NORTH CAROLINA DEPARTMENT OF TRANSPORTATION - NCDOT

VEHICLE MILES TRAVELED (VMT) REDUCTION TOOLKIT

DECEMBER 2023

Stantec

INTRODUCTION

On January 7, 2022, Governor Roy Cooper signed Executive Order 246, "North Carolina's Transformation to a Clean, Equitable Economy." In addition to setting targets for greenhouse gas reductions and adoption of zero emission vehicles, the order requires NCDOT to develop a Clean Transportation Plan. As part of this plan, development of actionable strategies for Vehicle Miles Traveled (VMT) reduction will be included. This toolkit will aid in realizing VMT reduction throughout North Carolina.

This toolkit is an interactive document with information about Transportation Demand Management (TDM) measures that reduce VMT and the potential funding sources available to implement these measures.

The toolkit is divided into two parts:

- TDM Summary Pages that describe each TDM measure including pros/cons, successful examples in North Carolina and elsewhere, and additional resources.
- Funding Pages that describe grant programs that could potentially be used to fund the implementation of the TDM measures.

The following section describes how to navigate through the document.

Should you have any comments or questions on how to use this document or on any of the content, please contact:

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HOW TO USE THIS TOOL

Click any of the listed TDM strategies to view details

Regional

- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- High Occupancy Vehicle (HOV) Facilities
- Non-Motorized Mode Support
- Vanpool

STRONG IMPACT

Access Priority
Affordable Housing
Alternative Mode Sharing
Car Sharing
Complete Streets
Compressed Work Week
Development Impact Mitigation
Employee Parking Cash-Out
Gas Tax Increase
HOV Facilities
Internet-Based Strategies
Mixed Land Use
Non-Motorized Mode Support
Parking Pricing
Public Transit
Road Pricing
Telecommuting-Telework
Transit-Oriented Development
Transportation Management Association
Trip Reduction Ordinance
Vanpools
VMT Tax

Source and reference links are presented in orange text. Click these links to navigate to website

"Show me the money: Offering commuting and parking cash out benefits", Transit Screen Blog, November 8, 2019. https://transitscreen.com/blog/commuting-cash-out-programs-parking-public-transit-employee-incentives-decrease-traffic-how-to-create-effective-transit-programs-in-the-office/

Regional

NON-MOTORIZED MODE SUPPORT

REGION TYPE

URBAN SUBURBAN

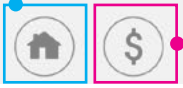
DESCRIPTION

Non-motorized modes of transportation include walking and biking. These modes can be recreational or for conveyance. Non-motorized mode support focuses on strategies to support and encourage walking or biking. This can include installing and maintaining sidewalks and bike lanes, increasing connectivity, public education and promotion campaigns of non-motorized modes, bicycle parking, bicycle racks on buses, pedways, and Safe Routes to School or work programs. This strategy could be used to support other strategies ete Streets.

Click any of the listed funding sources to view details

Use this icon to navigate to the funding sources for this TDM measure

Use this icon to navigate to the TDM table of contents



Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Hoursing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Hoursing and Urban Development

Recreational Trails Program
Funding Type: State
Agency: North Carolina Department of Natural and Cultural Resources

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Adminstration

Transportation Alternatives Program (TAP)
Funding Type: Federal
Agency: US DOT - administered by NC DOT

Bicycle and Pedestrian Planning Grant Initiative
Funding Type: State
Agency: NCDOT

Community Grants
Funding Type: Foundation
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Climate Grant
Funding Type: Foundation
Agency: David and Lucile Packard Foundation

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Click this to navigate to source or reference website

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VISIT SITE

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Developement
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Choice Neighborhoods Program Planning Grants

FUNDING TYPE
Federal

AGENCY
US Department of Housing and Urban Development

PURPOSE / GOALS

To support locally driven strategies that address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation

APPLICANT ELIGIBILITY

Public Housing Agencies (PHA), local governments, tribal entities, and nonprofits

ELIGIBLE USE OF FUNDS

Each application must focus on the revitalization of at least one severely distressed public and/or HUD-assisted housing through a comprehensive approach to neighborhood transformation. To this end, Choice Neighborhoods is focused on three core goals:

Housing: Replace severely distressed public and HUD-assisted housing with high-quality mixed-income housing that is well-managed and responsive to the needs of the surrounding neighborhood;

People: Improve outcomes of households living in the target housing related to income and employment, health, and education; and

Neighborhood: Create the conditions necessary for public and private investment in distressed neighborhoods to offer the kinds of amenities and assets, including safety, good schools, and commercial activity, that are important to families' choices about their community.

Click any of the listed TDM Measures to view details

LOAN OR GRANT MAXIMUM & TERMS

Up to $450,000

Match of 5% of the grant amount in cash or in-kind donations is required.

ADDITIONAL REQUIREMENTS & TERMS

Successful applicants must develop and implement a comprehensive neighborhood revitalization strategy, or "Transformation Plan." This Transformation Plan becomes the guiding document for the revitalization of the public and/or assisted housing units

Use this icon to navigate to the funding sources table of content

CONTACT

ChoiceNeighborhoods@hud.gov

Click the contact address to send an email

FUNDING CYCLE

Last cycle closed on July 13, 2021

Note: Click on any TDM measure listed for more information.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

Worksite/Workplace

- Employee Parking Cash-Out Program
- Transportation Management Associations
- Alternative Work Schedules

Regional

- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- High Occupancy Vehicle (HOV) Facilities
- Non-Motorized Mode Support
- Vanpool

Telecommunication

- Internet Based Strategies
- Information Service: Broadband Expansion
- Telecommuting/Telework

Land Use

- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Jobs/Housing Balance
- Mixed Land Use

Public Policy/Regulatory

- Access Priority/Restriction
- Trip Reduction Ordinance

Pricing

- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

Application-Based

- Mobility as A Service
- Ride-Matching Applications

Support

- Compact Development/Clustering
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

VIEW TDM CLASSIFICATION

Note: Click on any TDM measure listed for more information.

TDM MEASURES BY AREA TYPE

	STRONG IMPACT	MODERATE IMPACT
 **URBAN**	Access Priority Affordable Housing Alternative Mode Sharing Carsharing Complete Streets Compressed Work Week Development Impact Mitigation Employee Parking Cash-Out Gas Tax Increase HOV Facilities Internet-Based Strategies Mixed Land Use Non-Motorized Mode Support Parking Pricing Public Transit Road Pricing Telecommuting-Telework Transit-Oriented Development Transportation Management Association Trip Reduction Ordinance Vanpools VMT Tax	Connectivity Custom Transit
 **SUBURBAN**	Compressed Work Week Connectivity Custom Transit Development Impact Mitigation Gas Tax Increase HOV Facilities Internet-Based Strategies Non-Motorized Mode Support Park And Ride Lots Public Transit Telecommuting-Telework Transit-Oriented Development Transportation Management Association Trip Reduction Ordinance Vanpools VMT Tax	Access Priority Employee Parking Cash-Out Mixed Land Use Parking Pricing Road Pricing
 **RURAL**	Compressed Work Week Custom Transit Gas Tax Increase Information Services-Broadband Expansion Internet-Based Strategies Telecommuting-Telework VMT Tax	Connectivity HOV Facilities Park And Ride Lots Vanpools

EMPLOYEE PARKING CASH-OUT PROGRAM

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Many employers provide their employees a "free" parking space. Parking cash-out allows employees to opt out of using this space in exchange for payment which may be used to purchase transit fares, or in some programs, kept as cash. The program is typically administered on a monthly basis but some daily cash-out programs do exist.

The cost of providing parking to employees is high. According to WGI, the 2019 average construction cost for a parking spot in a parking structure in Charlotte was $18,122. A surface lot parking space would be less, but would likely cost between $2,000 and $3,000 per space.

In addition to the construction costs, annual operation and maintenance can add about $300-$500 per year (in 2013 dollars) per space, and the initial land costs can also be high, particularly in a dense urban area.

PROS

- Encourages non-vehicle modes, including transit, walking, and biking.
- Reduces the employee costs related to parking facilities and makes transit less costly to employees.

CONS

- Not all commuter trips can be served by alternative modes of transportation.

POTENTIAL VMT REDUCTION IMPACT

For Parking Cash-Out programs, the commuting VMT per employee may decrease by as much as 12%. (Best Workplaces for Commuters)

Research in a Portland State University Transportation Research and Education Center (TREC) monthly webinar concluded that a monthly cash-out program that requires employers to offer employees the option to cash out their parking on a monthly basis was estimated to result in a change in commuter VMT of -7.9% (Indianapolis) to -29.8% (New York City) and a city-wide change in commuter VMT of -2.9% (New York City) to -19.7% (Boston/Cambridge).

IMPLEMENTATION CONSIDERATIONS

Parking cash-out programs work best in areas that have good transit coverage.

NORTH CAROLINA EXAMPLES

- Pendo, a technology company with an office in Raleigh, provides free parking or a stipend for employees who choose to bike, walk, or use public transportation to get to work.

OTHER EXAMPLES

- Seattle Children's Hospital
- Delta Dental of Washington
- Downtown Grand Rapids, Inc.

https://www.smartergrowth.net/wp-content/uploads/2018/04/Examples-of-employers-implementing-parking-cash-CSG.pdf

SOURCES

"Parking Cash Out: Implementing Commuter Benefits as One of the Nation's Best Workplaces for Commuters", Best Workplaces for Commuters, March 2005.
http://www.reconnectingamerica.org/assets/Uploads/bestpractice090.pdf

"Parking Management: Comprehensive Implementation Guide." Litman, Todd. Victoria Transport Policy Institute, 19 November 2023.
www.vtpi.org/park_man_comp.pdf

"Webinar: Transportation Benefits of Parking Cash-Out, Pre-Tax Commuter Benefits, and Parking Surtaxes" Greenberg, Allen; Choe, James; Sethi, Sonika; and Stoll, Colleen, (2017). TREC Webinar Series. 23.
http://pdxscholar.library.pdx.edu/trec_webinar/23

"Show me the money: Offering commuting and parking cash-out benefits", Transit Screen Blog, November 8, 2019.
https://transitscreen.com/blog/commuting-cash-out-programs-parking-public-transit-employee-incentives-decrease-traffic-how-to-create-effective-transit-programs-in-the-office/

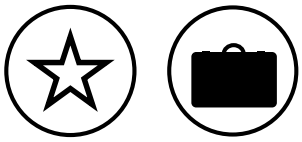
TYPE OF TRIPS TARGETED

Commuter trips

POTENTIAL APPLICATION LOCATIONS

Urban City Centers
Town Center

IMPLEMENTED BY



STATE GOV'T PRIVATE

Workside/Workplace

TRANSPORTATION MANAGEMENT ASSOCIATIONS

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Transportation Management Associations (TMAs) are independent groups that coordinate transportation services, usually in partnership with government entities. TMAs can consist of private citizens, employers, business owners, developers, or other stakeholders. Coordinated services can include ride-matching, employer shuttles, shared parking, paratransit, travel alerts, safe routes to school/work, bikesharing, or carsharing. TMAs can also be a valuable channel for communicating and marketing new Transportation Demand Management (TDM) measures.

TMAs cover defined geographic areas and can have a mix of voluntary and compulsory membership. Required membership can be part of zoning and variance agreements. Voluntary membership rationale includes the economic growth seen in areas with TMAs and the ability to have a formal stakeholder voice. TMAs are not for profit and funding can be a mix of private funding like membership fees and public funding.

PROS

- Provides a formalized group to interface with stakeholders in localized TDM measures.
- Provides a way for government entities to promote and track employer and business based TDM measures.
- Has shown success in low-population, rural areas.

CONS

- Success is dependent on the willingness of participants.
- Is a government partnership group, not government controlled.

POTENTIAL VMT REDUCTION IMPACT

VMT reduction is dependent on the programs the TMA implements. From 2009 to 2011, three Portland area TMAs reduced VMT from between 0.003% to 0.03% of the regional VMT (Mosaic).

IMPLEMENTATION CONSIDERATIONS

Getting consensus and buy-in from potential members is key.

NORTH CAROLINA EXAMPLES

- Charlotte
  https://www.charlottecentercity.org/
- GoRTP
  https://www.rtp.org/local-transit/

OTHER EXAMPLES

- Nationwide – over 150 TMAs in the US in 2015
- Virginia
  https://mobilitylab.org/what-is-mobility-lab/
- New Jersey
  https://gmtma.org/
- Maine
  http://dune.une.edu/theses/65

SOURCES

Oregon Department of Transportation, "Mosaic Programs Guide", 2012.
https://www.oregon.gov/ODOT/Planning/Documents/Mosaic-Programs-Guide.pdf

TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Any

IMPLEMENTED BY

COUNTY/ LOCAL GOV'T MPO/RPO PRIVATE

TRANSPORTATION MANAGEMENT ASSOCIATIONS

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

ALTERNATIVE WORK SCHEDULES

(COMPRESSED WORK WEEK)

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Traditional work schedules consist of working an 8-hour day, 5 days a week typically Monday through Friday from about 8 AM to 5 PM. An alternative work schedule varies these work hours to spread the typical 40-hour work week over different hours of the day and sometimes for fewer days per week. If the 40 hours are spread over a shorter week, reductions in commuter VMT can be achieved. For example, if a commuter works 10 hours per day for 4 days per week, instead of 8 hours per day for 5 days per week, they reduce their weekly commuter VMT for this trip type by 20%. If they spread two weeks of work (80 hours) over 9 days instead of 10 days, a 10% reduction in commuter VMT can be achieved.

PROS

- Appealing to the worker because they have an extra day off. Can result in better employee health and employee productivity and retention.
- No additional cost to the employer to implement this policy.

CONS

- May not be feasible for all job types.

POTENTIAL VMT REDUCTION IMPACT

A study of a 4/40 work week (4 10-hour days instead of 5 8-hour days) in Los Angeles County showed that employees actually made more trips on their compressed workweek day off than they would have, had they been working. These extra trips were typically shorter in length and often were "chained trips" from one destination to another. Each participant in the study drove about 46 miles less per week than when they worked a 5-day week (Ho and Stewart).

IMPLEMENTATION CONSIDERATIONS

This measure may not be applicable to all job types.

NORTH CAROLINA EXAMPLES

- Raleigh
  https://www.wral.com/some-triangle-employers-offering-shorter-work-weeks/18542010/

OTHER EXAMPLES

- Microsoft Japan
  https://www.npr.org/2019/11/04/776163853/microsoft-japan-says-4-day-workweek-boosted-workers-productivity-by-40
- Shake Shack, Wildbit, Cockroach Labs
  https://edition.cnn.com/2019/07/01/success/four-day-work-week/index.html

SOURCES

A. Ho, J. Stewart, "Case Study on Impact of 4/40 Compressed Workweek Program on Trip Reduction",Transportation Research Record, 1992 .
http://onlinepubs.trb.org/Onlinepubs/trr/1992/1346/1346-005.pdf

Texas A&M Transportation Institute Mobility Investment Properties, "Compressed Work Weeks"
https://mobility.tamu.edu/mip/strategies-pdfs/travel-options/technical-summary/compressed-work-weeks-4-pg.pdf

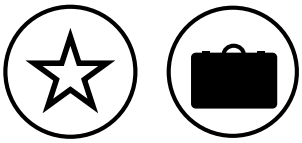
TYPE OF TRIPS TARGETED

Commuter Trips

POTENTIAL APPLICATION LOCATIONS

Many potential applications to many job types

IMPLEMENTED BY



STATE GOV'T PRIVATE

Regional

PARK AND RIDE LOTS

REGION TYPE

SUBURBAN RURAL

DESCRIPTION

Park and ride facilities are parking lots where commuters can park their personal vehicles and transfer to a "higher occupancy" transportation mode such as light rail, bus, or carpool vehicles.

Park and ride facilities are typically adjacent to a transit station and/or a highway to allow for an easy connection between modes. Park and ride lots may be maintained by the Department of Transportation (DOT) or other public agency and monitored by local law enforcement to prevent vehicle theft and overnight parking. Lots may also be converted from existing underutilized or unutilized lots like shopping centers.

PROS

- Provides an opportunity for commuters who may otherwise drive alone to work to use either public transit or carpooling for part of their commute.
- Provides carpoolers with a safe, central location to meet at the beginning of the carpool.
- May be combined with other uses, such as storage for DOT maintenance equipment, or unused mall lots.
- Compliments other Transportation Demand Management (TDM) measures, such as public transit and High Occupancy Vehicle (HOV) lanes.

CONS

- Park and ride lots have a finite capacity; once that capacity is met for the day, it cannot be used by additional commuters.
- Workers may decide to live further away from their jobs if a park and ride lot provides an opportunity to drive only a portion of the distance for each commute. In some cases the overall trip length may be longer and while some part of their trip may be in a shared vehicle, their overall VMT may not be reduced.

POTENTIAL VMT REDUCTION IMPACT

Reductions in VMT are dependent on the number of spaces provided, the distance from the lot to a final destination, and the shared mode. VMT reductions for specific scenarios can generally be calculated by taking the number of spaces (assuming 70-85% occupancy from Federal Highway Administration (FHWA) or based on local data) and the remaining distance to a central business district. An FHWA study found that the installation of park and ride facilities may reduce regional VMT by 0.1-0.5%. (California Air Pollution Control Officer Association)

IMPLEMENTATION CONSIDERATIONS

There may be land acquisition required, although if the land is close to a highway's right-of way or transit station it may already be owned by the North Carolina DOT. Park and ride lots incur operation and maintenance cost and may require law enforcement surveillance.

