,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
55	LORAIN	SHEFFIELD	NORTH RIDGE ROAD (SFN 4706250)	REHABILITATION OF SFN 4706250 ON NORTH RIDGE ROAD OVER BLACK RIVER AND METROPRK	2040-2050	\$17,693,150	MAINTAIN	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
56	MEDINA	MEDINA COUNTY	IR-76 MAJOR REHAB	IR-76 REHABILITATION FROM IR-71 TO SUMMIT COUNTY LINE, ALSO BEING EVALUATED FOR POTENTIAL CAPACITY ENHANCEMENTS	2030	\$120,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
57	MEDINA	MEDINA COUNTY	TRANSIT VEHICLE REPLACEMENTS	REPLACEMENT OF BUSES PER USEFUL LIFE GUIDELINES	2025-2050	\$19,500,000	MAINTAIN	TRANSIT	TRANSIT- VEHICLE REPLACEMENTS

Table 10-11. List of eNEO 2050 Illustrative Projects (Projects Pending Review against NOACA Planning Requirements and/or Demonstration of Fiscal Constraint)

COUNTY	LOCATION	PROJECT NAME	PROJECT DESCRIPTION	NEED YEAR	COST	MAINTAIN / EHANACE / EXPAND	MODE	PRIMARY WORK TYPE
CUYAHOGA	BEACHWOOD	CUY - 271/422 - 7.80/10.77	ALONG CHAGRIN BOULEVARD BETWEEN RICHMOND ROAD AND ORANGE PLACE—WIDEN THE SB/NB APPROACHES TO THE CHAGRIN BLVD./ RICHMOND RD. INTERSECTION, CONSTRUCT A WB RIGHT-TURN LANE AT CHAGRIN BLVD. / RICHMOND RD. AND EXTEND THE THIRD EB TRAVEL LANE ON CHAGRIN BLVD. BEYOND RICHMOND RD., WIDEN THE I-271 NB EXIT RAMP FOR DUAL LEFT/RIGHT TURN LANES, WIDEN EB/WB CHAGRIN BLVD., INCLUDING THE BRIDGE OVER I-271	2024	\$16,378,700	ENHANCE	ROADWAY	ROAD WIDENING/ REHABILITATION/ INTERSECTION IMPROVEMENT/ TRAFFIC SIGNALS
CUYAHOGA	CLEVELAND	CLEVELAND'S MULTIMODAL TRANSPORTATION FACILITY TRANSIT- NEW FACILITIES	CONSTRUCT CLEVELAND'S MULTIMODAL TRANSPORTATION FACILITY	2040	\$46,700,000	ENHANCE	TRANSIT	TRANSIT-NEW FACILITIES
CUYAHOGA	CLEVELAND	LAKEFRONT PEDESTRIAN CONNECTION	ENHANCED PEDESTRIAN ACCESS TO THE LAKEFRONT CONNECTING DOWNTOWN CLEVELAND, LEVERAGE A COHESIVE AND OPEN CITY GRID, AND CREATE SITES FOR ECONOMIC DEVELOPMENT.	2025- 2030	\$200,000,000	ENHANCE	NONMOTORIZED/ ROADWAY	BICYCLE/ PEDESTRIAN FACILITIES

CUYAHOGA	CLEVELAND	REGIONAL AIRPORT ACCESS IMPROVEMENTS	COMBINE SEVERAL SMALLER PROJECTS AIMED AT IMPROVING INGRESS AND EGRESS TO REDUCE CONGESTION AND IMPROVE OPERATIONS. ALTHOUGH STILL IN A CONCEPTUAL PHASE, RECOMMENDED IMPROVEMENTS INCLUDE A REVISED ROADWAY CONFIGURATION, ADJUSTED CURB CONFIGURATION AND OPERATION, ADDED PUBLIC PARKING WITH WALKABLE ACCESS, IMPROVED RENTAL CAR ACCESSIBILITY, AND ELIMINATING CERTAIN TRAFFIC CROSSINGS AND SIGNALS.	2025-2030	\$100,000,000	ENHANCE	ROADWAY	ROADWAY REALIGNMENT
CUYAHOGA	CLEVELAND	SHAKER SQUARE SQUARE RECONFIGURATION & ROAD REHABILITATION	REALIGNMENT OF SR 87, SOUTH MORELAND BLVD., VAN AKEN BLVD., NEW TRAFFIC CONTROL, PEDESTRIAN ENHANCEMENTS	2032	\$12,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
CUYAHOGA	CLEVELAND	WHISKEY ISLAND BRIDGE ACCESS, NEW BRIDGE AND ROAD APPROACHES	WHISKEY ISLAND BRIDGE OVER CUYAHOGA RIVER, ABANDONING WILLOW LIFT BRIDGE, CREATING RELIABLE ISLAND ACCESS FOR REGIONAL SALT AND AGGREGATE SUPPLIERS	2026	\$85,000,000	EXPAND	ROADWAY	NEW BRIDGE AND ROAD APPROACHES
CUYAHOGA	INDEPENDENCE	BRECKSVILLE ROAD RECONSTRUCTION AND STREETScape IMPROVEMENTS	CONSTRUCT A 14' BOULEVARD ALONG THE CENTER OF BRECKSVILLE ROAD NORTH OF ROCKSIDE ROAD, PROVIDING 2 TRAVEL LANES IN EACH DIRECTION, A 14' MEDIAN, 8' SIDEWALK ON ONE SIDE OF BRECKSVILLE ROAD AND A 5' SIDEWALK ON THE OTHER. WIDEN THE EXISTING BRIDGE OVER I-480	2023	\$17,976,522	EXPAND	ROADWAY	ROAD REHABILITATION / WIDENING/ STREETScape

CUYAHOGA	INDEPENDENCE	I-77 / PLEASANT VALLEY ROAD INTERCHANGE IMPROVEMENT	IMPROVE THE SAFETY AND INCREASE THE CAPACITY OF THE I-77 / PLEASANT VALLEY ROAD INTERCHANGE WITHIN THE CITY OF INDEPENDENCE.	2026	\$6,000,000	EXPAND	ROADWAY	ROAD WIDENING/ REHABILITATION/ INTERSECTION IMPROVEMENT/ TRAFFIC SIGNALS/ INTERCHANGE IMPROVEMENT
CUYAHOGA	MAYFIELD	I-271 AND WHITE ROAD INTERCHANGE	CONSTRUCT A NEW INTERCHANGE AT IR-271 AND WHITE ROAD	TBD	TBD	EXPAND	ROADWAY	NEW INTERCHANGE
CUYAHOGA	MAYFIELD	I-271 AND WILSON MILLS ROAD INTERCHANGE MODIFICATION	ADDITION OF A THIRD LANE IN BOTH THE EAST AND WEST BOUND DIRECTION ON WILSON MILLS ROAD TO FACILITATE AN ADDITIONAL LEFT-TURN LANE ONTO BOTH I-271 NORTH AND SOUTH BOUND ON RAMP. WIDENING THE EXISTING NORTH AND SOUTH BOUND ON-RAMPS FROM ONE LANE TO TWO LANES TO ACCEPT THE ADDITIONAL LEFT-TURN LANE FROM WILSON MILLS ROAD.	2026	\$2,000,000	EXPAND	ROADWAY	ROAD WIDENING
CUYAHOGA	NORTH ROYALTON	ROYALTON ROAD (SR82) RIDGE ROAD TO BROADVIEW HEIGHTS CORP LINE PHASE III	WIDEN ROYALTON ROAD FROM 2 TO 3 LANES FOR A CENTER TWO-WAY LEFT-TURN LANE, FROM RIDGE ROAD TO BROADVIEW HEIGHTS CORP LINE	2025	\$14,000,000	ENHANCE	ROADWAY	ROAD WIDENING

CUYAHOGA	NORTH ROYALTON	ROYALTON ROAD (SR82) YORK RD. TO RIDGE RD. PHASE II	WIDEN ROYALTON ROAD FROM 2 TO 3 LANES FOR A CENTER TWO-WAY LEFT-TURN LANE, FROM YORK ROAD TO RIDGE ROAD	2025	\$12,500,000	ENHANCE	ROADWAY	ROAD WIDENING
CUYAHOGA	SOUTH EUCLID	S. GREEN ROAD (CR 14) RESURFACING, SOUTH	MILL AND RESURFACE, INSTALL NEW SIGNALS AT THREE INTERSECTIONS, RECONFIGURE FOUR-LANE ROADWAY INTO A "ROAD DIET" CONFIGURATION. TRAFFIC CONTROL PAVEMENT MARKINGS AND SIGNAGE WILL BE REPLACED FOR THIS NEW CONFIGURATION.	2022, 2037	\$2,073,000	ENHANCE	ROADWAY /NONMOTORIZED	ROAD DIET/BICYCLE LANE/ ROAD REHABILITATION/ TRAFFIC SIGNALS
CUYAHOGA	STRONGSVILLE	HOWE ROAD WIDENING	WIDEN HOWE ROAD FROM BOSTON ROAD TO POMEROY BOULEVARD FROM A 2-LANE ROAD WITH NO CURBS AND DRAINAGE DITCHES TO A 3-LANE ROAD WITH CURBS AND STORM SEWERS.	2025	\$10,000,000	EXPAND	ROADWAY	ROAD WIDENING
CUYAHOGA	UNIVERSITY HEIGHTS	CEDAR ROAD WEST RESURFACING AND ROAD DIET	RESURFACING WITH MINOR BASE REPAIRS, AS NECESSARY, COVERING APPROXIMATELY THREE-QUARTERS OF A MILE OF CEDAR ROAD FROM TAYLOR ROAD TO FENWICK ROAD. INCLUDES A ROAD DIET BETWEEN S. TAYLOR ROAD AND WASHINGTON BOULEVARD, INCLUDING MID-BLOCK CROSSWALKS.	2042	\$1,255,556	MAINTAIN	ROADWAY/ NONMOTORIZED	ROAD DIET/BICYCLE LANE/REHABILITATION