NORTH CAROLINA EXAMPLES

- Piedmont Area
  https://www.partnc.org/162/Park-Ride-Locations
- Land of Sky
  http://www.landofsky.org/pdf/LGS/RPO/Map33_ParkNRideLots_Dec2015.pdf
- GoTriangle Transit
  https://gotriangle.org/park-and-ride
- Charlotte
  https://charlottenc.gov/cats/bus/Pages/park-and-rides.aspx
- UNC Chapel Hill
  https://move.unc.edu/transit/park-ride/

OTHER EXAMPLES

- Hudson County NJ
  https://hudsontma.org/park-and-ride-lot-locations

SOURCES

"Multi-Pollutant Emissions Benefits of Transportation Strategies", Chapter 3 Transportation Demand Management Strategies, FHWA, Updated June 28, 2017.
https://www.fhwa.dot.gov/Environment/air_quality/conformity/research/mpe_benefits/mpe03.cfm#:~:text=Since%20park%2Dand%2Dride%20facilities,reduce%20vehicle%20trip%2Dmaking%20entirely.

"Quantifying Greenhouse Gas Mitigation Measures", California Air Pollution Control Officers Association, 2010.
https://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf

TYPE OF TRIPS TARGETED

Commuter trips

POTENTIAL APPLICATION LOCATIONS

Urban City Centers
Town Center

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T TRANSIT AGENCY

Regional

PARK AND RIDE LOTS

REGION TYPE

SUBURBAN RURAL

FUNDING SOURCES

Grants for Buses and Bus Facilities Competitive Program
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Regional

ALTERNATIVE MODE SHARING

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Alternative mode sharing is a service in which non-automobile vehicles (typically bicycles or scooters, non motorized or electric) are available to individuals to either rent for a fee or reserve for free. Some sharing programs require that vehicles be taken from and returned to docking stations, while other programs allow customers to drop off vehicles at the end of their journey.

In the latter instance, vehicles are equipped with a GPS device that allows potential customers to see where available vehicles are on a smart phone application and allows the sharing company to locate their assets when maintenance is required. Some sharing services require customers to pre register an account, while others just require a credit card to unlock the bicycle or scooter. Vehicles may have to be re- distributed throughout the day to ensure that the available vehicle supply meets the demand. Also, electric powered vehicles will need to be collected and charged on a regular basis.

PROS

- Alternative mode sharing can be an inexpensive way for some customers to "test out" bicycles and scooters before buying their own.
- If the sharing platform does not use docking stations or if the docking stations are close together, it adequately addresses the "first mile/last mile" problem.

CONS

- Alternative mode sharing relies on adequate infrastructure to work well. If customers feel unsafe or in danger when riding a bicycle or scooter, the program will not be successful.
- The platform requires a higher density to be successful; few people are going to utilize this service if the closest shared vehicle to their location is over a half mile away.
- Programs without docking stations have the potential to block sidewalks if demand in a certain area is too high or users do not adhere to parking regulations.
- Vehicle misuse, such as not following traffic controls, can lead to liability issues and fatalities.

POTENTIAL VMT REDUCTION IMPACT

A household survey of Sacramento following the implementation of an e-bike and e-scooter program showed that 3-13% of households used the service. 35% of trips substituted car travel, while 30% substituted walking and 5% were used to connect to transit.

The 2018 Portland Oregon E-Scooter Findings Report concluded that e-scooters trips shifted primarily from walking, Single Occupant Vehicle (SOV) and ridesharing trips and that e-scooter trips replaced 301,856 vehicle trips that would have traveled in SOV's and other shared vehicle trips, or about 1% of the total area VMT.

IMPLEMENTATION CONSIDERATIONS

Many of these types of programs, especially scooter sharing programs, have had strained public-private partnerships and issues with public perception, which was seen in Hoboken, NJ's six-month pilot program of e-scooters in 2019.

Safety issues are also a large concern with alternative mode sharing. There were two fatalities involving shared Revel mopeds in New York City in July 2020 which garnered considerable public attention and caused temporary suspension of the program. E-scooters have also shown a pattern in fatalities, with several occurring across the county in Washington D.C, Atlanta, San Diego, Los Angeles, and Cleveland.

NORTH CAROLINA EXAMPLES

- Charlotte
  Lime scooters- **https://www.li.me/locations**
  Charlotte BCycle- **https://charlotte.bcycle.com/**
- Raleigh
  Gotcha Scooter - **https://ridegotcha.com/locations/raleigh/**
- UNC-Wilmington
  Bird Bike Share- **https://uncw.edu/seahawk-life/services/parking-transportation/transportation/bike-share**

OTHER EXAMPLES

- New York City
  https://www.citibikenyc.com/
- Austin, Texas
  https://wheels.co

SOURCES

"Investigating the Influence of Dockless Electric Bike-share on Travel Behavior, Attitudes, Health, and Equity", Fitch, D., Mohiuddin, H., & Handy, S., UC Office of the President: University of California Institute of Transportation Studies, 1 March 2020
https://escholarship.org/uc/item/2x53m37z

"Revel Suspends Moped Service in New York City After 2 Deaths", Michael Gold, The New York Times, 28 July 2020.
https://www.nytimes.com/2020/07/28/nyregion/revel-scooters-death-nyc.html

"2018 E-Scooter Findings Report", Portland Bureau of Transportation.
https://www.portland.gov/sites/default/files/2020-04/pbot_e-scooter_01152019.pdf

TYPE OF TRIPS TARGETED

All types of trips; typically "short" trips

POTENTIAL APPLICATION LOCATIONS

Dense residential areas, universities

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T PRIVATE MPO/RPO

Regional

ALTERNATIVE MODE SHARING

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

Community Grants
Funding Type: Foundation
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Better Bike Share Partnership
Funding Type: Foundation
Agency: Better Bike Share Partnership

Environment / Climate Change Grant
Funding Type: Foundation
Agency: Oak Foundation

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Bloomberg Initiative for Cycling Infrastructure (BICI)
Funding Type: Private/Non-Profit
Agency: Bloomberg Cities Network

Regional

CARSHARING

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Carsharing is a car rental service that can replace vehicle ownership. Cars are available in mainly residential areas, and users can "rent" the car by the hour, adhering to pick-up and drop off protocols. There is usually a fixed charge associated with the rental and a per-hour charge. This rental model allows customers to make longer distance car trips without owning a car. Other trips made by the customer would typically be made via transit or walking (or other alternative travel mode). Most carsharing is facilitated through smartphone apps.

In the US, there are primarily two types of carshares available: For-profit private vehicle rental companies oriented toward local residential use (Zipcar) and Peer-to-peer services, in which owners list their vehicles for rent for short periods (Turo).

PROS

- Reduces the need to own a vehicle, more economical to customers. Many successful applications on university campuses.
- Makes dense, urban residential areas with limited parking and multiple mode options more appealing to live in.

CONS

- Needs residential density to be successful.
- Since it is generally a for-profit model, it is highly dependent on getting participants. In the last few years, many start-ups have closed (Car2Go, Enterprise Carshare).

POTENTIAL VMT REDUCTION IMPACT

A study in 2016 on the now folded Car2Go service found that households who used Car2Go in 2015 across five cities showed between 6% and 16% reduction in VMT.

IMPLEMENTATION CONSIDERATIONS

Current models for carsharing are operated by private companies and supported and regulated by relevant government bodies. Implementation requires attracting a carsharing service with favorable legislation that also regulates the operation of the service to protect consumers and the greater community.

NORTH CAROLINA EXAMPLES

- NC State ZipCar
  https://www.zipcar.com/universities/north-carolina-state-university

OTHER EXAMPLES

- ZipCar
  https://www.zipcar.com/
- Turo
  https://turo.com/

SOURCES

- "Impacts of car2go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions: An Analysis of Five North American Cities", Elliot Martin, Susan Shaheen, TSRC, July 2016.
  http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go_FiveCities_2016.pdf

TYPE OF TRIPS TARGETED

Infrequent car trips

POTENTIAL APPLICATION LOCATIONS

Dense residential areas, universities

IMPLEMENTED BY

PRIVATE

Regional

CARSHARING

REGION TYPE

URBAN SUBURBAN

Environment / Climate Change Grant
Funding Type: Foundation
Agency: Oak Foundation

FUNDING SOURCES

Regional

FLEXIBLE PUBLIC TRANSIT

(CUSTOM TRANSIT STRATEGY)

REGION TYPE

SUBURBAN RURAL

DESCRIPTION

Flexible public transit services are a hybrid of traditional, fixed route bus service and demand response (or paratransit) service. The objective is usually to provide the benefits of public transit to those who cannot safely complete the first mile/last mile of their trip, live in sparsely populated rural areas, are senior citizens, or have a disability. Typically, passengers contact the agency offering the service to reserve their trip. There are multiple examples of a flexible public transit service, including:

- Route deviation: The service has a defined path and schedule, but the vehicle may deviate from the path to pick up or drop off riders. Maximum deviation varies by service and can range from a quarter of a mile to a mile.
- Point deviation: The service has a defined area of service and stops, but no defined path.
- Demand-Responsive Connector: The service is effectively demand response, except that it has scheduled stops at public transit stations. In this way, it provides a means to access transit stations without having to drive or walk to the station.
- Request Stops: The service has a fixed, scheduled route in which some stops are served only at the request of passengers. These stops are typically removed from the main route and skipping the stops may save significant time if they are not requested.
- Flexible-Route Segments: Part of a service has a scheduled fixed route and part of it operates as demand response. This service may be efficient if the fixed route portion of it is in high density areas while the demand response portion is in low density areas.

PROS

- Provides a transit solution to the first-mile/last-mile problem.
- Well-suited for subdivisions with poor connectivity.
- Performs the same task as paratransit with a lower marginal increase in VMT. In the case of paratransit, the vehicle is driven only if a passenger requests it. In the case of flexible public transit, the bus is already driving along the route, so the marginal increase in VMT is only the deviation from the bus's route or the shortest path between the origin and terminal points.

CONS

- Operates at lower speeds (longer travel times) between scheduled stops than typical transit. This could deter people from using the service.
- As more people utilize flexible public transit, the travel times become slower, making the service less attractive.

POTENTIAL VMT REDUCTION IMPACT

Flexible public transit does not appear in the literature as a primary strategy for reducing VMT, although we assume that the strategy can be used to increase ridership on a public transit system.

In a survey of on-demand transit riders in a West Sacramento Pilot Program, 50% of the respondents said their trip would have been made by ridesharing by Uber/Lyft, 34% said their trip would have been made in an Single Occupant Vehicle (SOV), 34% said their trip would have been made by catching a ride with a friend or family member and 19% said their trip would have been made by bus (note that the respondents were able to choose more than one option).

IMPLEMENTATION CONSIDERATIONS

May be implemented with, or instead of, traditional public transit service. Requires a reservation system to schedule non permanent stops. May benefit from strong cell phone network and data network coverage such that customers and vehicles can easily communicate with the dispatcher.

NORTH CAROLINA EXAMPLES

- Ashe County
  http://www.actatravels.com/?page_id=745
- Cherokee Community Routes
  http://cherokeetransit.com/community.html
- GoWake Access
  https://www.wakegov.com/departments-government/human-services/programs-assistance/gowake-access-transportation

OTHER EXAMPLES

- Corpus Christi, TX
  https://www.ccrta.org/wp-content/uploads/2020/01/93Jan2020.pdf

SOURCES

"A Methodology for Choosing between Route Deviation and Point Deviation Policies for Flexible Transit Services" Yue, Zheng et al. Journal of Advanced Transportation. 12 Aug. 2018, doi:10.1155/1409.
https://pdfs.semanticscholar.org/a293/3bd56b11e17741b980e711290581a39186cf.pdf

"A Guide for Planning and Operating Flexible Public Transportation Services" National Academies of Sciences, Engineering, and Medicine. 2010. Washington, DC: The National Academies Press.
http://www.trb.org/Publications/Blurbs/163788.aspx

"West Sacramento's On-Demand Rideshare Pilot: A Summary of 6-month User Survey Findings", February 2019.
https://www.cityofwestsacramento.org/home/showdocument?id=8637

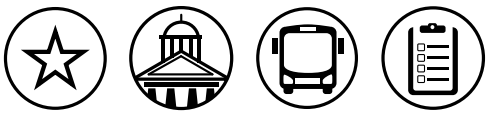
TYPE OF TRIPS TARGETED

All trips, particularly taken by the disabled or elderly, visitor trips

POTENTIAL APPLICATION LOCATIONS

suburbs and rural areas

IMPLEMENTED BY



STATE GOV'T COUNTY/ LOCAL GOV'T TRANSIT AGENCY MPO/RPO

Regional

FLEXIBLE PUBLIC TRANSIT

(CUSTOM TRANSIT STRATEGY)

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Environment / Climate Change Grant
Funding Type: Foundation
Agency: Oak Foundation

Areas of Persistent Poverty Program
Funding Type: Federal
Agency: Federal Transit Administration

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

Community Challenge
Funding Type: Federal
Agency: AARP

Low or No Emission Vehicle Program
Funding Type: Federal
Agency: Federal Transit Administration

Grants for Buses and Bus Facilities Competitive Program
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Innovative Coordinated Access and Mobility (ICAM)
Funding Type: Federal
Agency: Federal Transit Administration

Enhancing Mobility Innovation
Funding Type: Federal
Agency: Federal Transit Administration

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

The Mega Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural and Tribal Assistance Pilot Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Regional

PUBLIC TRANSIT

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Public transit is a set of transportation modes available to the public that maintain a published schedule on an established route on which passengers pay a fee and travel together. Examples of public transit include buses, light rail, commuter rail, subway, ferries, and trollies. Public transit is most effective where it can be used by the most people. For this reason, transit is most prevalent in urban areas, in suburban areas that can bring commuters into city offices, and on college campuses.

PROS

- Public transit can be the most efficient way to transport people (in terms of VMT).
- Provides a transportation option to those who cannot drive or do not own their own vehicle.
- Allows passengers to multi-task since they do not have to drive.

CONS

- Underutilized public transit does not reduce VMT and may increase VMT.
- Due to its fixed route nature, public transit rarely takes passengers from their initial origin to their final destination. At least one other transportation mode needs to be included.
- Cost-efficiency decreases as group size increases, as public transit fares are per person. There is little incentive for a group of four to use transit if they can drive.

POTENTIAL VMT REDUCTION IMPACT

The VMT reduction impact varies depending on the transit system implemented. According to a publication by Smart Growth America, a 1% increase in transit frequency saves 0.5% in VMT, light rail can yield a corridor-level VMT reduction of 1-2%, and bus rapid transit can also yield a corridor-level VMT reduction of 1-2%.

IMPLEMENTATION CONSIDERATIONS

Most transit systems such as light rail, commuter rail, subway, elevated train, or any other track or cable-based system require significant funding for both physical infrastructure (tracks, stations, etc.) and right of way. Some opportunities may be present where decommissioned rail infrastructure or existing right of way can be utilized. Transit systems require significant political support from several levels of government and the formation of a transit agency. If a transit agency exists, any expansion of services must have their full support.

NORTH CAROLINA EXAMPLES

- Charlotte
  https://charlottenc.gov/cats/Pages/default.aspx
- Raleigh
  https://goraleigh.org/
- Greensboro
  https://www.partnc.org/
- GoTriangle
  www.gotriangle.org

OTHER EXAMPLES

- Minneapolis and Seattle
  https://usa.streetsblog.org/2019/02/08/minneapolis-and-seattle-have-achieved-the-holy-grail-for-sustainable-transportation/

SOURCES

"Driving Down Emissions, Transportation, Land Use and Climate Change", Smart Growth America.
https://t4america.org/wp-content/uploads/2020/10/Driving-Down-Emissions.pdf

TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Urban, suburban, and locations where public transit currently exists.

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T TRANSIT AGENCY

MPO/RPO

Regional

PUBLIC TRANSIT

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Capital Investment Grants
Funding Type: Federal
Agency: Federal Transit Administration

Areas of Persistent Poverty Program
Funding Type: Federal
Agency: Federal Transit Administration

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Low or No Emission Vehicle Program
Funding Type: Federal
Agency: Federal Transit Administration

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Grants for Buses and Bus Facilities Competitive Program
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Expedited Project Delivery Pilot Program
Funding Type: Federal
Agency: Federal Transit Administration

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural and Tribal Assistance Pilot Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Corridor Identification and Development (ID) Program
Funding Type: Federal
Agency:US Federal Railway Administration

Consolidated Rail Infrastructure and Safety Improvement (CRISI) Grant funding
Funding Type: Federal
Agency: US Federal Railway Administration

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

National Highway Performance Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

The Mega Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

The Passenger Ferry Program
Funding Type: Federal
Agency: Federal Transit Administration

Regional

HIGH OCCUPANCY VEHICLE (HOV) FACILITIES

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

High Occupancy Vehicle (HOV) facilities are exclusive facilities for vehicles that qualify as an HOV, typically requiring at least two or three occupants including the driver. These facilities provide an inherent benefit to passengers in HOVs compared to passengers in non-HOVs. A common HOV facility is an HOV lane on a limited access highway. The goal of these lanes is to allow HOVs to travel faster in their separate lane from non-HOVs during periods of traffic congestion. HOV lanes may or may not: operate as a standard general purpose lane outside of peak commuting periods, provide continuous access with general purpose lanes, or have separate structural elements from the general purpose lanes. HOV lanes may also be on highway on-ramps with ramp meters; by being separated at the meter, HOVs can "queue jump" in front of non-HOVs. Another HOV facility is HOV parking which reserves desirable spots (typically closest to the destination building) in a lot or garage for HOVs.