LAKE	EASTLAKE	SR-91 AND SR - 640 INTERSECTION UPGRADE AND SAFETY IMPROVEMENTS	REALIGN INTERSECTION, ADD NEW LANES AS NEEDED, NEW SIGNALS, RECONFIGURE ADJACENT BIKE PATHS, AND PEDESTRIAN CROSSINGS TO ENHANCE ECONOMIC DEVELOPMENT FOR FACILITIES APPURTENANT TO CLASSIC PARK	2023	\$1,925,000	ENHANCE	ROADWAY/ NONMOTORIZED	BICYCLE LANE/ ROAD WIDENING/ INTERSECTION IMPROVEMENT/ TRAFFIC SIGNALS
LAKE	LAKE COUNTY	JACKSON STREET REALIGNMENT	REALIGNMENT OF JACKSON STREET ON THE WEST SIDE OF PROPOSED SR44 INTERCHANGE.	2026	\$4,000,000	ENHANCE	ROADWAY	ROAD RESURFACING/REHABI LITATION
LAKE	LAKE COUNTY	LANE ROAD WIDENING AND GRADE SEPARATIONS	WIDENING OF LANE ROAD, ROW ACQUISITION, GRADE SEPARATION AT TWO RAILROAD CROSSINGS, TWO CULVERT WIDENINGS/REPLACEMENTS, AND DRAINAGE IMPROVEMENTS.	2026	\$25,000,000	ENHANCE	ROADWAY	BRIDGE MAINTENANCE/ REHABILITATION
LAKE	LAKE COUNTY	SR2 REHABILITATION EAST OF SR 44 TO RICHMOND ROAD INTERCHANGE	EXTEND 3 LANES IN BOTH DIRECTIONS FROM THE END OF 2012 3-LANE EXTENSION PROJECT. WIDEN BRIDGES AND CULVERTS AS REQUIRED. CENTERLINE MEDIAN BARRIER AND DRAINAGE SYSTEM REPLACEMENT. LED LIGHT POLES AND SOUND BARRIERS AS REQUIRED.	2035	\$45,000,000	EXPAND	ROADWAY	ROAD RESURFACING/ REHABILITATION

LAKE	LAKE COUNTY	SR-2 REHABILITATION, LAK 2- 0.00-3.63	RECONSTRUCT THE PAVEMENT AND REPLACE THE ROCKING CONCRETE SLABS BENEATH. ALSO INCLUDED ARE REPLACEMENT OF DRAINAGE SYSTEM AND SINGLE CENTER MEDIAN WALL REPLACEMENT.	2035	\$30,000,000	MAINTAIN	ROADWAY	ROAD RESURFACING/ REHABILITATION
LAKE	LAKETRAN	COMMUTER EXPRESS TO UNIVERSITY CIRCLE	NEW COMMUTER EXPRESS SERVICE FROM EXISTING LAKETRAN PARK-N-RIDE LOTS TO KEY SITES IN UNIVERSITY CIRCLE, SUCH AS CLEVELAND CLINIC AND UNIVERSITY HOSPITALS	2022 2023	\$5,356,000	EXPAND	TRANSIT	TRANSIT - NEW SERVICE
LAKE	LAKETRAN	VINE ST. CORRIDOR IMPROVEMENT	LAKETRAN AND THE CITIES OF WILLOWICK, EASTLAKE, AND WILLOUGHBY PARTNER TO IMPROVE LIGHTING AND SIGNAGE, ROAD DIETS AND TRAFFIC CALMING, TRANSIT WAITING ENVIRONMENTS, SIDEWALKS AND CROSSWALKS AND BIKE PARKING AND LANES.	2023- 2027	\$2,000,000	ENHANCE	NONMOTORIZED	ROAD DIET/BICYCLE LANE/INTERSECTION IMPROVEMENT/ SIGNALS
LAKE	MENTOR	LAK-90-09.45 BRIDGE WIDENING	WIDENING OF SR 615 BRIDGE OVER I-90 TO FOUR LANES WITH INTERCHANGE RAMP AND SIGNAL MODIFICATIONS. PROJECT NECESSARY TO ACCOMMODATE TRAFFIC GROWTH FROM NEARBY DEVELOPMENT.	2030	\$2,360,000	EXPAND	ROADWAY	ROAD WIDENING/BRIDGE MAINTENANCE/REHABI LITATION

LAKE	WILLOUGHBY	ERIE STREET GRADE SEPARATION	GRADE SEPARATION AT ERIE STREET. PART OF LARGER PLAN TO UPDATE UNDERSIZED STORM SEWERS OF ERIE STREET.	2035	\$20,000,000	ENHANCE	ROADWAY	GRADE SEPARATION
LAKE	WILLOUGHBY	I-90 AT SR-91 INTERCHANGE CITY GATEWAY	REVITALIZATION OF MAJOR ENTRY POINT FOR CITY	2036	\$10,000,000	ENHANCE	ROADWAY	ROAD REVITALIZATION
LAKE	WILLOUGHBY	THOROUGHFARE INTELLIGENT TRAFFIC MANAGEMENT SYSTEM	PHASED IMPROVEMENTS TO ENCOURAGE PARKING, MARKETING, PUBLIC OPEN SPACES, AND RETAIL.	2035	\$2,000,000	ENHANCE	ROADWAY	TRAFFIC SIGNALS
LAKE	WILLOUGHBY	VINE STREET SMART TRAFFIC SYSTEM [WILLOUGHBY - LAKE ERIE]	WIDEN VINE STREET, RECONFIGURE STREET PARKING, AND CREATE A MORE PEDESTRIAN & BUSINESS FRIENDLY ENVIRONMENT.	2030	\$1,500,000	ENHANCE	ROADWAY/NONMOTORIZED	ROAD WIDENING/REHABILITATION/TRAFFIC SIGNALS
LORAIN	AVON LAKE	WALKER ROAD WIDENING LEFT TURN LANE PROJECT	WIDEN WALKER ROAD TO ADD A CENTER LEFT-TURN LANE AND ADDITIONALLY WIDEN THE BIKE LANES TO 6 FEET. THIS PROJECT HAS BEEN REVIEWED BY ODOT AND IS FOR SAFETY IMPROVEMENTS TO BOTH VEHICULAR AND BICYCLE TRAVEL. TOTAL PAVEMENT WIDENING SHALL BE 16 FEET, (8 FT. ON EITHER SIDE), TO CREATE 12 FT. WIDE VEHICLE LANES AND 6 FT. WIDE HARD BERM BIKE LANES.	2023	\$2,500,000	EXPAND	ROADWAY/NONMOTORIZED	ROADWAY REHAB/MINOR WIDENING

LORAIN	ELYRIA	2ND ST. IMPROVEMENTS	PERFORM A ROAD DIET ON THE 4-LANE PORTION OF THE PROJECT LIMITS. IMPROVEMENT TRAFFIC SIGNALS AT GATEWAY, W. RIVER, EAST AVE. AND BROAD ST.? AVE.?. APPLY TRAFFIC CALMING TECHNIQUES TO THE DOWNTOWN BUSINESS AREA.	2027	\$2,566,029	ENHANCE	ROADWAY/NONMOTORIZED	ROAD RESURFACING/REHABILITATION/TRAFFIC SIGNALS
LORAIN	ELYRIA	E. BROAD ST. (ABBE RD. S. TO NORTH RIDGEVILLE CORP. LIMITS)	WIDEN ROADWAY TO INCLUDE A TWO-WAY LEFT TURN LANE AND IMPROVE TRAFFIC SIGNALS TO INCLUDE PEDESTRIAN TRAFFIC, PREEMPTION, AND VEHICLE DETECTION. INCORPORATE NEW SIDEWALKS/BICYCLE TRAIL.	2025	\$1,453,965	ENHANCE	ROADWAY/NONMOTORIZED	ROAD WIDENING/REHABILITATION/INTERSECTION IMPROVEMENT/TRAFFIC SIGNALS
LORAIN	ELYRIA	OBERLIN-ELYRIA RD. (MIDDLE AVE. TO CARLISLE TOWNSHIP CORP. LIMIT)	PERFORM ROAD DIET TO REDUCE 4 LANES TO 3 LANES WITH CENTER LANE BEING A TWO-WAY LEFT-TURN LANE. UPGRADE TRAFFIC SIGNAL AT WEST AVE. MODIFY SIGNAL AT MIDDLE AVE. INSTALL NEW SIDEWALK AND/OR MULTIUSE PATH. RECONFIGURE WEST AVE. INTERSECTION	2026	\$1,208,742	ENHANCE	ROADWAY/NONMOTORIZED	ROAD DIET/BICYCLE LANE/REHABILITATION
MEDINA	BRUNSWICK	SR 303 / CENTER ROAD RIGHT TURN LANE	EXTEND WESTBOUND THIRD LANE ON SR 303 TO NORTH CARPENTER ROAD INTERSECTION TO PROVIDE A RIGHT-TURN LANE	2023	\$550,000	EXPAND	ROADWAY	ROAD WIDENING

MEDINA	BRUNSWICK	WEST 130TH STREET - SOUTH	REHABILITATION / WIDENING FOR TWO-WAY LEFT-TURN LANE	2025	\$2,940,000	EXPAND	ROADWAY	ROAD WIDENING/ REHABILITATION/TRAFFIC SIGNALS
MEDINA	BRUNSWICK/ MEDINA COUNTY	IR-71 AND BOSTON ROAD INTERCHANGE	CONSTRUCT A NEW INTERCHANGE AT IR-71 AND BOSTON ROAD	TBD	TBD	EXPAND	ROADWAY	NEW INTERCHANGE
MEDINA	MEDINA COUNTY	IR-71 AND SR-57 (OR SR-162)	CONSTRUCT A NEW INTERCHANGE AT IR-71 AND SR-57 (OR SR-162)	TBD	TBD	EXPAND	ROADWAY	NEW INTERCHANGE
REGIONAL	CUYAHOGA, LAKE, LORAIN COUNTIES	LAKE ERIE LAKEFRONT TRAIL	PROVIDE EROSION MITIGATION AND PUBLIC MULTIPURPOSE ACCESS ALONG THE SHORELINE OF LAKE ERIE IN CUYAHOGA, LAKE AND LORAIN COUNTIES. PARTS OF THIS PROJECT COULD BE MODELED AFTER A SIMILAR PROJECT CONSTRUCTED BY THE CITY OF EUCLID, AND OTHER PARTS WOULD PROVIDE GENERAL ACCESS TO ENHANCE CONNECTIVITY FOR RESIDENTS AND VISITORS. NOACA AND CUYAHOGA COUNTY ARE CURRENTLY PERFORMING STUDIES ALONG THE LAKE ERIE SHORELINE.	2025-2030	\$750,000,000	ENHANCE	NONMOTORIZED	BICYCLE FACILITY
REGIONAL	HYPERLOOP	GREAT LAKES HYPERLOOP	CONDUCT AN ENVIRONMENTAL IMPACT STATEMENT FOR THE GREAT LAKES HYPERLOOP	2025-2030	\$10,000,000	EXPAND	TRANSIT	TRANSIT FACILITIES