PROS

- Rewards carpooling, which reduces VMT.
- For HOV lanes, may be used in conjunction with bus transit routes to enhance the service by providing a more reliable travel time.

CONS

- Not clear that HOV facilities encourage people to carpool.
- If an HOV facility was constructed new instead of converted from an old facility, it may induce additional demand on adjacent facilities.
- HOV Facilities do not reduce VMT if the additional passenger(s) in an HOV would otherwise have taken mass transit or not taken the trip at all.
- HOV facilities only provide a benefit to HOV passengers if there is sufficient demand for the adjacent non-HOV facilities. If there is no congestion on a highway, there is no reason to use an HOV lane.
- HOV facilities have a limited capacity. Once that capacity is reached, they provide no benefit to those that use it.

POTENTIAL VMT REDUCTION IMPACT

The ability of HOV lanes in reducing VMT is not supported by high quality research. Theoretical results show that HOV lanes may be able to reduce VMT and commuting costs in some situations. Regression results show that on average HOV lanes have an ambiguous impact on reducing VMT with either a 1-2% increase or decrease in VMT depending on the modeling assumptions (Shewmake, 2018). Part of the reason for this is that HOV lanes are often added to existing highways, not converted from existing general purpose lanes. The added capacity of the HOV lane may cause induced demand, in which the new capacity from the HOV lane encourages more drivers to utilize the corridor, thereby increasing VMT.

IMPLEMENTATION CONSIDERATIONS

Designating HOV parking spots is a very low-cost option. Other facilities are expensive due to the infrastructure costs. Public opinion may be against HOV lanes as they can only be used by a certain portion of the vehicles on the road. Enforcement, particularly of occupancy in HOV lanes, can also be challenging.

NORTH CAROLINA EXAMPLES

- No HOV lanes at present, although part of the I-77 Express Lanes were converted from HOV lanes
  https://www.i77express.com/

OTHER EXAMPLES

- Los Angeles County, California
  http://media.metro.net/projects_studies/hov/images/hov_map.pdf
- Washington State
  https://wsdot.wa.gov/travel/operations-services/ramp-meters

SOURCES

"The Impact of High Occupancy Vehicle Lanes on Vehicle Miles Traveled", Sharon Shewmake, March 28, 2018.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1986503

State-Level Strategies for Reducing Vehicle Miles of Travel. University of California. Michelle Byars, Yishu Wei, Susan Handy. 2017.
https://d3n8a8pro7vhmx.cloudfront.net/climateplan/pages/44/attachments/original/1509403808/2017-PTA-Handy_UCDavis_VMT_Report_1.pdf

The NC Motor Fuels Tax, www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-1.pdf.
https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-1.pdf

TYPE OF TRIPS TARGETED

All, but primarily commuter trips.

POTENTIAL APPLICATION LOCATIONS

Suburban and urban highways, office parks

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T PRIVATE

Regional

HIGH OCCUPANCY VEHICLE (HOV) FACILITIES

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

National Highway Performance Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

The Mega Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Regional

NON-MOTORIZED MODE SUPPORT

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Non-motorized modes of transportation include walking and biking. These modes can be recreational or for conveyance. Non-motorized mode support focuses on strategies to support and encourage walking or biking. This can include installing and maintaining sidewalks and bike lanes, increasing connectivity, public education and promotion campaigns of non-motorized modes, bicycle parking, bicycle racks on buses, pedways, and Safe Routes to School or work programs. This strategy could be used to support other strategies.

PROS

- Non-motorized mode support increases transportation options, which benefits both drivers who switch to other modes and non-drivers.
- Walking and cycling are often more affordable than other modes of transportation.
- Non-motorized mode support can be combined with other strategies to reduce VMT.

CONS

- Streets and bike lanes need to be maintained for continued use.
- Non-motorized modes have a relatively high injury and fatality rate per mile due to driver's lack of awareness when sharing the road.
- Not suitable for rural areas, only suitable for areas with good connectivity.

POTENTIAL VMT REDUCTION IMPACT

The Center for Clean Air Policy Guidebook allots a 2.5% reduction in VMT for the combined impact of all bicycle related measures. California Air Pollution Control Officer Association (CAPCOA) Fewer bicycle-related measures results in a lower impact.

A study from University College London found that 5-10% of automobile trips could be shifted to non motorized modes in urban areas. When other strategies like parking pricing reduced vehicle travel, between 10% and 35% of the trips shifted to walking or biking. (Mackett)

The town of Cottonwood, Minnesota-funded Safe Routes to School program built a path around Cottonwood Lake in 2009 through the Minnesota DOT. Before the construction of the path, only about 5% of Lakeview students walked or biked to school. Today, 11% of students use the path at least once per week and an additional 13% use the path at least once per month to walk or bike to school and for other recreational purposes.

IMPLEMENTATION CONSIDERATIONS

Successful walking and biking facilities need to be implemented in routes where there is a demand; the facilities must have a "destination". Connectivity is important.

Educating drivers and making them aware of other road users is critical to support the safety of pedestrian and other non-motorized mode users.

NORTH CAROLINA EXAMPLES

- Cape Fear Regional Bike Plan **https://www.pendercountync.gov/pcd/wp-content/uploads/sites/15/2017/07/Cape_Fear_Bicycle_Plan_DRAFT_screenquality.pdf**
- NCDOT Safe Routes to School **https://www.ncdot.gov/divisions/bike-ped/Documents/NCDOT_SRTS_Description.pdf**
- Bikes on Buses, Raleigh, NC **https://raleighnc.gov/transit-streets-and-sidewalks/bikes-buses**
- Walk Raleigh **https://raleighnc.gov/walk-raleigh**

OTHER EXAMPLES

- Bicycle Parking and Amenities – Arlington, MA; Cambridge, MA; Norwell, MA; Portland, OR **https://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf**
- Safe Routes to School – various nationwide locations **https://www.saferoutespartnership.org/local/local-success-stories#statesrts**

SOURCES

"How to Reduce the Number of Short Trips by Car", Roger Mackett, European Transport Conference, Centre for Transport Studies, University College London, 2000. **https://aetransport.org/public/downloads/xBVhC/2543-514ec4aa1b046.pdf**

"Quantifying Greenhouse Gas Mitigation Measures", California Air Pollution Control Officers Association, 2010. **https://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf**

TYPE OF TRIPS TARGETED

All trips

POTENTIAL APPLICATION LOCATIONS

Dense urban areas, towns, commercial centers, residential neighborhoods, recreation areas

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

Regional

NON-MOTORIZED MODE SUPPORT

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Recreational Trails Program
Funding Type: State
Agency: North Carolina Department of Natural and Cultural Resources

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

PeopleForBikes' Industry Community Grant Program
Funding Type: Private/Non-Profit
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Better Bike Share Partnership
Funding Type: Foundation
Agency: Better Bike Share Partnership

Safe Streets and Roads for All (SS4A) Discretionary Grant Program
Funding Type: Federal
Agency: US Department of Transportation (USDOT)

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Outdoor Recreation Legacy Partnership Program
Funding Type: Federal
Agency: US Department of the Interior

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Bloomberg Initiative for Cycling Infrastructure (BICI)
Funding Type: Private/Non-Profit
Agency: Bloomberg Cities Network

Trail Grants
Funding Type: Private/Non-Profit
Agency: Rails-to-Trails Conservancy

Rural and Tribal Assistance Pilot Program
Funding Type: Federal
Agency: USDOT

League of American Bicyclists Community Spark Grants
Funding Type: Private/Non-Profit
Agency: League of American Bicyclists

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Regional

NON-MOTORIZED MODE SUPPORT

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

National Highway Performance Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Highway Safety Improvement Program (HSIP)
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Regional

VANPOOL

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Vanpools are a type of transit where a group of 5 to 15 people share a van to travel together from a common community location, such as a park-and-ride lot or a transit station, to a place of work. Types of vanpool programs include:

- **Owner/operator arrangements** where an employee owned vehicle is used for vanpooling. The owner must check with his or her insurance carrier regarding liability issues. Costs are shared among the commuters.
- **Employer sponsored programs** where the vehicle is owned by the employer or operated through a lease with a private vanpool vendor. Employers would typically provide maintenance, insurance, and other support services.
- **Third party lease programs** are facilitated via a monthly lease between the vanpool participants and a third-party vanpool vendor. The vendor provides the vehicle, maintenance, insurance, and other support services.

Vanpool programs work best in areas that are not served well by transit and for long commutes. Primary strategies to attract vanpool participants include ride matching service, guaranteed ride home services, preferential parking programs including parking cash-out programs, and tax-free benefits.

PROS

- Potential cost savings to the employee (tax savings, reduced commute costs relative to a Single Occupant Vehicle (SOV) trip) and the employer (tax savings).
- Relatively low start-up cost.
- Could help in employee retainage.
- Potentially reduces VMT of a group that may not be able to afford a car.

CONS

- Program success may depend on the support programs, such as ride matching, guaranteed ride home services and incentive programs, along with the vanpool program.
- May not be feasible in very spread out communities in low density work locations.

POTENTIAL VMT REDUCTION IMPACT

As of March 2020, The San Diego Association of Governments (SANDAG) Vanpool Program, has a total number of 614 vanpools participating. The average trip distance of the vanpools is 51.35 miles and the mode vehicle capacity is 7 seats. Daily one way VMT reduction is approximated to be 178,469 to 242,467 miles. (Boonvanich) This accounts for about a 0.2-0.3% reduction in San Diego County VMT. It should be noted that the vanpool coverage area may differ from the county area.

IMPLEMENTATION CONSIDERATIONS

Requires a way to attract riders/drivers and maintain ridership and drivers within a vanpool from month to month. Requires matching new riders to vanpool routes and forming new vanpools as needed. Requires collecting and managing a fee structure that covers van maintenance, fuel, van insurance, and overhead costs. Most of the direct cost of running a vanpool program is administration support and marketing, while the vanpool fees should fully cover vehicle related costs.

NORTH CAROLINA EXAMPLES

- Piedmont Authority for Regional Transportation (PART)
  https://partnc.org/157/Vanpool
- GO Triangle
  https://gotriangle.org/vanpool-faq
- Charlotte Area Transit System
  https://www.charlottenc.gov/CATS/Get-to-Know-CATS/Alternative-Commuting/Vanpool

OTHER EXAMPLES

- Rural and Mountain Community Vanpools: A Brochure prepared for the Colorado Department of Transportation
  https://www.codot.gov/programs/commuterchoices/documents/cdot_brochure_print.pdf
- Washington State
  http://t4america.org/maps-tools/local-successes/washington-rural-transit/
- Commute with Enterprise (Example Private Partner)
  https://www.enterprise.com/en/commute.html

SOURCES

"Vanpool | Connecting The Workforce To Work", The University Of Nebraska, Center For Public Affairs Research, 2017.
https://documentstndot.s3.amazonaws.com/NDOR_Documents/vanpool+infographic.pdf

"Flexible Transportation: A Solution for Reducing Greenhouse Gas Emissions in San Diego", Siraphob Boonvanich, UC San Diego, June 2020.
https://escholarship.org/content/qt5cn95623/qt5cn95623_noSplash_d756867494366b1a4dafce2786d332db.pdf

FHWA Commuter Choice Decision System.
https://ops.fhwa.dot.gov/PrimerDSS/cc-options/vanpool/vanpool.htm

TYPE OF TRIPS TARGETED

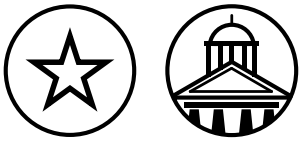
Commuter

POTENTIAL APPLICATION LOCATIONS

Urban and suburban areas

IMPLEMENTED BY

TRANSIT AGENCY MPO/RPO PRIVATE



STATE GOV'T COUNTY/ LOCAL GOV'T

VANPOOL

Regional

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Environment / Climate Change Grant
Funding Type: Foundation
Agency: Oak Foundation

Grants for Buses and Bus Facilities Competitive Program
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

INTERNET BASED STRATEGIES

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Internet-based strategies may reduce VMT by providing online service as substitutes to making trips to a physical location. These can include services from both private and public sources. Internet-based private services include online banking/financial services, telehealth, online retail, online fitness instruction, online secondary education, and general customer service. Internet-based public services can include some DMV services, court services, parking services, tax services, permitting, notary, voter registration, transit ticketing, and record requests. Successful online services are clear and easy to use, run on well-supported web platforms, and are frequently accompanied by telephone services to provide human clarification when needed.

Planning organizations can encourage other public agencies to move eligible services online, or even formalize online based service prioritization in the form of legislation.

PROS

- May reduce trips to access services, with the longest trips being reduced in rural areas.
- Expands access to services, especially for disabled, elderly, and rural residents.

CONS

- Requires internet, and frequently broadband, access and computer literacy.
- Requires proper implementation and user support to be successful.
- Internet based strategies are highly dependent on computer literacy and internet access, and in some cases dependent on broadband access.

POTENTIAL VMT REDUCTION IMPACT

Online retail does not necessarily reduce VMT as shopping trips would be replaced by more delivery trips. The ratio between shopping trips and delivery trips is dependent on numerous factors as well as premium shipping options such as same day delivery in which packages are delivered from nearly empty vehicles. (Day) Also, increasing one's propensity to shop online has been shown to increase one's propensity to also shop in person by a 0.214 ratio. (Zhou and Wang) This may be due to shoppers wanting to see or test out products in brick and mortar stores before going online to shop for the best price.

No research was found on the VMT impacts of other internet based services such as online banking or telehealth. Unlike online retail, these services do not always require a product to be transported to the customer's residence; so potential VMT reductions per service are higher. However, as these internet based services become more popular, brick and mortar locations offering the same services may shut down; the number of bank branches in the United States has decreased by 11.5% since 2009, potentially due in part to the increase in online banking. (Holmes) When these locations close, it inherently increases the average trip length for service trips that do continue in person.

IMPLEMENTATION CONSIDERATIONS

Internet based services will continue to gain traction on their own accord as banks, doctors, and others find new ways to provide their services to their customers. The impact of these internet-based services is dependent on the spread of broadband services and high speed internet.

NORTH CAROLINA EXAMPLES

- North Carolina Judicial Branch **https://www.nccourts.gov/services**
- North Carolina Department of Motor Vehicles **https://www.ncdot.gov/dmv/offices-services/online/Pages/default.aspx**

OTHER EXAMPLES

- Telemedicine: Teladoc **https://www.teladoc.com/**
- Online banking: Ally Bank **https://www.ally.com/bank/online-banking/**

SOURCES

"Explore the Relationship between Online Shopping and Shopping Trips: An Analysis with the 2009 NHTS Data." Zhou, Yiwei, and Xiaokun (Cara) Wang. Transportation Research Part A: Policy and Practice, vol. 70, 2014, pp. 1–9., doi:10.1016/j.tra.2014.09.014.

"Amazon Nixed 'Green' Shipping Proposal to Avoid Alienating Shoppers." Day, Matt. Bloomberg.com, Bloomberg, 5 Mar. 2020 **www.bloomberg.com/news/articles/2020-03-05/amazon-nixed-green-shipping-proposal-to-avoid-alienating-shoppers**

"How Bank Closures Could Be Giving Rise to Digital Currencies." Holmes, Frank. Forbes, 24 July 2019.

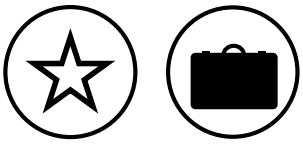
TYPE OF TRIPS TARGETED

Non-Commuter trips

POTENTIAL APPLICATION LOCATIONS

Statewide

IMPLEMENTED BY



STATE GOV'T PRIVATE

INFORMATION SERVICE: BROADBAND EXPANSION

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Broadband is defined by the Federal Communications Commission (FCC) as reliable high-speed internet with download speeds of at least 25 megabits per second. Broadband internet can be delivered through digital subscriber line (DSL), cable modems, fiber, wireless, satellite, and broadband over powerline. Broadband coverage is a key aspect of facilitating teleworking and distance learning. State efforts to expand broadband access are primarily focused on connecting broadband to homes and small businesses.

PROS

- Broadband can support a telework program to reduce vehicle miles traveled, support distance learning, and can connect residents in rural areas to government services and remote medical appointments (telehealth).

CONS

- Broadband can be expensive and difficult to install. Rural areas with a small, spread out population or geographic features like mountains or hills make expanding broadband challenging.
- Internet service providers are unlikely to expand broadband services to areas where deployment costs are high.

POTENTIAL VMT REDUCTION IMPACT

A study of broadband in Kentucky by Connected Nation found that broadband users reported driving an average of 67 fewer miles per month and close to 800 fewer miles per year. (Victoria Transport Policy Institute)

About 66% of respondents reported driving an average of 102 fewer miles per month due to their internet usage. (Connected Nation)

IMPLEMENTATION CONSIDERATIONS

According to North Carolina's state broadband plan, "Connecting North Carolina": 93% of households in North Carolina have access to broadband; 53 of 100 counties have a 90% deployment rate; less than 50% of households have access to fixed wireless service; and, 99% of people in North Carolina's tribal lands lack access to broadband.

Larger service providers are less likely to expand into rural areas since deployment costs are high and the expansion in customer base is small. Large service providers are even less likely to expand into rural areas that already have one broadband option, since the number of customers who would switch to a competing service is even smaller. Governments at all levels need to provide incentives to attract broadband to underserved communities and/or provide legislative frameworks for telecommunication co-ops to provide broadband service (Trostle & Mitchell).