REGIONAL	REGIONAL / GCRTA	REGIONAL RAIL EXTENSION	EXTENSION OF THE EXISTING GCRTA RAIL NETWORK WITHIN CUYAHOGA COUNTY SUBURBS, AND TO THE CITIES OF ELYRIA, MEDINA, SOLON, AND MENTOR IN THE SURROUNDING COUNTIES. THE EXTENDED RAIL NETWORK WOULD CONNECT RESIDENTS TO MAJOR JOB HUBS AND REGIONAL PLACES OF BUSINESS AND ATTRACTION.	2040-2050	\$14,000,000,000	EXPAND	TRANSIT	TRANSIT FACILITIES
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Fiscal Constraint Conclusion

Table 10-12 compares the estimated project costs and revenues (or available budgets) by scenario and project category. The Status Quo – Continued Growth scenario is the most likely to occur and serves as the selected scenario for demonstration of fiscal constraint. This scenario anticipates \$14.041 billion to be available through 2050.

Results of the scenario efficiency evaluation with regard to project costs in Chapter 9 and also the above comparison of the scenario costs and revenues lead to the development of a hybrid scenario. The hybrid scenario will combine the projects from all the scenarios to provide a robust multimodal transportation system that is also financially implementable. Chapter 11 will introduce this hybrid scenario as the *eNEO2050* Final Plan. The total project costs included in the hybrid scenario total \$13.415, therefore fiscal constraint requirements are satisfied.

Looking closer at Table 10-12, it is important to note that dedicated sources of revenue to nonmotorized and transit are insufficient, while dedicated sources for roadway are in excess of project needs. It is expected that available roadway funding will be utilized to supplement nonmotorized project needs as many of these projects are done in coordination with roadway projects – i.e. bike lanes, sidewalks. It is expected also that available roadway funding will be utilized to supplement transit project needs through flex fund transfers of eligible federal funds, such as STBG and CMAQ.

The Equitable Scenario was developed to demonstrate what the NOACA region should receive based on its share of statewide assets and populations, consistent with the federal and state purpose of those funding allocations. Under the Equitable-Continued Growth scenario, the NOACA region would expect to receive \$17.243 billion, equating to \$3.2 billion in additional funding over the Status Quo – Continued Growth scenario. This funding would allow for all of the \$1.544 billion in Illustrative roadway and nonmotorized projects to advance to the fiscally constrained plan and/or contribute to phases of the \$14.0 billion Illustrative transit rail expansion project needs.

As such, NOACA will continue to advocate for funding allocations to the region in line with the Equitable Scenario.

Table 10-12. Projected Costs of Plan Projects in eNEO2050 Future Scenarios against Revenue Scenarios

		Status Quo Scenario (2020\$) Billions			
Revenues	Growth Rates	Roadway	Nonmotorized	Transit	Total
	No Growth	\$10.053	\$0.271	\$1.646	\$11.971
	Continued Growth	\$11.610	\$0.352	\$2.079	\$14.041
	High Growth	\$14.134	\$0.469	\$2.840	\$17.443

		Equitable Scenario (2020\$) Billions			
Revenues	Growth Rates	Roadway	Nonmotorized	Transit	Total
	No Growth	\$12.418	\$0.271	\$2.023	\$14.712
	Continued Growth	\$14.439	\$0.352	\$2.451	\$17.243
	High Growth	\$17.353	\$0.469	\$3.075	\$20.897

Projects	Category	Net Present Value (2020\$) Billions	% NPV (2020\$)	Aggregated Annual Project Costs Total Dollars for Period of 2021 – 2050 in Billion
	Roadway	\$9.611	72%	12.154
	Transit	\$2.812	21%	3.776
	Nonmotorized Facilities	\$0.540	4%	0.694
	Emerging Technology	\$0.452	3%	0.716
	Total	\$13.415	100%	17.340

Transportation Conformity

All regions designated as nonattainment or maintenance areas for the National Ambient Air Quality Standards (NAAQS) related to mobile emissions—specifically ozone (O₃), coarse particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and carbon monoxide (CO)—must demonstrate that emissions from planned transportation system improvements will not exceed an area's motor vehicle emissions budgets (MVEBs). This requirement is known as transportation conformity. US DOT issues formal transportation conformity determinations to nonattainment areas following a quantitative analysis that demonstrates that emissions from vehicles that travel on the planned transportation system are less than the area's MVEBs (or other emission targets in the absence of an approved budget). Transportation conformity determinations ensure that the transportation sector contributes to an area's progress toward national air quality standards.