NORTH CAROLINA EXAMPLES

- Connecting North Carolina State Broadband Plan
  https://cms6.revize.com/revize/uppercoastalplain/NC-Broadband-Plan_2017_Online_FINAL_PNGs3www.pdf
- North Carolina GREAT Broadband Grant Program
  https://www.ncbroadband.gov/grants/great-grant#:~:text=The%20N.C.%20Department%20of%20Information,unserved%20areas%20of%20North%20Carolina

OTHER EXAMPLES

- FCC National Broadband Plan
  https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf
- Alabama broadband accessibility act
  https://adeca.alabama.gov/wp-content/uploads/Alabama-Broadband-Accessibility-Act.pdf
- California Broadband Council
  https://broadbandcouncil.ca.gov/

SOURCES

"The Economic Impact of Stimulating Broadband Nationally", Connected Nation, Inc., 21 February 2008.
http://www.itu.int/net/wsis/stocktaking/docs/activities/1287068791/Connected_Nation.pdf

"Using Telecommunications to Substitute for Physical Travel", Victoria Transport Policy Institute, September 6, 2019.
https://www.vtpi.org/tdm/tdm43.htm

"North Carolina Connectivity: The Good, The Bad, and The Ugly", H. R. Trostle & Christopher Mitchell, Community Nets, Institute for Local Self-Reliance, October 2016.
https://ilsr.org/wp-content/uploads/2016/10/NC-Broadband-Report_10_2016-1.pdf

"Connecting North Carolina State Broadband Plan", Broadband Infrastructure Office, Undated.
https://cms6.revize.com/revize/uppercoastalplain/NC-Broadband-Plan_2017_Online_FINAL_PNGs3www.pdf

TYPE OF TRIPS TARGETED

Commuter trips, school trips, some trips to access services

POTENTIAL APPLICATION LOCATIONS

Urban areas, suburban areas, rural areas, tribal lands

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T PRIVATE

Telecommunication

INFORMATION SERVICE: BROADBAND EXPANSION

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Community Challenge
Funding Type: Federal
Agency: AARP

Rural Infrastructure Program
Funding Type: State
Agency: North Carolina Department of Commerce

ReConnect Program
Funding Type: Federal
Agency: US Department of Agriculture

Community Connect Grant Program
Funding Type: Federal
Agency: Rural Development, US Department of Agriculture

TELECOMMUTING/ TELEWORK

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Telecommuting or telework is a telecommunications strategy that uses the internet as an alternative to traditional commutes to work in a single occupancy vehicle. The employee can work from home using high-speed internet rather than commuting into an office. Telework allows for more flexible schedules and may reduce the burden on commuting. It may also reduce vehicle miles traveled, especially during rush hour. Telework can be part of a successful employer rewards program to avoid peak road congestion.

PROS

- Provides an option for rural areas that do not have access to alternatives to traditional commuting.
- Easy to implement, can be done through individual employers or state and local government led programs.

CONS

- In rural regions broadband connectivity can be poor, limiting telework opportunities.
- While telecommuting will reduce commuter VMT, some research suggests no effect on lowering total VMT or potentially increases in total VMT.

POTENTIAL VMT REDUCTION IMPACT

One study found that a 3.04% decrease in commuting trips in the Chicago area could have the potential to reduce vehicle miles traveled by 0.69%. This model also assumed that a decrease in commuter trips would cause a slight increase in non commuter trips as out of-home discretionary activities would increase with schedule flexibility. (Shabanpour, "Analysis of telecommuting behavior and impact on travel demand and the environment.")

A second study, using data from the United Kingdom's National Travel Survey, found that home-based teleworking tended to increase weekly distances traveled. Specifically, if the worker in a single worker household frequently telecommuted (at least three times a week), the household generated about 58 additional miles per week compared to if the worker did not frequently telework. This can be attributed to teleworkers being more likely to live in the suburbs, own a car, and make longer trips while being less likely to chain their trips. (Abreu e Silva) Part of this can be illustrated by the lower car usage in the United Kingdom; 30.6% of households do not own a car (compared to 8% in the United States) and 61.8% of trips are in a car (compared to 90.4% in the United States). (Giuliano) In many parts of the United States, even in urban areas, car access is seen as a necessity while it appears to be more of a choice in the United Kingdom.

IMPLEMENTATION CONSIDERATIONS

The infrastructure costs are mostly related to broadband implementation in areas where it has not yet been added.

Teleworkers or their employers may need to buy specific equipment for teleworking, such as laptops, monitors, printers, and office furniture. No significant policy hurdles are foreseen, although employer incentives may help, as well as public education regarding the benefits of teleworking. Federal, state, and local government agencies can set the example by letting their employees telework when possible.

NORTH CAROLINA EXAMPLES

- NC Telework created by Triangle J COG **https://nctelework.org/**
- GoTriangle **https://gotriangle.org/telework**

OTHER EXAMPLES

- Agile Mile Inc. (formerly NuRide) **https://agilemile.com/**
- US Federal Government **https://www.telework.gov/**

SOURCES

"Analysis of telecommuting behavior and impact on travel demand and the environment." Shabanpour, Ramin, et al. TRB, 2018.

"Developing an Integrated Framework for Assessing Potential Impacts of Telecommuting." Shabanpour, Ramin, et al. TRB, 2018.

"Does home based telework reduce household total travel? A path analysis using single and two worker British households.", Abreu e Silva, João, et al. Journal of Transport Geography, 2018.

"Car ownership, travel and land use: a comparison of the US and Great Britain" Giuliano, Genevieve, et al. Journal of Transport Geography, 2006.

TYPE OF TRIPS TARGETED

Commuter trips

POTENTIAL APPLICATION LOCATIONS

All areas

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T PRIVATE

Land Use

PROVIDING AFFORDABLE HOUSING

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Affordable housing programs are administered by government agencies to provide subsidized rental homes for low income households. Typically, a tenant in an affordable housing unit pays monthly rent equal to 30% of their monthly income.

These programs allow low income workers to live closer to their jobs, even if their jobs are in areas with high property values. In urban areas, such as Raleigh or Charlotte, affordable housing may bring low income workers close enough to their downtown jobs that they walk, bike, or take mass transit to work. In tourist areas, it may allow service workers to live closer to where they work.

PROS

- Provides an opportunity for low income workers to live closer to jobs in high property value areas.
- Specifically reduces VMT of a group of people that are most likely to have difficulty affording a car.

CONS

- Workers may prefer to live further away from their jobs if the affordable housing is substandard.

POTENTIAL VMT REDUCTION IMPACT

A modeling study for The California Housing Partnership compared developing location-efficient neighborhoods for affordable housing or market rate housing. Putting affordable housing in efficient locations will reduce VMT 4% more than market rate housing because affordable housing units are smaller on average, so more of them can be built than market rate units. The reduction is directly proportionate to the increased housing unit density. In this instance, affordable housing is supporting location-efficient neighborhoods, such as transit oriented developments, to reduce VMT.

IMPLEMENTATION CONSIDERATIONS

Affordable housing requires significant costs in real estate acquisition and management.

NORTH CAROLINA EXAMPLES

- Asheville
  https://www.ashevillenc.gov/department/community-economic-development/community-development/affordable-housing/
- "Strategies to Support Affordable Housing", North Carolina Department of Transportation, May 2019.

OTHER EXAMPLES

- San Diego
  https://static1.squarespace.com/static/5a6bd016f9a61e52e8379751/t/5a80f33bec212d81181be01d/1518400319715/Climate+Action+-+Affordable+Housing+And+VMT+Reduction.pdf

SOURCES

"Income, Location Efficiency, And VMT: Affordable Housing As A Climate Change Strategy", The California Housing Partnership. Gregory L. Newmark and Peter M. Haas. 2015.
https://chpc.net/wp-content/uploads/2016/05/CNT-Working-Paper-revised-2015-12-18.pdf

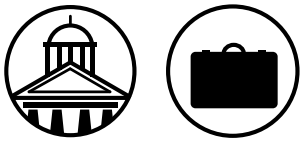
TYPE OF TRIPS TARGETED

Commuter

POTENTIAL APPLICATION LOCATIONS

Tourist areas (such as the Outer Banks and other beach communities and Asheville), urban areas (such as Raleigh and Charlotte)

IMPLEMENTED BY



COUNTY/ LOCAL GOV'T PRIVATE

PROVIDING AFFORDABLE HOUSING

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Community Challenge
Funding Type: Federal
Agency: AARP

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Land Use

COMPLETE STREETS

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Complete Streets is a concept that designs streets to be comfortably used by all types of users, not just cars. Ideally, complete streets provide infrastructure that can be used by people walking and biking, using transit and driving in cars. They are designed to operate safely for all users, regardless of age, ability, or mode of transportation. Complete streets may include sidewalks and crosswalks, accessible pedestrian signals, curbs and curb extensions, median islands, bike lanes, special transit lanes, comfortable and easily accessible transit stops, narrower travel lanes, and other measures.

PROS

- Makes trips safer for all users.
- Promotes better health by encouraging walking and biking trips.

CONS

- Not a solution for all corridors; some existing non-car trip demand needs to be present.
- Can increase car congestion during peak periods because less right-of-way is dedicated to cars.
- More expensive to design, build and maintain compared to a traditional street.

POTENTIAL VMT REDUCTION IMPACT

Complete Streets promote increased roadway connectivity, which has been shown to reduce VMT per capita (Moreland-Russell et al., 2013). The Victoria Transport Policy Institute found that quantifiable VMT reductions of complete street programs were related to connectivity efforts within a complete street program. Ewing and Cervero (2010) conclude that the elasticity of vehicle travel with respect to connectivity is -0.12, so a 10% increase in intersection or street density reduces vehicle travel 1.2%. The LUTAQH (Land Use, Transportation, Air Quality and Health) research project also found that a 10% increase in intersections per square mile reduces average household VMT by about 0.5% (Larry Frank & Company 2005).

IMPLEMENTATION CONSIDERATIONS

Businesses and residents along the corridor may be reluctant to support conversion to complete streets if parking is reduced, though studies have shown that the increased foot and bicycle traffic has economic benefits. The perspective that complete streets reduce VMT through increased connectivity is also supported by the US DOT.

NORTH CAROLINA EXAMPLES

- North Carolina DOT Complete Streets
  https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx

OTHER EXAMPLES

- Smart Growth America
  https://smartgrowthamerica.org/tag/complete-streets-case-studies/

SOURCES

"Evaluating Complete Streets The Value of Designing Roads For Diverse Modes, Users and Activities", Todd Litman, Victoria Transport Policy Institute, 24 August 2015.
https://www.vtpi.org/compstr.pdf

"Travel and the Built Environment: A Meta-Analysis", Reid Ewing and Robert Cervero, Journal of the American Planning Association, Vol. 76, No. 3, Summer 2010, pp. 265-294.
http://reconnectingamerica.org/assets/Uploads/travelbuiltenvironment20100511.pdf

"A Study of Land Use, Transportation, Air Quality and Health in King County, WA", Frank & Company, King County Larry, 2005.
http://urbandesign4health.com/wp-content/uploads/2012/03/LUTAQH_exec_summary_092705.pdf

"Complete Streets Policies", US Department of Transportation, Last updated: Monday, August 24, 2015.
https://www.transportation.gov/mission/health/complete-streets-policies

"BENEFITS OF COMPLETE STREETS Complete Streets Stimulate the Local Economy", Smart Growth America and the National Complete Streets Coalition.
https://smartgrowthamerica.org/resources/evaluating-complete-streets-projects-a-guide-for-practitioners/#:~:text=In%20this%20study%20of%2037%20projects%2C%20Smart%20Growth,traffic%2C%20depending%20in%20part%20on%20the%20project%20goal.

"Diffusion of Complete Streets policies Across US communities", Sarah Moreland-Russell, Amy Eyler, Colleen Barbero, J Aaron Hipp, and Heidi Walsh, National Library of Medicine, June 2013.
https://pubmed.ncbi.nlm.nih.gov/23529062/

TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

All

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

Land Use

COMPLETE STREETS

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

PeopleForBikes' Industry Community Grant Program
Funding Type: Foundation
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Safe Streets and Roads for All (SS4A) Discretionary Grant Program
Funding Type: Federal
Agency: US Department of Transportation (USDOT)

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Bloomberg Initiative for Cycling Infrastructure (BICI)
Funding Type: Private/Non-Profit
Agency: Bloomberg Cities Network

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

National Highway Performance Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Highway Safety Improvement Program (HSIP)
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Rural and Tribal Assistance Pilot Program
Funding Type: Federal
Agency: USDOT

Land Use

TRANSIT ORIENTED DEVELOPMENT

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

A Transit-Oriented Development (TOD) is a compact, mixed-use community centered around a transit station that, by design, invites residents, workers, and shoppers to drive their cars less and ride mass transit more. Since these mixed-use developments are densely developed, they also promote walking and other non-motorized modes of travel. Generally, TODs within a half mile of the actual transit station are the most successful in achieving travel mode shifts from cars.

PROS

- Promotes transit trips, and in general, provides more mobility choices for residents.
- Can make new transit lines more viable by increasing residential (and employment) density near stations.
- Can promote economic development in an area with new transit.

CONS

- There is some discussion that people attracted to compact development in transit oriented or mixed-use development do so because they seek a less car dependent environment, so overall VMT reduction may be minimal.

POTENTIAL VMT REDUCTION IMPACT

A recent study in Perth, Australia and published by EJTIR has shown that average daily vehicle kilometers traveled (VKT) was reduced by 8% following the completion of a TOD. (Olaru)

A study of 17 TODs in 5 different US metropolitan areas by the University of California Berkeley showed that the average daily vehicle trips per dwelling in a TOD was 44% less (3.754 trips vs 6.715) than estimated by the Institute of Transportation Engineers (ITE) Trip Generation Manual. (Cervero et al)

IMPLEMENTATION CONSIDERATIONS

May require changes to zoning codes (allowing high density development and reducing parking requirements). Requires cooperation from transit agencies, local municipalities, and private developers.

NORTH CAROLINA EXAMPLES

- Durham
  https://www.durhamnc.gov/DocumentCenter/View/7069/Compact-Neighborhoods-An-Introduction?bidId=
- Go Triangle Transit-Oriented Development Planning Study
  https://gotriangle.org/tod/guidebook/about
- Charlotte TOD Ordinance and rezoning of 1500 parcels along the city's Blue Line
  https://upforgrowth.org/news_insights/charlottes-approach-to-increasing-housing-opportunities-near-transit/#:~:text=Last%20April%2C%20Charlotte%2C%20North%20Carolina%20approved%20a%20new,to%20guide%20future%20development%20for%20a%20fast-growing%20Charlotte.

OTHER EXAMPLES

- Washington, DC
- Portland, OR
- Denver, CO
- Salt Lake City, UT
- Cleveland, OH
  http://urbanscale.com/blog/how-your-city-can-succeed-in-transit-oriented-development/

SOURCES

"Designing TOD precincts: accessibility and travel patterns", Doina Olaru & Carey Curtis, European Journal of Transport and Infrastructure Research (EJTIR), 15(1): 6-26. 2015.
https://espace.curtin.edu.au/bitstream/handle/20.500.11937/29606/235478_235478.pdf?sequence=2&isAllowed=y

"Vehicle Trip Reduction Impacts of Transit-Oriented Housing" Cervero, Robert & Arrington, G. B., University of California Berkeley, Journal of Public Transportation, 11 (3): 1-17. 2008.
https://scholarcommons.usf.edu/jpt/vol11/iss3/1/

TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Cities and along rail and bus rapid transit routes in suburbs

IMPLEMENTED BY

STATE GOV'T

COUNTY/ LOCAL GOV'T

PRIVATE

TRANSIT AGENCY

Land Use

TRANSIT ORIENTED DEVELOPMENT

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Community Challenge
Funding Type: Federal
Agency: AARP

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Land Use

CONNECTIVITY

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Connectivity refers to the density of connections and directness of links in roadway networks. A well-connected network has many intersections and short blocks with minimal dead-ends or cul-de-sacs. Travel distance decreases and route options increase as connectivity increases. Increased connectivity allows for more direct travel between destinations. Connectivity can apply both internally to streets within a neighborhood or area and externally to other arterials and other neighborhoods. Connectivity is most applicable in high-density urban or suburban areas. It is best implemented by local governments, transportation management associations, developers, or neighborhood associations. A common example of connectivity is a fused grid street design, which uses public squares at the end of cul-de-sacs to provide pedestrian and bicycle connections.

PROS

- Increased connectivity can improve accessibility, increase route options, improve walkability, and reduce vehicle travel.

CONS

- Additional land is needed for new links. There may be additional conflicts with adjacent land uses, such as when a new connection is added through existing property.
- Residents may fear connectivity will make their road a pass-through route akin to an arterial.

POTENTIAL VMT REDUCTION IMPACT

As cited by the Victoria Transport Policy Institute in their research on roadway connectivity, a Canada Mortgage and Housing Corporation study on connectivity in urban neighborhoods in the Puget Sound region in Washington found the highest proportion of pedestrian trips (18%) in areas where paths are relatively more direct to nearby retail and recreational destinations on foot than by car. Areas with high levels of both pedestrian and vehicle connectivity have about 14% pedestrian mode share, and those with poor pedestrian connectivity have the lowest proportion (10%) of pedestrian trips. A Fused Grid increases home-based walking trips by 11.3%. A 10% increase in relative pedestrian continuity (network density) associates with a 9.5% increase in odds of walking. A Fused Grid's 10% increase in relative connectivity for pedestrians is associated with a 23% decrease in vehicles miles of local travel.

When the Victoria Transport Policy Institute researched connectivity as an aspect of complete streets, they found several studies have quantified roadway connectivity impacts on travel activity. Ewing and Cervero (2010) conclude that a 10% increase in intersection or street density reduces vehicle travel 1.2%. The LUTAQH (Land Use, Transportation, Air Quality and Health) research project also found that a 10% increase in intersections per square mile reduces average household VMT by about 0.5% (Larry Frank & Company 2005).

IMPLEMENTATION CONSIDERATIONS

Increased connectivity is difficult to implement as a retrofit practically and politically; it is best included in initial planning.

NORTH CAROLINA EXAMPLES

- Charlotte
  http://ww.charmeck.org/Planning/Subdivision/SubdivisionOrdinanceCity.pdf
- Cary
  https://codelibrary.amlegal.com/codes/cary/latest/cary_nc/0-0-0-53416

OTHER EXAMPLES

- Pennsylvania
  https://www.dot.state.pa.us/public/pubsforms/Publications/PUB%20731.pdf
- Utah
  https://mountainland.org/cur-benefits/

SOURCES

"Roadway Connectivity Creating More Connected Roadway and Pathway Networks", Victoria Transport Policy Institute, Updated 2 January 2017.
https://www.vtpi.org/tdm/tdm116.htm

"Giving Pedestrians an Edge—Using Street Layout to Influence Transportation Choice", Canada Mortgage and Housing Corporation, 2008.
https://publications.gc.ca/collections/collection_2008/cmhc-schl/nh18-23/NH18-23-108-013E.pdf

"Evaluating Complete Streets, The Value of Designing Roads For Diverse Modes, Users and Activities", Todd Litman, Victoria Transport Policy Institute, 24 August 2015
https://www.vtpi.org/compstr.pdf

"Travel and the Built Environment: A Meta-Analysis", Reid Ewing and Robert Cervero, Journal of the American Planning Association, Vol. 76, No. 3, Summer 2010, pp. 265-294.
http://reconnectingamerica.org/assets/Uploads/travelbuiltenvironment20100511.pdf

"A Study of Land Use, Transportation, Air Quality and Health in King County, WA", Frank & Company, King County Larry, 2005.
http://urbandesign4health.com/wp-content/uploads/2012/03/LUTAQH_exec_summary_092705.pdf

TYPE OF TRIPS TARGETED

All trips

POTENTIAL APPLICATION LOCATIONS

Urban neighborhoods, suburban neighborhoods

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

CONNECTIVITY

Land Use

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Funding Type: Federal
Agency: US Department of Transportation

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

PeopleForBikes' Industry Community Grant Program
Funding Type: Private/Non-Profit
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Safe Streets and Roads for All (SS4A) Discretionary Grant Program
Funding Type: Federal
Agency: US Department of Transportation (USDOT)

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Bloomberg Initiative for Cycling Infrastructure (BICI)
Funding Type: Private/Non-Profit
Agency: Bloomberg Cities Network

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Rural and Tribal Assistance Pilot Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Land Use

DEVELOPMENT IMPACT MITIGATION

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Development Impact Mitigation is a strategy in which government entities require developers to mitigate the traffic impact their projects will cause when they are fully built and generating traffic. These measures are meant to ensure that the transportation network can handle the additional demand developments may cause. Some measures the developer may take, such as widening roads or converting a non signalized intersection to a signalized intersection, encourage driving to the development and do not reduce VMT. Other measures, however, such as providing bicycle storage, a comfortable bus shelter, or new transit routes encourage people to take alternative modes to the development which reduces VMT compared to if those measures are not enacted.

PROS

- Can be used to require developers to find solutions to reduce their projects' VMT impact.
- Can be very impactful when applied to large development projects.

CONS

- VMT impacts are typically limited to people going to or from the completed development.
- The success of these VMT-reducing measures is dependent on the compatibility with the surrounding area. For instance, bicycle storage will not encourage bicycling if the road network surrounding the development is too dangerous for bicyclists.

POTENTIAL VMT REDUCTION IMPACT

Typically, only people going to or from this new development in the future are impacted by development impact mitigation.
The potential VMT reduction is based on the size of the new development (such as its area or number of employees) as well as the mitigation strategies implemented. The VMT impact for these mitigation strategies, such as providing an employee shuttle, allowing part of the workforce to telecommute, and subsidizing public transportation costs are discussed separately.

IMPLEMENTATION CONSIDERATIONS

It may be difficult for municipalities to require VMT reduction measures that are strong enough to make an impact. Policies that place increasing burden on developers are more likely to receive criticism for being anti-growth and a hindrance to economic activity, while stronger policies are also what are likely to produce meaningful VMT reductions.

NORTH CAROLINA EXAMPLES

- University of North Carolina **https://facilities.unc.edu/files/2015/12/TIA_Executive_Summary.pdf**
- Marine Corp Base Camp Lejeune

OTHER EXAMPLES

- Massachusetts **http://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf**

SOURCES

"Transportation Demand Management Case Studies and Regulations", Metropolitan Area Planning Council, July 2015.
http://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf

"Implementing SB 743; An Analysis of Vehicle Miles Traveled Banking and Exchange Frameworks", Ethan Elkind, Ted Lamm, and Eric Prather. ITS-Berkeley, October 2018.
https://www.law.berkeley.edu/wp-content/uploads/2018/09/Implementing-SB-743-October-2018.pdf

TYPE OF TRIPS TARGETED

Dependent on the development

POTENTIAL APPLICATION LOCATIONS

Universities as well as urban and suburban areas

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

Land Use

JOBS/ HOUSING BALANCE

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Jobs/Housing Balance is the concept that VMT can be greatly reduced if the quantity and quality of housing in an area matches the employment opportunities in that area. The reduction is a result of reducing the required distance traveled between an individual's residence and workplace. Jobs/ Housing Balance has also been correlated to higher Transportation Demand Management (TDM) measures program adoption rates, especially carpooling.

Balance is achieved by stimulating either housing or job production in areas that are out of proportion. Strategies that encourage housing production include economic inducement, infill housing, parking reduction requirements, brownfield redevelopment, transit-oriented development, finance reform, tax credits, mixed use development, and zoning revisions. Strategies that encourage job production include targeted education/ research, community-based job training, venture capital investment, airport investment and promotion, and fiber optic cable investments.

PROS

- Significantly reduces required commuting distances.
- Proximity of workers to their jobs can promote biking, walking and other alternative modes of commuting.

CONS

- Takes significant time to implement and for the impacts to take effect.
- Requires significant legislation, planning, and zoning changes.
- Need to be aware of skills mismatch which occurs when workers live close to jobs that do not match the skillset of those jobs.

POTENTIAL VMT REDUCTION IMPACT

An employment to housing ratio in the range of 0.75 to 1.5 is considered beneficial for reducing vehicle miles traveled. Ratios higher than 1.5 indicate that there may be more workers commuting into the area because of a surplus of jobs. (EnviroAtlas) A ratio under 0.75 indicates that people living in that area typically have to commute out of it due to a low number of jobs.

Cervero and Duncan in a 2006 study found that every 10% increase in the number of jobs in the same occupational category within 4 miles of one's residence was associated with a 3.3% decrease in daily work-related vehicle miles traveled. A recent study funded by the Air Resources Board examined the impact of job accessibility within 5 miles and more than 5 miles from a person's residence and found that in land use types that range from urban locations with poor transit to single family suburbs (roughly inner and outer suburbs), job access within five miles was an important determinant of VMT (Salon, 2014).

IMPLEMENTATION CONSIDERATIONS

Planning goals/policies may need to be revised. Typically land use policies have a delayed impact on VMT.

NORTH CAROLINA EXAMPLES

- The City of Raleigh's 2030 Comprehensive Plan Update Policy ED5.10 seeks to improve the area's 1.3 jobs-housing ratio **https://cityofraleigh0drupal.blob.core.usgovcloudapi.net/drupal-prod/COR22/CPUSection06EconomicDevelopment.pdf**

OTHER EXAMPLES

- California **https://www.sciencedirect.com/science/article/pii/S0967070X11001314** **https://scag.ca.gov/sites/main/files/file-attachments/neweconomyjobshousingbalance.pdf**

SOURCES

"Employment to Housing Ratio Fact Sheet", EnviroAtlas. **https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/Supplemental/Employmenthousingratio.pdf**

"Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing?", Cervero, R., & Duncan, M., UC Berkeley: University of California Transportation Center, 2008. **https://escholarship.org/uc/item/1s110395#main**

"How do local actions affect VMT? A critical review of the empirical evidence", Salon, D., Boarnet, M. G., Handy, S., Spears, S., & Tal, G., Transportation Research Part D: Transport and Environment, 2012. 17(7), 495-508.

"Quantifying the Effect of Local Government Actions on VMT" Salon, Deborah. 2014. Sacramento, CA: California Air Resources Board and the California Environmental Protection Agency. **https://escholarship.org/uc/item/2z48105j#main**

"Jobs/housing balance and employer-based travel demand management program returns to scale: Evidence from Los Angeles Transport Policy", Zhou, J., Wang, Y., Schweitzer, L., Vol 20, March 2012, Pages 22-35. **https://www.sciencedirect.com/science/article/pii/S0967070X11001314**

TYPE OF TRIPS TARGETED

Commuter trips, school trips, some trips to access services

POTENTIAL APPLICATION LOCATIONS

Urban areas, suburban areas, rural areas, tribal lands

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

Land Use

JOBS/ HOUSING BALANCE

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

MIXED LAND USE

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Mixed Land Use is a zoning strategy in which multiple land uses are intermingled within a zone. Land uses include residential, commercial, entertainment, and institutional uses. This strategy can reduce the distance between homes and workplaces and other destinations, which encourages people to drive shorter distances and possibly switch to either walking or bicycling. Mixed Land Use provides travelers the opportunity to "bundle" trip purposes. For instance, if a business office is adjacent to a grocery store, office workers may go grocery shopping after work, thereby removing the need to make a separate grocery shopping trip on the weekend.

PROS

- Provides more accessible living to people who cannot drive or do not own a car.
- Provides housing opportunities for a diverse income range.
- Would target all types of trips – not just work trips.
- Once a Mixed Land Use area is fully developed, it may be able to sustain itself.

CONS

- VMT reductions may not be seen in the short-term as communities get accustomed to Mixed Land Use zones and adjust their behaviors.
- Requires significant "buy-in" from the community and zoning board.

POTENTIAL VMT REDUCTION IMPACT

In a Transportation Research Board (TRB) study based in Massachusetts, Mixed Land Use was one of the variables that had the largest impact on the level of passenger VMT. The study found that by adjusting this variable, as well as others, Massachusetts could reduce their "business-as-usual" 2040 VMT by 13.6%. (McCahill)

A 2001 study released by the Arizona Department of Transportation found that higher density and mixed-use developments designed to be walkable and accessible to regional transit could reduce residents' VMT by 25%. (US Department of Housing and Urban Development)

IMPLEMENTATION CONSIDERATIONS

The Zoning Board needs to adjust the zoning policy to enact a Mixed Land Use zone. This process requires "buy-in" from numerous stakeholders in the community. Zoning adjustments can cause significant changes to the character of a neighborhood which residents may oppose.

Companies and institutions also must be willing to conduct business in a Mixed Land Use zone for it to succeed. Otherwise, parts of the zone will be vacant, and residents will have to travel outside of the Mixed Land Use zone to fulfill their needs.

OTHER EXAMPLES

- Cary, North Carolina, NC **https://www.carync.gov/projects-initiatives/cary-community-plan/fenton-mixed-use-development**
- Charlotte, North Carolina, NC **https://croslandsoutheast.com/project/commonwealth/**
- Atlantic Station, Atlanta, GA **https://www.epa.gov/smartgrowth/atlantic-station-atlantic-steel-site-redevelopment-project**

SOURCES

Transportation Research Record Journal of the Transportation Research Board. Bill Holloway, Eric Sundquist, Chris McCahill. 2017. **https://trid.trb.org/view/1437848**

Short- and Long-Term Effects of Land Use on Reducing Personal Vehicle Miles of Travel: Longitudinal Multilevel Analysis in Austin, Texas, Sage Journals, Wenjia Zhang, Ming Zhang. 2015. **https://journals.sagepub.com/doi/10.3141/2500-12**

US Department of Housing and Urban Development, Arizona Study Suggests Dense, Mixed Use Development Patterns reduce VMT and Congestion, October 2012. **https://archives.huduser.gov/scrc/sustainability/newsletter_092712_3.html**

US Environmental Protection Agency, Mixed Use Trip Generation Model **https://www.epa.gov/smartgrowth/mixed-use-trip-generation-model#:~:text=The%20EPA%20team%20put%20the,and%20for%20an%20entire%20day.**

TYPE OF TRIPS TARGETED

All, except freight

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T MPO/RPO

PRIVATE

Land Use

MIXED LAND USE

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Choice Neighborhoods Program Planning Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Public Works & Economic Adjustment Assistance (EAA) Programs
Funding Type: Federal
Agency: US Economic Development Administration

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

Community Challenge
Funding Type: Federal
Agency: AARP

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

ACCESS PRIORITY /RESTRICTION

REGION TYPE

URBAN

DESCRIPTION

Access priority and access restriction are public policy and regulatory strategies that focus on prioritizing transit and other modes of transportation over Single Occupancy Vehicles (SOV). There are several types of access priority and restriction:

- Route deviation: The service has a defined path and schedule, but the vehicle may deviate from the path to pick up or drop off riders. Maximum deviation varies by service and can range from a quarter of a mile to a mile.
- Transit lanes that give priority to transit. These include segregated bus lanes which are fully separated from the main road and reserved for transit and queue jump lanes which enable transit to overtake queuing vehicles at a signal.
- Transit signal priority uses technologies to reduce the time at traffic signals for transit vehicles.
- Car-free streets or car-free zones limit personal vehicle access. Some cities in Europe have banned cars in city centers.

PROS

- Access priority can make transit a quicker and more attractive travel mode.
- Vehicle restrictions can reduce vehicle miles traveled, traffic congestion, road and facility costs, and vehicle accidents.

CONS

- If an access priority/restriction program is poorly designed, vehicle use may shift to other routes and off-peak times.
- An ineffective vehicle access/restriction program that reduces access in urban areas may encourage sprawl by encouraging businesses and vehicles to choose areas without restrictions.
- Without strong political support, access priority and restriction programs are hard to implement.
- Access priority and restriction programs can increase traffic congestion in other areas around the restricted area.
- If access restrictions are not enforced over time, motorists will ignore them. This is especially prevalent in the case of High Occupancy Vehicle (HOV) lanes.

POTENTIAL VMT REDUCTION IMPACT

One study looked at bus priority schemes. Seattle King County's E-Line Corridor Prioritization reduced bus journey time by 5.4 minutes. Dublin, Ireland's Stillorgan Road Quality Bus Corridor increased peak hour bus speeds, and buses were 30% faster than cars. Ridership increased by 176% and car use fell by 42.56% between 1997 and 2007. London's A100 Tower Bridge Road/Tooley Street project had a net savings in journey time of $490,057 in the year after the project.

IMPLEMENTATION CONSIDERATIONS

Access restriction measures must be carefully balanced and consider all unique attributes of an area.

NORTH CAROLINA EXAMPLES

- Triangle Region – Bus On Shoulder **https://www.ncdot.gov/divisions/integrated-mobility/innovation/Pages/bus-on-shoulder-system.aspx**

OTHER EXAMPLES

- Denver 16th Street Mall – Car-free Street **https://www.denver.org/things-to-do/denver-attractions/16th-street-mall/**
- Seattle King County Washington – Bus Priority Lanes - **https://kingcounty.gov/~/media/depts/metro/about/planning/speed-reliability-toolbox.pdf**
- Oslo and Barcelona – Car-free cities - **https://www.sciencedirect.com/science/article/pii/S0160412016302161**

SOURCES

"The identification and management of bus priority schemes: A study of international experiences and best practices", Deborah Mundy et. al, Imperial College London, Railway and Transport Strategy Center, April 2017.
https://www.imperial.ac.uk/media/imperial-college/research-centres-and-groups/centre-for-transport-studies/rtsc/The-Identification-and-Management-of-Bus-Priority-Schemes---RTSC-April-2017_ISBN-978-1-5262-0693-0.pdf

"Car free cities: Pathway to healthy urban living", Mark J. Nieuwenhuijsen and Haneen Khreis, Environment International, September 2016.
https://doi.org/10.1016/j.envint.2016.05.032

TYPE OF TRIPS TARGETED

Primarily commuter trips

POTENTIAL APPLICATION LOCATIONS

Urban city centers, congested commuter and transit routes

IMPLEMENTED BY

STATE GOV'T

COUNTY/ LOCAL GOV'T

TRANSIT AGENCY

ACCESS PRIORITY /RESTRICTION

REGION TYPE

URBAN

FUNDING SOURCES

Capital Investment Grants
Funding Type: Federal
Agency: Federal Transit Administration

Pilot Program for Transit-Oriented Development (TOD) Planning
Funding Type: Federal
Agency: Federal Transit Administration

Congestion Mitigation and Air Quality Program
Funding Type: Federal
Agency: US Department of Transportation - FTA & FHWA

Expedited Project Delivery Pilot Program
Funding Type: Federal
Agency: Federal Transit Administration

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

National Highway Performance Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Highway Safety Improvement Program (HSIP)
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

TRIP REDUCTION ORDINANCE

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

A Trip Reduction Ordinance is a requirement adopted by a state, region, or city to manage congestion and reduce vehicle miles traveled by promoting alternatives to Single Occupancy Vehicles (SOV). Most of these ordinances date back to the 1990s when the US Congress passed the Clean Air Act, endorsing trip reduction ordinances to increase non-automobile travel. Trip reduction ordinances include programs that require developers to reduce the drive-alone rate for their developments as well as state or city mandated employer-based programs to reduce the drive-alone rate among commuters.