MPOs in Ohio and ODOT must establish conformity for the 2006 and 2012 PM_{2.5} NAAQS and the 2008 and 2015 8-hour O₃ NAAQS when they adopt new LRTPs or TIPs. Because conformity is determined at the level of the nonattainment/maintenance area rather than at the sub-area level, each of the area's planning partners must approve a new conformity finding for the area based on these updates.

The analyses for O₃ and the 2006 PM_{2.5} NAAQS cover the pertinent portions of the counties of Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit. The analysis for the 2012 PM_{2.5} NAAQS includes only Cuyahoga and Lorain counties, as they were the only counties included in the region's moderate nonattainment area for this standard. The analysis for the 2008 O₃ NAAQS covers Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit counties, while the 2015 NAAQS covers Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit. Conformity for both O₃ analyses is based upon the MVEB developed for the 2008 NAAQS. The analyses for the 2006 and 2012 PM_{2.5} NAAQS are based on the budgets outlined for the 1997 and 2006 PM_{2.5} maintenance plans, which the Ohio Environmental Protection Agency (Ohio EPA) developed. The current analyses reflect a comparison of projected transportation emissions against the approved or submitted budgets for each standard. All analyses used the MOVES2014a, an approved emissions modeling tool from US EPA.

Federal law requires that *eNEO2050* contain the design concept and design scope descriptions of all existing and proposed transportation facilities in sufficient detail, regardless of funding source, in nonattainment and maintenance areas for conformity determinations under the US EPA's transportation conformity regulations (40 CFR part 93, subpart A). NOACA staff considered the projects identified in Table 10-13 in the conformity analyses for *eNEO2050*.

These tests are required because all areas with a current or former designation of nonattainment must maintain conformity findings for the designated pollutants. The tests ensure that transportation planning efforts do not hinder efforts to bring the area into attainment of the standards or maintain attainment of the standards.

Tables 10-14 through 10-17 show the test results. For all tests, projected emission levels are beneath the respective MVEBs, demonstrating conformance with the goals of the Clean Air Act.

Table 10-13. eNEO2050 Transportation Conformity Highway Networks Summary

eNEO 2050 Transportation Conformity Networks Summary		
2022:	In addition to the existing system, and the projects identified in the network, the 2022 network contains the following additional capacity projects that will open to traffic by calendar year 2022	
County	Project Description	PID
Cuyahoga	IR- 480 07.14 WB Safety Reconfigure the WB IR-480 lane assignments through the IR-71/SR-237/ Grayton Rd interchanges in Cleveland to provide 3 lanes of traffic on the existing 2-lane section over the NS/RTA tracks and SR-237 and improve the operation and safety between Ramps T and B-5	108482
Cuyahoga	SR 010 20.398 (OC1): Widen and reconstruct East 105th St (SR-10) from Quebec Avenue to Chester Avenue (US-322) in the City of Cleveland. Section 1 of the Opportunity Corridor.	96832
Cuyahoga	SR 010 20.398 (OC2): New Construction from East 93rd Street to Quebec Avenue in the City of Cleveland. Construct new bridge over Norfolk Southern and GCRTA tracks. Extend platform and install ADA compliant stair elevator core at GCRTA E. 105th & Quincy Red Line Station.	98695
Cuyahoga	IR 490/SR 010 02.09/19.28 OC (OC3): Construction of a new roadway from west of East 55th Street to East 93rd Street in the City of Cleveland.	96833
Cuyahoga	SR-82 (East Royalton Rd): Reconstruction and widening 1.44 miles of SR-82 to 3 lanes by addition of 2-way left turn lanes, from W 130th St to York Rd.	80961
Cuyahoga	SR-82-10.17: Broadview Hts: East of SR-176 (Broadview Rd) to Treeworth Blvd. Widen a section SR-82, from three lanes to five lanes, from east of Broadview Road (SR-176) to Treeworth Boulevard.	96947
Lorain	US20 (Center Ridge Rd): Widening to 5 Lanes from Stoney Ridge Road to Lear Nagle in the City of North Ridgeville. Project includes 2.32 miles of improvements on US20 by pavement widening from 3 lanes to 5 lanes, multi-use path, sidewalks, storm sewer, traffic signals, and two bridge replacements.	82632
2030:	In addition to the existing system, and the projects identified in the network, the 2030 network contains the following additional capacity projects that will open to traffic by calendar year 2030	
Cuyahoga	CCG3A IR-90 16.28: Improve IR-90 at the 'Central Interchange' from E.9th to Carnegie; Includes Carnegie overhead bridge.	82382
Cuyahoga	CCG3B IR 077 14.57: Reconstruction of the IR-77 approach to the 'Central Interchange'. Work will include widening all mainline bridges, restriping the Kingsbury Run Bridge to accommodate an auxiliary lane, and replacing the mainline pavement.	80406