A common form of trip reduction ordinance is an employer-based trip reduction program. These programs are implemented by employers to reduce single-occupancy employee commuting trips. The employer program can include any of a variety of Transportation Demand Management (TDM) measures measures including employer-subsidized transit passes, company-run vanpool services, or employer-run shuttle service to transit stations. 250 employees is often the minimum number of employees needed to participate in the program.

PROS

- Trip reduction ordinances are typically not a heavy-handed regulation and are usually easy to implement.
- Trip reduction ordinance measures can be customized to the location for best results.
- Trip reduction programs increase usage of alternative modes of transportation.

CONS

- There are a variety of strategies that a trip reduction ordinance or program can use. Identifying the right ones for the area can be complicated.
- Without government support and private sector support, trip reduction ordinances can easily be overturned.

POTENTIAL VMT REDUCTION IMPACT

A study on the Washington State Commute Trip Reduction ordinance by Wu and Shen found that trip reduction policies can effectively influence employee mode choice, although different policies have varied effects. The Washington State Commute Trip Reduction ordinance can reduce the probability of commuters driving alone between 1.76% and 3.43%. A trip reduction program with at least six different options can reduce the probability of driving alone by 18%.

A study from Seattle Department of Transportation found that employers participating in the Washington State Commute Trip Reduction program have contributed to an 11% reduction in Seattle's drive-alone rate. 64% of commuters in Seattle who work for employers in the Washington State Commute Trip Reduction program use transit, biking, walking, or rideshare to get to work.

IMPLEMENTATION CONSIDERATIONS

Policies that place increasing burden on private companies are more likely to receive criticism for being anti-growth and a hindrance to economic activity, while stronger policies are also what are likely to produce meaningful VMT reductions.

NORTH CAROLINA EXAMPLES

- Durham Commute Trip Reduction Program **https://www.dconc.gov/Home/ShowDocument?id=4872**

OTHER EXAMPLES

- Washington State Commute Trip Reduction Ordinance **https://www.wsdot.wa.gov/transit/ctr/home**
- Santa Monica, CA **https://www.smgov.net/Departments/PCD/Transportation/Employers/**
- Rockville, MD **https://www.rockvillemd.gov/DocumentCenter/View/591/TDM_Plan_03-21-11_Final_Adopted?bidId=**

SOURCES

"The Effects of Commute Trip Reduction Program on Employee Mode Choice", Wu, Xiatian & Shen, Qing, Transportation Research Board, 7 December 2018. **https://trid.trb.org/View/1572907**

"Commute Trip Reduction (CTR) Overview", Transportation Benefits Toolkit, Commute Seattle. **https://commuteseattle.com/wp-content/uploads/2017/03/CSToolkit_TBT_CTR-Overview.pdf**

TYPE OF TRIPS TARGETED

General ordinance - all trips. Employer-based trip reduction program - commuter trips

POTENTIAL APPLICATION LOCATIONS

Statewide, urban areas

IMPLEMENTED BY

COUNTY/ LOCAL GOV'T

Pricing

GAS TAX INCREASE

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Gas taxes or fuel taxes are a pricing strategy commonly used to fund highway and roadway facility maintenance. All US states and the US federal government have a gas tax. In North Carolina, the gas tax varies with state population and energy prices. Some states allow local governments to levy additional fuel taxes. Many states are now revising the definition of fuel to include non-gas alternative fuels.

PROS

- Can raise substantial revenue, especially when linked to inflation.
- Collection of tax is easy (included at time of purchase).
- No new cost to administer gas tax.
- Low potential for evasion of tax.

CONS

- The increase must be substantial enough to change behavior.
- May encounter political obstruction.
- As vehicles become more efficient, alternative fuels are used, and inflation rises, the gas tax is less effective at reducing VMT.
- If a gas tax increase causes the price of gasoline to vary greatly from neighboring states, it may cause drivers to refuel out of state if it is part of their trip instead of driving less. This applies mostly to the southern suburbs of Charlotte as well as through traffic on I-77, I-85, and I-95.

POTENTIAL VMT REDUCTION IMPACT

One analysis by the Metropolitan Area Planning Council showed that an 18-cent increase in the gas tax in the Boston metropolitan area may cause a VMT reduction of just under 0.5% (Gately and Reardon, 2021).

IMPLEMENTATION CONSIDERATIONS

The infrastructure cost for increasing the gas tax is negligible since North Carolina already has a gas tax and the infrastructure in place to collect it. The difficult part of implementing a gas tax increase is the public opposition to it.

NORTH CAROLINA EXAMPLES

- North Carolina changed the state gas tax to consider inflation and state population – General Assembly of North Carolina Session Law 2015-2 Senate Bill 20. **https://www.ncleg.net/Sessions/2015/Bills/Senate/PDF/S20v7.pdf?sessionId=1500312975876&referrer=https://w**

OTHER EXAMPLES

- Urban Institute Motor Fuel Taxes **https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/motor-fuel-taxes**
- Institute on Taxation and Economic Policy **https://itep.org/most-states-have-raised-gas-taxes-in-recent-years-0419/#:~:text=Georgia%3A%20A%206.7%2Dcent%20increase,power%20in%20the%20years%20ahead**
- Federal Taxes. **https://itep.org/federal-inaction-on-the-gas-tax-is-costing-us-dearly/**

SOURCES

Gately, Conor, and Tim Reardon. "The Impacts of Land Use and Pricing in Reducing Vehicle Miles Traveled and Transport Emissions in Massachusetts." Metropolitan Area Planning Council, 22 Jan. 2021.

"Price Elasticity of Demand for Gasoline." Moffatt, Mike. ThoughtCo, 23 June 2019, **www.thoughtco.com/price-elasticity-of-demand-for-gasoline-1147841.**

State-Level Strategies for Reducing Vehicle Miles of Travel. University of California. Michelle Byars, Yishu Wei, Susan Handy. 2017. **https://d3n8a8pro7vhmx.cloudfront.net/climateplan/pages/44/attachments/original/1509403808/2017-PTA-Handy_UCDavis_VMT_Report_1.pdf**

The NC Motor Fuels Tax, www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-1.pdf. **https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-1.pdf**

TYPE OF TRIPS TARGETED

All Trips

POTENTIAL APPLICATION LOCATIONS

Statewide

IMPLEMENTED BY

STATE GOV'T

Pricing

PARKING PRICING

REGION TYPE

URBAN

DESCRIPTION

Parking pricing refers to charging a fee to park in public (municipal) lots and curbside spaces and private lots. Types of parking pricing strategies that could potentially reduce VMT include:

- Price on-street parking. This could encourage people to use alternative modes of transportation.
- Price parking so that it is equal to or greater than the cost of transit to encourage transit use.
- Have a local parking pricing plan that charges similar fees for parking at a given time. This can be applied on a static basis or can be demand-responsive, charging based on the demand. The goal of demand responsive parking pricing is to charge a price that is low enough that the driver will decide to park there without further "circling" for cheaper spots, but also high enough that customers are likely to leave quickly, allowing their space to be occupied by another vehicle. A parking pricing strategy for employers would be to charge employees for parking in the employer owned lots.

PROS

- Travelers have a choice; they can opt to drive and find parking or use a different mode of travel.
- Demand responsive parking pricing can reduce traffic and congestion by reducing "circling" to look for alternative spots if it is priced correctly.

CONS

- Not always effective without an overall parking management strategy. There needs to be consistent pricing in an area, otherwise drivers will gravitate to the cheaper parking spaces first. If the parking price is set too low, people may drive instead of using other modes of transportation.
- Requires alternative transportation modes to be successful.
- Demand-responsive parking pricing requires expensive Smart meters and parking sensors.

POTENTIAL VMT REDUCTION IMPACT

One study predicted that charging employees $3 per day for parking would decrease VMT by 1.9 to 2.9%. (Parking Pricing and Fees)

In San Francisco, CA, VMT dropped between 22% and 26% in neighborhoods where demand-responsive parking pricing was implemented. In 2018, this was expanded to all San Francisco neighborhoods (Joy and Schreffler). After 2018, reported parking search time went down by 43% and average hourly parking rates dropped by 4%. San Francisco's pilot was one of the first to show that parking pricing could lower cruising and the time to find a parking spot. (Jose)

In Washington, DC, a parking pricing pilot done by the District Department of Transportation found that congestion in the pilot areas fell by 5%, compared to a 3% decrease in congestion in DC overall. Metrorail ridership has fallen consistently, but ridership at stations in the pilot area remained consistent once the pilot began. Bikeshare ridership increased by 36% after the pilot as well. (Dey)

IMPLEMENTATION CONSIDERATIONS

Increasing parking rates in an area may be contentious as it will cause parking customers to pay more for a product that used to be cheaper. This may be easier to handle if alternative modes of transportation are available in the area. Paid parking also requires infrastructure to allow payment, although this has become easier recently with the creation of parking apps such as ParkMobile

NORTH CAROLINA EXAMPLES

- Concord, NC – Downtown Parking Study **https://apps.concordnc.gov/legacy/PlanningWeb/AreaPlans/DowntownMasterPlan/Parking_Study_2015.pdf**
- Raleigh, NC – Hillsborough Street Corridor Parking Study **https://www.hillsboroughstreet.org/_files/docs/parking_study_report-20180831-final-min.pdf**

OTHER EXAMPLES

- SFPark **https://www.sfmta.com/demand-responsive-parking-pricing**
- Annual Report 2017 On-Street Paid Parking Occupancy. Seattle Department of Transportation. **https://www.seattle.gov/Documents/Departments/SDOT/About/DocumentLibrary/Reports/SDOT_AnnualReport2017.pdf**
- Pricing Parking Best Practices: Background Memo. Portland Bureau of Transportation. **https://www.portland.gov/transportation/equitable-mobility-taskforce/documents/pricing-parking-best-practices-background-0/download**

SOURCES

"Yellow Brick Roadmap to Demand-Based Parking Pricing: Findings from Washington, D.C.", Dey, Soumya S., et al., Transportation Research Record: Journal of the Transportation Research Board, vol. 2673, no. 12, 2019, pp. 339–353., doi:10.1177/0361198119863113.

"Traveler Response to Transportation System Changes Handbook, Third Edition: Chapter 13, Parking Pricing and Fees." 2005, doi:10.17226/23415

"Evaluation of Demand Responsive Parking Pricing in San Francisco: Effects on Vehicular Travel, Air Pollution, and Fuel Consumption", Joy, Barbara, and Eric Schreffler. Transportation Research Board, 2015.

"San Francisco Adopts Demand-Responsive Pricing Program to Make Parking Easier", Jose, Ben. San Francisco Municipal Transportation Agency, 27 Feb. 2020.

"Impacts of Parking Pricing and Parking Management on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief", Spears, S., Boarnet, M., Handy, S., 30 Sept. 2014.

TYPE OF TRIPS TARGETED

Commuter trips, short trips between parking facilities

POTENTIAL APPLICATION LOCATIONS

Urban city centers, town centers

IMPLEMENTED BY

STATE GOV'T | COUNTY/ LOCAL GOV'T | PRIVATE

Pricing

PARKING PRICING

REGION TYPE

URBAN

FUNDING SOURCES

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Pricing

ROAD PRICING AND CORDON PRICING

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Road Pricing means that vehicles are charged a fee to use a roadway. Traditional road pricing includes toll roads and other toll facilities such as toll bridges and tunnels. Congestion Pricing, sometimes referred to as Value Pricing, is a subset of Road Pricing and levies differential tolls depending on the time of day such that fees for use are higher during congested periods. Congestion Pricing can be applied on traditional toll facilities as well as in Express Lanes, which are tolled lanes adjacent to free lanes. Some Express Lane facilities allow high occupancy vehicles over a certain occupancy requirement to travel for a reduced rate or for free, thereby encouraging ridesharing. In Cordon Pricing, a toll is paid by a vehicle to enter an "area" such as a downtown.

PROS

- Road Pricing users choose to pay for the trip or find a toll-free alternative.
- Cordon pricing may result in a mode switch to public transit, biking, or walking, thereby reducing VMT.

CONS

- May not actually reduce VMT if tolls are set low (which may happen if tolls are artificially low for political reasons).
- If tolls are too high, drivers may divert to free routes, which may be longer in distance and contribute to higher VMT.
- Electronic toll collection is infrastructure dependent and costs could be high, particularly for cordon pricing.

POTENTIAL VMT REDUCTION IMPACT

Converting High Occupancy Vehicles (HOV) lanes to tolled Express Lanes may increase VMT as it can lead to a decrease in HOV use by as much as one third (as it did on the I-15 corridor in San Diego) in the lane and the highway corridor as a whole. (Burris). Also, a priority of express lanes is to provide reliability, not necessarily VMT reduction, though Express Lanes can enhance bus transit by providing a more reliable travel time. In London, cordon pricing showed a 18% drop in traffic entering and 15% less traffic circulating within the cordon area as compared to pre-cordon pricing activity. Bus ridership increased by 38% because of reliability and improved trip times. About 50% of the car trips no longer in the cordon zone switched to public transit within the zone, about 25% were diverted out of the cordon zone and the rest were attributed to carpool, walk and bike trips. The initial results were maintained over time despite population growth. There were almost 10% fewer trips in 2015 as compared to 2000, despite a 20% increase in population. The charge was equivalent to about $14.50 in 2020. (Provonsha and Sifuentes).

IMPLEMENTATION CONSIDERATIONS

Converting HOV lanes into tolled Express Lanes or incorporating cordon pricing incurs a significant infrastructure cost as toll technology must be added to the road network and a back office must be set up if one does not exist yet. Determining the parameters of cordon pricing can be complex and may not be suitable for an urban area depending on its roadway network. Currently, the North Carolina Turnpike Authority can operate only eleven toll projects in the state.

NORTH CAROLINA EXAMPLES

- I-77 Express Lanes
  https://www.i77express.com/
- I-485 Express Lanes
  https://www.ncdot.gov/projects/i-485-express-lanes/Pages/default.aspx
- US 74 Express Lanes
  https://www.ncdot.gov/projects/us-74-express-lanes-i-277/Pages/default.aspx

OTHER EXAMPLES

Cordon pricing:

- London
  https://tfl.gov.uk/modes/driving/congestion-charge
- New York City
  https://new.mta.info/project/CBDTP

HOV Lanes converted to Express Lanes:

- I-85 Express Lanes in Atlanta
  https://www.peachpass.com/where-can-i-use-peach-pass/i-85-express-lanes/
- I-66 in Northern Virginia
  https://vai66tolls.com/

SOURCES

"Road Pricing in London, Stockholm, and Singapore", Provonsha, Emily, and Nickolas Sifuentes. Tri-State Transportation Center, 2017.
https://tstc.org/wp-content/uploads/2018/03/TSTC_A_Way_Forward_CPreport_1.4.18_medium.pdf

"The Impact of HOT Lanes on Carpools", Burris, Mark, et al. Texas Transportation Institute,
https://www.sciencedirect.com/science/article/pii/S0739885914000055

"The Mythology of HOT Lanes" Posey, Kevin. Streetsblog USA, 27 Sept. 2016,
usa.streetsblog.org/2016/09/27/the-mythology-of-hot-lanes/

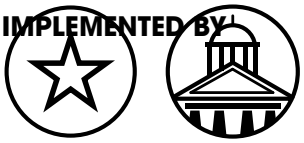
TYPE OF TRIPS TARGETED

All, but primarily peak period trips.

POTENTIAL APPLICATION LOCATIONS

High volume corridors and urban city centers

IMPLEMENTED BY



STATE GOV'T COUNTY/ LOCAL GOV'T

Pricing

ROAD PRICING AND CORDON PRICING

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Pricing

VMT FEE OR TAX

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Vehicle Mileage Traveled (VMT) fees are levied based upon the average mileage that a vehicle is driven in a set period of time (year) and are envisioned as a replacement for gas taxes. Gas taxes, which tax the user on a per gallon basis, have been the main source of income for the nation's transportation funding. Unfortunately, officials have been reluctant to increase the gas tax, and because fuel efficiency and alternative fuel vehicle use have increased and because fuel costs have also not increased at the rate of inflation, receipts have not increased with inflation. VMT fees or taxes are more equitable, as users pay directly for the miles they travel and those that have more gas dependent vehicles are not disproportionately shouldering the burden. Depending on the rate of the fee levied, VMT fees or taxes could result in fewer miles driven, reducing overall VMT.

PROS

- Equitable cost per vehicle based on miles driven (type of vehicle not a factor).
- Would target all types of trips and could be assessed for freight trips too.
- Depending on how miles are tracked, congestion pricing could be tied to a VMT fee or tax.

CONS

- Cost to drive a vehicle could go up – could potentially affect low income persons more.
- Program could be difficult to implement (how to monitor mileage use while not allowing odometer tampering) and would be more costly to implement (billing required).
- Politically difficult to implement.