Cuyahoga	IR-77 0.42/Miller Road Interchange: Completion of the existing partial diamond interchange at I-77 and Miller Rd by adding a NB exit ramp and a SB entrance ramp including an auxiliary lane between the new SB entrance ramp and the I-80 exit ramp. The project also includes widening I-77 to add a third lane from the Ohio Turnpike Interchange to the SR 21 (Brecksville Rd) Interchange, and the widening of Miller Rd to provide left turn lanes including structure widening and dual WB right turn lanes onto the I-77 NB entrance ramp.	104983
Cuyahoga	IR- 090 16.53 WB: Construct an auxiliary lane along IR-90 WB from Prospect Avenue (US-6) to IR-77 SB in the City of Cleveland. Work includes restriping the existing lanes. Feasibility study and detail design to be completed under PID 82380. See PID 99593 (Resurfacing IR-90 from IR-77 to SR-2 in Cleveland) for temporary lane from Prospect to IR-77 for OC3 MOT.	106263
Cuyahoga	IR- 480 -14.57 AUXILIARY LANE- Construction of an auxiliary lane along IR-480 WB, from SR-176SB to the SR-94 (State Rd) interchange, in Cleveland. The acceleration lane from SB SR-176 and the deceleration lane from WB IR- 480 ramp to State Rd will be converted into an auxiliary lane and an extended weaving area.	108480
Cuyahoga	IR-480 18.42 L&R Deck: Replace the decks of the twin IR-480 bridges and construct a new four lane structure, between the existing bridges, over the Cuyahoga River Valley in Valley View and Independence.	90591
Medina	MED-018-12.99 (310 ft west of Alber Dr) to 15.11 (Nettleton Rd): Part 1: Widen to 3 lanes any 2 lane section from 12.99 (310 ft west of Alber Dr) to approx 900 ft west of Foote Rd. Widen to 5 lanes from approx 900 ft west of Foote Rd to River Styx Rd and to 7 lanes from River Styx Rd to Nettleton Rd. Part 2: Widening and Reconstructing River Styx Rd from Smith Rd to 295 ft South of Smith Rd. New Storm Drainage, Traffic Signals and Signage will be installed.	92953
Summit	SUM IR-77/277/US 224 VARIOUS: Reconstruction of existing pavement and adding 4th lane to sections of SUM IR 77 between the Arlington Rd and IR 277/US 224 interchanges, adding 2nd lane to the IR 77 NB ramp to IR 277 WB and IR 277 EB ramp to IR 77 SB, includes bridge replacements and bridge widenings within the same corridor.	106002
2040:	In addition to the existing system, and the projects identified in the network, the 2040 network contains the following additional capacity projects that will open to traffic by calendar year 2040	
Cuyahoga	CCG4C Innerbelt NS RR: South of the Innerbelt Curve A new overhead Norfolk Southern RR Bridge at a new location to accommodate the realignment of the Innerbelt Curve. This structure will replace the existing structure.	86744
Cuyahoga	CCG4E Innerbelt CURVE: Innerbelt Trench to E Shoreway, relocation of the innerbelt curve	77413
Cuyahoga	CCG5B Innerbelt EB PAVEMENT: EB Innerbelt Trench, from E 22nd St to Superior Ave	25795
Cuyahoga	CCG5C Innerbelt WB PAVEMENT: WB Innerbelt Trench from E 22nd St to Superior Ave	86746

Cuyahoga	IR-480 / Granger Rd Interchange: Completion of the IR480/Granger Road partial interchange in the city of Garfield Heights. The westbound exit and eastbound entrance ramps will be added, and the existing westbound entrance ramp will be reconstructed to meet current design standards.	TBD
Lake	SR-44 05.10/ Jackson St Interchange: Completion of the SRT-44/ Jackson Street partial interchange and related improvements in the city of Painesville.	76236
2050:	In addition to the existing system, and the projects identified in the network, there are no projects yet identified for the 2050 network	

Table 10-14. 2015 Daily 8-Hour Ozone Standard

Attainment status: 2015 8-Hour Ozone standard – marginal nonattainment area (Federal Register / Vol. 83, No. 107 / Monday, June 4, 2018)

SIP Status: Federal Register /Vol. 82, No. 4 /Friday, January 6, 2017 – direct final rule adequacy finding for Motor Vehicle Emission Simulator (MOVES) based 2008 ozone standard MVEB

No submittals required under 2008 8-Hour ozone standard until approved budgets are received. The budgets found adequate for 2008 standard will satisfy the 2015 tests, per U.S. EPA.

8-Hour Geography: Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, Summit counties, OH

Conformity Tests: 2008 Standard 8-Hour budget tests

Analysis Years: 2021 Attainment and 1st Analysis year
2030 Interim and SIP Budget year
2040 Interim year
2045 AMATS/ERPC Plan horizon year
2050 NOACA Plan horizon year

8-Hour Ozone Test	2021 Emissions	2030 8-Hour Budget	2030 Emissions	2040 Emissions	2045 Emissions	2050 Emissions
AMATS	tons / day					
VOC	7.07		3.26	2.95	3.05	2.96
NOx	9.74		4.05	3.31	3.28	3.28
NOACA	tons / day					
VOC	21.88		13.22	9.02	8.66	9.20
NOx	29.01		14.75	8.95	8.74	8.29
Totals	tons / day					
VOC	28.95	30.80	16.48	11.97	11.71	12.16
NOx	38.75	43.82	18.8	12.26	12.02	11.57

Table 10-15. 2008 Daily 8-Hour Ozone Standard

Attainment status: 2008 8-Hour Ozone standard – maintenance area (Federal Register / Vol. 82, No. 4 /Friday, January 6, 2017)

1997 8-Hour Ozone Standard - maintenance area (Federal Register Notice Final Rule Tuesday, September 15, 2009)

SIP Status: Federal Register /Vol. 78, No. 53 /Tuesday, March 19, 2013 – direct final rule adequacy finding for MOVES based 1997 Ozone standard MVEB

No submittals required under 2008 8-Hour Ozone standard until approved budgets are received. The budgets found adequate for the 1997 standard will satisfy both 1997 and 2008 tests for the time being per U.S. EPA.

8-Hour Geography: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, Summit counties, OH

Conformity Tests: 1997 Standard 8-Hour budget tests

Analysis Years: 2021 1st Analysis year
2030 Interim and SIP Budget year
2040 Interim year
2045 AMATS/ERPC Plan horizon year
2050 NOACA Plan horizon year

8-Hour Ozone Test	2021 Emission s	2030 8-Hour Budget	2030 Emission s		2040 Emission s	2045 Emission s	2050 Emission s
AMATS		tons / day					
VOC	7.07		3.26		2.95	3.05	2.96
NOx	9.74		4.05		3.31	3.28	3.28
NOACA		tons / day					
VOC	21.88		14.26		9.88	8.66	9.20
NOx	29.01		15.54		8.95	8.74	8.29
Ashtabula County		tons / day					
VOC	1.16		0.53		0.50	0.51	0.50
NOx	1.50		0.62		0.52	0.51	0.52
Totals		tons / day					
VOC	30.11	30.80	17.01		12.47	12.22	12.66

NOx	40.25	43.82	19.42		12.78	12.53	12.09
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Table 10-16. PM_{2.5} 2006 Standard

Attainment/	2006 Annual PM _{2.5} Standard – maintenance area (Federal Register / Vol. 78, No. 144 / Friday, July 26, 2013)
SIP Status:	Cleveland area to attainment for 1997 and 2006 PM _{2.5} Standards – FR notice included an adequacy finding for the MOVES based MVEBs
Geography:	Cuyahoga, Lake, Lorain, Medina, Portage, Summit counties, OH, and Ashtabula Township (Ashtabula County, OH)
Conformity Tests:	Budget tests
Analysis Years:	2022 PM _{2.5} Budget Year 2030 Interim year 2040 Interim year 2045 AMATS/ERPC Plan horizon year 2050 NOACA Plan horizon year

PM _{2.5} Test	2022 Budget	2022 Emissions	2030 Emissions	2040 Emissions	2045 Emissions	2050 Emissions
AMATS	tons/year					
Direct PM		111.92	90.78	93.92	88.26	89.61
NOx		2,108.06	1,414.19	1,297.58	1,291.22	1,297.47
NOACA	tons/year					
Direct PM		397.13	262.18	209.93	209.24	208.49
NOx		10,447.02	4,721.64	2,988.83	2,930.40	2,891.73
Ashtabula Twp	tons/year					
Direct PM		1.9	1.53	1.61	1.5	1.53
NOx		33.8	22.78	20.88	20.77	20.7
Totals	tons/year					
Direct PM	880.89	510.95	354.49	305.46	299.0	299.63
NOx	17,263.65	12,588.88	6,158.61	4,307.29	4,242.39	4,209.9

Table 10-17. PM_{2.5} 2012 Standard

Attainment status: 2012 Annual PM_{2.5} Standard – maintenance area (80 FR 2205 /January 14, 2015)

SIP Status: Federal Register /Vol. 83, No. 246 /Wednesday, December 26, 2018 – approval of SIP and finding in support of MOVES based 2012 standard PM_{2.5} MVEB

Geography: Cuyahoga and Lorain counties, OH

Conformity Tests: 2012 SIP Maintenance Plan tests

Analysis Years: 2022 PM_{2.5} Budget year
2030 Interim year
2040 Interim year
2045 AMATS/ERPC Plan horizon year
2050 NOACA Plan horizon year

PM _{2.5} Test	2022 Budget	2022 Emissions	2030 Budget	2030 Emissions	2040 Emissions	2045 Emissions	2050 Emissions
	tons/year						
Direct PM _{2.5}	406.79	290.22	270.57	186.73	149.28	148.61	148.04
NOx	9,432.04	7,492.24	4,907.54	3,152.17	1,971.1	1,928.35	1,899.30