POTENTIAL VMT REDUCTION IMPACT

In the Minnesota Pilot Program (2006), 130 participants were given devices that recorded mileage and time of travel. Prices per mile were assigned randomly to each participant, ranging from $0.05 to $0.25 per mile. The findings indicated that per mile pricing results in measurable reductions in driving (about 4.4 compared to the unpriced group). The largest effect was on weekend driving (8.1% decrease) and on peak weekday travel (6.6% decrease), as some participants substituted mass transit for vehicle use. A key finding was that households willing to change their driving behavior will do so with low per mile cost incentives. Also, households unable to change their behavior do not do so even under relatively higher cost incentives (Buxbaum).

In 2013, A GPS tracking device was installed on volunteered vehicles (limited to 5,000 cars and light-duty commercial vehicles) in Oregon for about $250 per vehicle. Drivers were charged $0.015 per mile regardless of their vehicle type and model. Participants received monthly bills of their road-use charges and had the state gasoline tax refunded when they purchased gasoline at pumps in Oregon.

The participating drivers drove 12 % less when they were paying the VMT tax (and refunded for the gas tax) than when they were paying the gas tax. Some participants noted they reduced their driving because they were more aware of short trips and the number of miles driven. It is unknown if this is a short-term impact and if the VMT tax would have a similar impact as the gas tax on driving decisions. (Whitty)

IMPLEMENTATION CONSIDERATIONS

The infrastructure cost is significant as a new tax framework would have to be implemented, based on odometer readings or mandated GPS devices. Odometer readings have the benefit of already being part of automobile technology, but would charge drivers for miles outside of North Carolina. GPS devices allow for specific VMT taxes by zone (either North Carolina or a cordon area) and time (to discourage driving during rush hour). However, they are not standard features in all vehicles and may be considered by some to be an invasion of privacy. The public may also consider a VMT tax an increase to its tax burden. Implementation would require legislative action at the state level and the involvement of state agencies (including the Department of Revenue and the Department of Transportation).

NORTH CAROLINA EXAMPLES

- NC Clean Energy Technology Center **https://nccleantech.ncsu.edu/category/policy-and-markets/**
- NC First Commission **https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-12.pdf**

OTHER EXAMPLES

- Minnesota **https://www.lrrb.org/media/reports/200639A.pdf**
- Oregon **https://www.myorego.org/wp-content/uploads/2017/07/RUFPP_finalreport.pdf**

SOURCES

"Pay-As-You-Drive Experiment Findings" Buxbaum, Jeffrey. MN Department of Transportation, 2006
https://www.lrrb.org/media/reports/200639A.pdf

"Oregon's Mileage Fee Concept and Road User Fee Pilot Program". Whitty, James. Oregon Department of Transportation, 2007,
https://www.myorego.org/wp-ontent/uploads/2017/07/RUFPP_finalreport.pdf

TYPE OF TRIPS TARGETED

All trips

POTENTIAL APPLICATION LOCATIONS

Statewide

IMPLEMENTED BY

STATE GOV'T

Application Based

MOBILITY AS A SERVICE

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Mobility as a Service (MaaS) is the combination of most (if not all) transportation modal options into one application (app). The objective of MaaS is to provide community members with a central app that they can use for all trip planning in a region, with the app providing intermodal trip options for customers' trips from their initial origin to their final destination. The apps may have inputs for the customer trip characteristics, such as whether they are traveling with heavy equipment or if they are using a wheelchair. Some MaaS apps may offer subscription packages, in which payment to the MaaS app could include transit fares, bikeshare costs, and a credit with Transportation Network Companies (TNCs) such as Uber or Lyft.

PROS

- MaaS apps can solve the first mile/last mile problem by providing customers with guidance on how to complete every leg of their trips. If the apps work well in this regard, they may attract additional riders from transit out of personal vehicles.
- MaaS applications would generate valuable data that would allow alternative transportation groups to study how they are serving their clients well and how they can serve them better.

CONS

- If a MaaS app is operated by a TNC, the app may siphon transit ridership to a TNC vehicle since it will generate more revenue for the TNC.
- MaaS apps require alternative transportation options to provide alternatives to its customers besides personal vehicles. A MaaS app is not helpful to a city without public transit.
- A MaaS app is as good as its coverage of transportation options. If a MaaS app includes the local bikeshare and transit options, but does not include any TNCs, it may not adequately serve its customers.

POTENTIAL VMT REDUCTION IMPACT

Unknown. This concept is very new, with only a few international examples implemented. Inspiratia, the fastest-growing online provider of data on global infrastucture and transport, even claims that there are no existing examples of fully realized MaaS.

IMPLEMENTATION CONSIDERATIONS

MaaS apps provide a valuable service by simplifying intermodal journeys. However, they also rely on the presence of alternative modes to reduce VMT. MaaS apps are just starting development in the US, and 29 TNC and transit agency partnerships are laying the groundwork for these kinds of services which were identified in a 2018 study for the Chaddick Institute for Metropolitan Development at DePaul University.

NORTH CAROLINA EXAMPLES

- CATS First Mile / Last Mile Partnership with Lyft (MaaS potential)
  https://www.masstransitmag.com/technology/press-release/12406980/charlotte-area-transit-system-cats-cats-announces-first-mile-last-mile-partnership-with-lyft

OTHER EXAMPLES

- Nationwide TNC/Transit Partnerships (MaaS potential)
  https://las.depaul.edu/centers-and-institutes/chaddick-institute-for-metropolitan-development/research-and-publications/Documents/Partners%20in%20Transit_Live1.pdf

WORLDWIDE EXAMPLES

- Helsinki
  https://whimapp.com/about-us/
- Citymapper App
  https://citymapper.com
- Transitapp
  https://transitapp.com

SOURCES

"MaaS: The Mobility Revolution Coming to North America", Inspiratia,
https://docslib.org/doc/6820223/maas-the-mobility-revolution-coming-to-north-america

"Partners In Transit: A Review of Partnerships between Network Companies and Public Agencies in the United States", Chaddick Institute for Metropolitan Development at DePaul University, 1 August 2018.
https://las.depaul.edu/centers-and-institutes/chaddick-institute-for-metropolitan-development/research-and-publications/Documents/Partners%20in%20Transit_Live1.pdf

TYPE OF TRIPS TARGETED

All, except freight

POTENTIAL APPLICATION LOCATIONS

Cities and nearby suburbs

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T TRANSIT AGENCY

Application Based

MOBILITY AS A SERVICE

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Community Challenge
Funding Type: Federal
Agency: AARP

Innovative Coordinated Access and Mobility (ICAM)
Funding Type: Federal
Agency: Federal Transit Administration

Enhancing Mobility Innovation
Funding Type: Federal
Agency: Federal Transit Administration

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Application Based

RIDE-MATCHING APPLICATIONS

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Mobile ride-matching (or ridesharing) applications help travelers find other travel partners for trips. These applications may focus on matching carpoolers for recurring commuter trips, however, most app based ride matching focuses on dynamic carpooling allowing users to arrange ad-hoc rides on demand or on very short notice. These travelers may include customers of a Transportation Network Company (TNC) for single events (or trips), or intercity travelers with private cars making the same trip. These ride matching applications consider their customers' origin, destination, and schedule to determine what potential carpools or drivers are compatible with them.

PROS

- Increases travel options for area residents.
- Increases the virtual network for customers to find potential carpools.
- Ride-matching applications require less infrastructure and have a lower cost to implement and maintain than other measures such as public transit.
- Many potential customers already have TNC applications on their phones and would only have to select the ridesharing option (such as UberPOOL) to utilize the service.

CONS

- There are numerous applications competing for patronage. If multiple applications are used for the same purpose, they are inherently less efficient.
- A critical mass of potential customers is necessary for matches to occur and for the applications to be effective.
- In the case of TNC applications, if the ride-matching fare is too close to the solo travel fare, customers are more likely to choose solo travel.

POTENTIAL VMT REDUCTION IMPACT

Ride-matching applications can support ridesharing services to reduce VMT but the impact of ride matching alone is hard to quantify.

Some studies, like one by Schaller Consulting in 2018, show that having "pool" options in TNC applications actually increases driving by about 160%, because those people would have taken transit otherwise.

IMPLEMENTATION CONSIDERATIONS

Ride-matching and rideshare services may be met with sentiments of "stranger danger" and small individual incidents can result in a poor reputation for the service or even lawsuits if not properly protected.

NORTH CAROLINA EXAMPLES

- Share the Ride NC
  https://www.sharetheridenc.org/Public/Home.aspx

OTHER EXAMPLES

- New Jersey (NJ Rideshare)
  https://www.njrideshare.com/rp2/Home/Home
- Northern Virginia
  https://commuterconnec.wpengine.com/ridesharing/
- Uber
  https://www.uber.com/
- Lyft
  https://www.lyft.com/
- Hitch
  https://www.ridehitch.com/

SOURCES

"The New Automobility: Lyft, Uber and the Future of American Cities", Schaller Consulting, 25 July 2018.
http://www.schallerconsult.com/rideservices/automobility.pdf

"On-Demand high-capacity ride-sharing via dynamic trip-vehicle assignment", Alonso-Mora, J., Samaranayake, A., Frazzoli, E., Rus, D., PNAS 17 Jan 2017 114(3) 462-467
https://www.pnas.org/content/114/3/462

TYPE OF TRIPS TARGETED

All trips

POTENTIAL APPLICATION LOCATIONS

Urban and Suburban Areas, Towns, universities

IMPLEMENTED BY

STATE GOV'T TRANSIT AGENCY

Application Based

RIDE-MATCHING APPLICATIONS

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Innovative Coordinated Access and Mobility (ICAM)
Funding Type: Federal
Agency: Federal Transit Administration

Enhancing Mobility Innovation
Funding Type: Federal
Agency: Federal Transit Administration

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
Funding Type: Federal
Agency: US Department of Transportation

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Support

COMPACT DEVELOPMENT /CLUSTERING

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Compact development is recognized as dense development; residential areas with high ratios of residents per area and employment areas that have high ratios of jobs over an area. Clustering is defined as locating related activities close to one another. Concentrated residential and employment areas can provide density needed for successful transit services and ridesharing to occur between the two. Clustering necessary services (schools, groceries, municipal services) near or within residential areas or employment centers can promote trip chaining and non-motorized trip making (walking).

PROS

- Can promote non-motorized trip-making in all area types.
- It is an important part of transit-oriented development and mixed-use development.

CONS

- There is some discussion that people attracted to compact development in transit oriented or mixed-use development do so because they seek a less car dependent environment, so overall VMT reduction may be minimal.
- Trips are more concentrated and may result in localized congestion issues.

POTENTIAL VMT REDUCTION IMPACT

Compact development is a vital part of both transit-oriented and mixed-use development. By itself, compact development does not have a material impact on VMT but can make other Transportation Demand Management (TDM) measures such as ridesharing more successful. One modeling study in the Greater Cincinnati area, published by Urban Rail Transit, showed that when dense, mixed use city centers are developed rather than an employment focused city center with surrounding residential growth, the +20 year VMT forecast is reduced by approximately 7.5%.

IMPLEMENTATION CONSIDERATIONS

May be hard to implement where less dense development is championed by residents. May need local policy and code changes to allow for different development types and densities. Difficult and costly to implement where utility limitations exist, such as municipal water capacity for high rise buildings, or limited internet bandwidth for multiple users.

NORTH CAROLINA EXAMPLES

- Durham
  https://www.durhamnc.gov/DocumentCenter/View/7069/Compact-Neighborhoods-An-Introduction?bidId=

OTHER EXAMPLES

- Pennsylvania
  https://www.chescoplanning.org/MuniCorner/Tools/CompactDev.cfm

SOURCES

"Integrating Land Use and Socioeconomic Factors into Scenario-Based Travel Demand and Carbon Emission Impact Study", Wei, Heng et al, Urban Rail Transit, 2017.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7425664/

"Compact development and preference heterogeneity in residential location choice behaviour: A latent class analysis", Liao, Felix Haifeng & Farber, Steven & Ewing, Reid. (2014). Urban Studies. 52. 314-337.
https://www.researchgate.net/publication/275504971_Compact_development_and_preference_heterogeneity_in_residential_location_choice_behaviour_A_latent_class_analysis

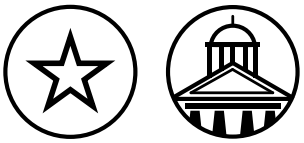
TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

All

IMPLEMENTED BY



STATE GOV'T COUNTY/ LOCAL GOV'T

Support

COMPACT DEVELOPMENT /CLUSTERING

REGION TYPE

URBAN SUBURBAN RURAL

FUNDING SOURCES

Choice Neighborhoods Program Implementation Grants
Funding Type: Federal
Agency: US Department of Housing and Urban Development

Community Challenge
Funding Type: Federal
Agency: AARP

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Support

FACILITY AMENITIES

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Facility amenities include a wide variety of services that support alternative modes like walking, biking, and transit. They can include long and short-term bike parking, bicycle storage, bicycle maintenance facilities (tire pumps and light tools), electric recharging, changing and restrooms with shower facilities, pedestrian shade/cooling stations, transit stop shuttles, or satellite parking with shuttle service. Amenities are usually most appropriately located at trip-end or trip-start points. These locations include apartment complexes, office buildings, consumer businesses, banks, schools, etc. These amenities are usually provided as an incentive to attract residents, patrons, students, or employees.

PROS

- Alleviates common complaints about taking alternative modes.
- Sends a message that alternative modes are prioritized by catering to the needs of their users.

CONS

- Requires action of private stakeholders.
- Only applicable where alternative modes are already available/viable.

IMPLEMENTATION CONSIDERATIONS

Facility amenities are implemented by individual businesses, developers, landlords, employers, or schools and somewhat outside of a planning organization's reach to influence adoption.

NORTH CAROLINA EXAMPLES

- University of North Carolina **https://facilities.unc.edu/files/2015/12/TIA_Executive_Summary.pdf**
- Marine Corp Base Camp Lejeune

OTHER EXAMPLES

- Massachusetts **http://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf**

SOURCES

"Become a Bicycle Friendly Workplace", Bike to Work Metro DC. **https://www.biketoworkmetrodc.org/employer-resources/become-a-bicycle-friendly-workplace**

"Determinants of bicycle commuting in the Washington DC region: The role of bicycle parking, cyclist showers, and free car parking at work", Buehler, R., Elsevier Transportation Research Part D, 2012, 525-531 **https://ralphbu.files.wordpress.com/2015/03/determinantsofbicyclecommuting.pdf**

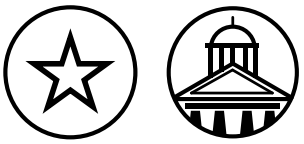
TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Universities, large employers

IMPLEMENTED BY



STATE GOV'T COUNTY/ LOCAL GOV'T

Support

FACILITY AMENITIES

REGION TYPE

URBAN SUBURBAN

FUNDING SOURCES

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants
Funding Type: Federal
Agency: US Economic Development Administration

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

PeopleForBikes' Industry Community Grant Program
Funding Type: Private/Non-Profit
Agency: People or Bikes

Community Challenge
Funding Type: Federal
Agency: AARP

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
Funding Type: Federal (through the state)
Agency: North Carolina Department of Commerce

Better Bike Share Partnership
Funding Type: Foundation
Agency: Better Bike Share Partnership

Safe Streets and Roads for All (SS4A) Discretionary Grant Program
Funding Type: Federal
Agency: US Department of Transportation (USDOT)

Reconnecting Communities Pilot Program
Funding Type: Federal
Agency: US Department of Transportation

Outdoor Recreation Legacy Partnership Program
Funding Type: Federal
Agency:US Department of the Interior

Consolidated Rail Infrastructure and Safety Improvement (CRISI) Grant funding
Funding Type: Federal
Agency: US Federal Railway Administration

TIFIA 49
Funding Type: Federal
Agency: US Department of Transportation (Build America Bureau)

Bloomberg Initiative for Cycling Infrastructure (BICI)
Funding Type: Private/Non-Profit
Agency: Bloomberg Cities Network

Surface Transportation Block Grants
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Carbon Reduction Program
Funding Type: Federal
Agency: USDOT Federal Highway Administration

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

Rural Surface Transportation Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

Thriving Communities Grant Program
Funding Type: Federal
Agency: U.S. Department of Transportation

The Passenger Ferry Program
Funding Type: Federal
Agency: Federal Transit Administration

Support

GUARANTEED RIDE HOME

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

For those who typically use alternative transportation modes (carpooling, transit, bicycling), Guaranteed Ride Home programs reimburse preregistered commuters for taxi or Transportation Network Company (TNC) service fares when emergencies arise. One obstacle to using alternative transportation modes is that they are generally less flexible than driving to work alone; carpooling requires all members to depart at the same time, public transit may be unavailable outside of peak hours, and bicycling may be unsafe or prohibited in some areas after sunset. If commuters know that they can take a taxi or a TNC vehicle at no extra expense should an emergency occur, they may be more likely to utilize alternative transportation modes.

Typically, participants must be preregistered to partake in a Guaranteed Ride program. They must take an alternative form of transportation to work and must have an emergency to utilize the program. Depending on the program, qualifying emergencies include:

- Injury, illness, or crisis for the program participant or family member
- Supervisor requests that the participant works overtime
- The driver of the participant's carpool has an emergency

Most of these programs are implemented by transit agencies, TMA's (Transportation Management Agencies), individual cities or counties, and some large employers. The program may provide prepaid taxi vouchers or involve a reimbursement framework. Typically, there are monetary limits on how much a commuter can spend on the program in one month or one year, although these limits are rarely reached.

PROS

- Increases usage of alternative modes of transportation, especially on public transit systems where peak period service are significantly more frequent than during the off-peak periods.
- Provides peace of mind for the commuters because if they have an emergency, they can get to where they need to go without any additional cost.

CONS

- Does not work on its own; relies on the presence of alternative modes of transportation.
- May require commuter to cover the upfront cost of the taxi or TNC service and be reimbursed later.

POTENTIAL VMT REDUCTION IMPACT

A study by Nelson\Nygaard in 2015 on the Alameda County, CA Guaranteed Ride Home program showed that 9% of enrolled commuters switched from driving alone to carpooling, walking, or public transit after joining the program. A previous version of the study on the same program conducted in 2013 showed that 14% of Guaranteed Ride Home enrolled commuters switched away from driving alone after joining the program.

IMPLEMENTATION CONSIDERATIONS

Costs are generally low. There may be some administrative costs depending on the program. Actual use of these programs can be quite low and most programs have restrictions on how many times the service can be used per year. Other restrictions may include the type of commuter trip covered (walk, bike, transit) and the frequency of use of the alternative mode. Most programs that are administered by the county or other public agency (including TMAs).

A 2007 Federal Transit Administration (FTA) study estimated the average mean annual cost per registered commuter at $1.69 and the average cost per claim at $36.95.

NORTH CAROLINA EXAMPLES

- Piedmont Authority for Regional Transportation
  https://www.partnc.org/158/Emergency-Ride-Home
- Go Triangle
  https://gotriangle.org/erh
- Share the Ride NC (STRNC)
  https://www.sharetheridenc.org/Public/PublicPage.aspx?ItemName=AboutERH&FileType=HTML

OTHER EXAMPLES

- Alameda County, CA.
  https://grh.alamedactc.org/
- Washington, DC Area
  https://www.commuterconnections.org/about-us/
- Orange County, CA.
  https://www.octa.net/Getting-Around/Rideshare/Employers/Guaranteed-Ride-Home-Program/

SOURCES

"Guaranteed Ride Home Programs: A Study of Program Characteristics, Utilization, and Cost", William B. Menczer, Federal Transit Administration 2007.
https://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1263&context=jpt

"Guaranteed Ride Home Program Evaluation 2015", Nelson/Nygaard, Alameda County Transportation Commission, June 2016. .
http://grh.alamedactc.org/wp-content/uploads/2016/06/ALAMEDA-CTC-GRH-Evaluation-2015-FINAL.pdf

"Guaranteed Ride Home Program Evaluation 2013", Nelson\Nygaard, Alameda County Transportation Commission, July 2014.
http://grh.alamedactc.org/wp-content/uploads/2014/07/GRH_Program_Eval_2013_FINAL-web.pdf

TYPE OF TRIPS TARGETED

Commuter trips

POTENTIAL APPLICATION LOCATIONS

Areas with alternative transit options

IMPLEMENTED BY

PRIVATE MPO/RPO TRANSIT AGENCY

Support

INCENTIVE PROGRAMS

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Incentive programs provide an additional monetary, convenience, or intangible incentive to individuals who adopt certain Transportation Demand Management (TDM) measures or behaviors. Generally, incentive programs provide an extra "push" to increase adoption rates of implemented TDM measures. Alternatively, incentives can be provided for individuals who reduce their personal VMT, regardless of how they achieved that goal. Successful incentive programs usually incorporate elements of "gamification", competition, or social recognition.

Cash incentives could be in the form of micro-payments, scheduled lottery-style drawings, or instant "scratch-off" style winnings. Other monetary incentives could include gift cards, vouchers, or high value coupons, which are usually for local businesses. Monetary incentives are usually earned by either gaining "entries" to win or exchanging "points" that are accrued over time. An example would be gaining an entry for a $100 weekly lottery for every mile logged biking with an app, or alternatively gaining one "point" for every biking mile logged and exchanging 100 points for a $10 gift card to a local bike shop. Successful monetary incentive programs partner with private businesses and organizations to carry the financial cost of incentives.

Non-monetary incentives can come in a wide variety of forms, and are frequently related to the TDM measure being rewarded. An example could be reserving conveniently located parking spaces for vanpools.

PROS

- Can cultivate a culture around TDM measures.
- Targets "on the fence" TDM participants.

CONS

- Certain models could have budgeting issues if participation is greater than expected.
- May reward current behaviors more than inspiring new adoption.

POTENTIAL VMT REDUCTION IMPACT

According to a report by Federal Highway Administration (FHWA) in 2018, in the Commonwealth of Massachusetts, a third party incentive program called NuRide (now called Agile Mile) saved more than 175 million miles of driving from 2010-2018. In San Antonio, TX, where the service launched in 2008, nearly half a million walking trips have been taken rather than driven, 1.6 million transit trips have been made, and 4.5 million rides have been shared as of June 2018.

IMPLEMENTATION CONSIDERATIONS

Requires marketing and publicity to support the program. Money/prizes for rewards need to be sufficiently and sustainably funded.

NORTH CAROLINA EXAMPLES

- Go Triangle
  https://gotriangle.org/goperks
- Mode Makers

OTHER EXAMPLES

- Agile Mile (previously NuRide) – Various Locations
  https://agilemile.com/
- Bologna, Italy
  https://ops.fhwa.dot.gov/publications/fhwahop18071/fhwahop18071.pdf (pg 35)

SOURCES

"Expanding Traveler Choices Through the Use of Incentives: A Compendium of Examples", Jocelyn Bauer, Lisa Kinner Bedsole, Kayce Snyder, Michelle Neuner, Michael C. Smith, Federal Highway Administration U.S. Department of Transportation, December 2018.
https://ops.fhwa.dot.gov/publications/fhwahop18071/fhwahop18071.pdf

"Nudging the Commute: Using Behaviorally-Informed Interventions to promote Sustainable Transportation in Cities", Harvard Business School, Working Paper 21-002, 2020.
https://behavioralpolicy.org/articles/nudging-the-commute-using-behaviorally-informed-interventions-to-promote-sustainable-transportation/

TYPE OF TRIPS TARGETED

All, primarily commuter trips.

POTENTIAL APPLICATION LOCATIONS

Employment sites, universities, cities, and municipalities

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T PRIVATE

Support

PARKING MANAGEMENT

REGION TYPE

URBAN

DESCRIPTION

Parking Management strategies are policies and programs that produce more efficient use of parking resources. Parking management strategies can reduce development costs, increase affordability, encourage multi-modal planning, encourage use of alternative modes, and reduce VMT. Common parking management strategies include:

- Shared Parking: a parking facility serves multiple users and destinations. This is most successful if different destinations have different peak periods. Some examples are shared parking rather than reserved spaces, shared parking among destinations, public parking facilities, and in lieu of fees. Reducing available parking inherently promotes less vehicle use/increased use of alternative travel modes.
- Remote Parking: Remote or satellite parking is the use of off-site parking facilities. This can be shared parking or park and ride lots. Employers or destinations need to provide incentives to encourage motorists to use distant facilities.
- Unbundled Parking: Parking is rented or sold separately from residential or office space. This is a popular policy in transit oriented developments.

PROS

- Can encourage non-automobile modes, including transit, walking, and biking.
- Can decrease short trips from one parking destination to another in a localized area.
- Can reduce the costs related to building/ maintaining parking facilities.

CONS

- Reduced parking is often seen as a negative to business owners.
- This strategy works best in areas where alternative modes of transportation are easily available. Otherwise, if parking demand is greater than supply, drivers will circle the streets looking for a parking spot, increasing VMT.

IMPLEMENTATION CONSIDERATIONS

Effective parking management requires collaboration between private entities whose employees, customers, etc. will use the parking area.

NORTH CAROLINA EXAMPLES

- Concord, North Carolina Parking Study **https://apps.concordnc.gov/legacy/PlanningWeb/AreaPlans/DowntownMasterPlan/Parking_Study_2015.pdf**

OTHER EXAMPLES

- Fees in Lieu of Parking – Northampton, Massachusetts and Oak Bluffs, Massachusetts **http://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf**
- Emory University Remote Parking **https://transportation.emory.edu/commuter-transit**

SOURCES

"Demand Management Case Studies and Regulations", Metropolitan Area Planning Council, 2015. **http://www.mapc.org/wp-content/uploads/2017/10/TDM-FINAL-REPORT-7_15_0.pdf**

"Parking Management: Comprehensive Implementation Guide", Litman, Todd, Victoria Transport Policy Institute, 19 November 2023. **www.vtpi.org/park_man_comp.pdf**

"Bundling of Residential Parking in High-Quality Transit Areas", Matutue, J., Pincetl, S., California Center for Sustainable Communities at UCLA. **https://next10.org/sites/default/files/3.%20Bundling%20of%20Residential%20Parking%20in%20High-Quality%20Transit%20Areas.pdf**

TYPE OF TRIPS TARGETED

Commuter trips, short trips between parking facilities

POTENTIAL APPLICATION LOCATIONS

Urban city centers, town centers

IMPLEMENTED BY

STATE GOV'T

COUNTY/ LOCAL GOV'T

TRANSIT AGENCY

Support

PUBLIC EDUCATION AND PROMOTION

REGION TYPE

URBAN SUBURBAN

DESCRIPTION

Public education and promotion strategies focus on promoting and educating the public on Transportation Demand Management (TDM) measures and non-vehicular modes of travel. Effective public education and promotion requires delivering different messages to different people, with an emphasis on people who are most likely to change their behavior. Public education and promotion campaigns should emphasize benefits to participants. Partnerships with other institutions, municipal agencies and private companies can be beneficial to these marketing programs. A report from the Victoria Transport Policy Institute found that consumer surveys indicated that around 25-50% of drivers would consider using travel alternatives and are interested in learning about them.

PROS

- Public education and promotion can support other strategies to reduce vehicle miles traveled, including non-motorized mode support, vanpool and carpool, transit, and biking and walking.

CONS

- Requires that the alternative or measure promoted is well implemented. Promoting a TDM measure or alternative that is not fully implemented, or poorly implemented, can backfire by causing people to dismiss the option in the future because they "already tried it" and were dissatisfied. This can expand into a general "bad reputation" for a TDM measure or alternative mode as those sentiments spread by word of mouth.

IMPLEMENTATION CONSIDERATIONS

Marketing programs depend primarily on support and funding from agencies or businesses. Investing in professional marketing teams or services is an essential component to starting and growing a TDM marketing program. Public education on travel alternatives to driving requires that those alternatives exist.

NORTH CAROLINA EXAMPLES

- BikeWalk NC
  https://www.bikewalknc.org/safety-education/education-resources-for-bicyclists/
- NC Vision Zero
  https://ncvisionzero.org/safety-focus-areas/pedestrians/
- Mode Makers
- Charlotte Area Transit System, "Riding with Collaboration: How Partnerships Can Help TDM Programs"
  https://www.youtube.com/watch?v=U4EkrQnoI3I

OTHER EXAMPLES

- Bike New York
  https://www.bike.nyc/digital-resources-bike-education/
- Lime Scooters
  https://www.li.me/why/safety

SOURCES

"TDM Marketing: Information and Encouragement Programs", Victoria Transport Policy Institute, TDM Encyclopedia, 6 September 2019.
https://www.vtpi.org/tdm/tdm23.htm

"Applying a European Marketing Strategy to TDM Programs in the U.S. Project Brief", Winters, P., Lester, A., National Institute for Transportation and Communities, October 2018.
https://ppms.trec.pdx.edu/media/project_files/1057_Project_Brief.pdf

"Promotional Strategies for TDM Agencies", Florida State University College for Business, 2016 Florida Commuter Transportation Summit.
https://www.commuterservices.com/wp-content/uploads/2016/04/Promotional-Strategies-for-TDM-Professionals-screen.pdf

TYPE OF TRIPS TARGETED

All trips

POTENTIAL APPLICATION LOCATIONS

Large urban regions, towns, commercial centers, universities

IMPLEMENTED BY

STATE GOV'T COUNTY/ LOCAL GOV'T TRANSIT AGENCY

Support

PUBLIC EDUCATION AND PROMOTION

REGION TYPE

URBAN SUBURBAN

IMD Multimodal Planning Program
Funding Type: State
Agency: NCDOT

Community Challenge
Funding Type: Federal
Agency: AARP

PeopleForBikes' Industry Community Grant Program
Funding Type: Private/Non-Profit
Agency: People or Bikes

League of American Bicyclists Community Spark Grants
Funding Type: Private/Non-Profit
Agency: League of American Bicyclists

Support

RIDE-MATCHING SERVICES

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Ride-matching services help potential carpoolers or vanpoolers find other travel partners for regularly scheduled, routine trips. It is a common part of commuter trip reduction programs. It often accompanies a rideshare program. Ride-matching services are more effective over larger areas and these are more effective if there is one regional ride-matching program. Small ride-matching programs may use ride notice boards or match potential partners by hand. Larger programs may use computerized matching systems that match travelers based on origin, destination, and schedule. Ride-matching is common for commuter trips but can be used for recurring recreational trips, trips to medical appointments, or trips to and from school.

PROS

- Increases travel options and options for vanpool or carpool.
- Ride-matching services have a low-cost to implement.

CONS

- Ride-matching enhances rideshare services which may encourage people to move further away from their jobs and increase commute length and may promote vehicle use and ownership.

IMPLEMENTATION CONSIDERATIONS

The matching method of such a program must have sufficiently advanced software or active staff to sustain matching services. The program must attract and retain a sufficient pool of participants to be viable. Ride-matching and rideshare services may be met with sentiments of "stranger danger" and individual incidents can result in a poor reputation for the service or even lawsuits if not properly protected.

NORTH CAROLINA EXAMPLES

- Share the Ride NC
  https://www.sharetheridenc.org/Public/Home.aspx

OTHER EXAMPLES

- Rideshare Online – Washington and Oregon
  http://www.rideshareonline.com/
- Rural Maine
  http://dune.une.edu/theses/65

SOURCES

CUTR National Center for Transit Research TDM Ridematching Software.
https://www.nctr.usf.edu/programs/ridematching-software/

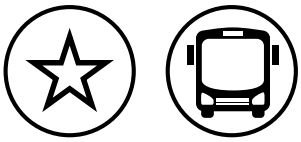
TYPE OF TRIPS TARGETED

Primarily commuter trips, also other recurring trips

POTENTIAL APPLICATION LOCATIONS

Suburban Areas, Towns, Low-Density Rural Areas

IMPLEMENTED BY



STATE GOV'T TRANSIT AGENCY

Support

RIDE-MATCHING SERVICES

REGION TYPE

URBAN SUBURBAN RURAL

Community Challenge
Funding Type: Federal
Agency: AARP

Innovative Coordinated Access and Mobility (ICAM)
Funding Type: Federal
Agency: Federal Transit Administration

Enhancing Mobility Innovation
Funding Type: Federal
Agency: Federal Transit Administration

FUNDING SOURCES

Support

TRANSIT FARE SUBSIDIES

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Transit fare subsidies are funds used to directly offset the individual cost for riders to take transit and can come in many forms. Discounts can be offered to low income households, individuals with disabilities, youth, or seniors to improve mobility. Providing discounts to these groups to make transit their most affordable option also helps transit systems maintain a viable level of ridership. Discounts can also be offered to high frequency riders to promote commuting via transit.

A discounted rate can be provided to employers or schools who provide transit passes to their employees or students. This is usually when an employer or school provides an unlimited transit pass to employees or students and then the employer or school pays the transit authority either a greatly reduced per trip fare or an agreed upon lump sum per participating employee or student. These kinds of discounts can incentivize individuals to change their commuting mode and provide a way for employers to attract and maintain employees or property managers to attract and keep tenants.

PROS

- Attracts new transit riders.
- Incentivizes frequent transit usage (commuting).
- Provides employers, property managers, developers, or schools an incentive to offer to employees, tenants, or students.

CONS

- Only possible in areas with existing transit systems.
- Increases transit ridership without proportionally increasing fare income.

POTENTIAL VMT REDUCTION IMPACT

The Neighborhood EcoPass (NECO), the neighborhood annual transit pass program in Boulder, CO, has been attributed with much of the city's success in reducing Single Occupant Vehicle (SOV) mode share by 7.5% for all trips from 1990 to 2018. Additionally, the city has also seen a 32.3% reduction in work trips by Single Occupant Vehicle (SOV) in the same time period.

IMPLEMENTATION CONSIDERATIONS

Potential significant costs in subsidy funding is required on a consistent basis. Requires financial management and oversight.

NORTH CAROLINA EXAMPLES

- Go Triangle
  https://gotriangle.org/fares-passes/discount-qualifications
- Charlotte
  https://www.charlottenc.gov/CATS/Get-to-Know-CATS/Alternative-Commuting/ETC/Commuter-Tax-Benefit

OTHER EXAMPLES

- New York City, NY
  https://www1.nyc.gov/site/dca/workers/workersrights/commuter-benefits-law-for-workers.page#:~:text=Under%20NYC's%20Commuter%20Benefits%20Law,to%20pay%20for%20transit%20expenses.
- Boston, MA
  https://www.mbta.com/fares/reduced
- Boulder, CO
  https://bouldercolorado.gov/services/ecopass-program
- University of Washington
  https://transportation.uw.edu/getting-here/transit/u-pass

SOURCES

"Modal Shift in the Boulder Valley: 1990-2018", National Research Center, City of Boulder Transportation Division, January 2019
https://bouldercolorado.gov/media/4806/download?inline

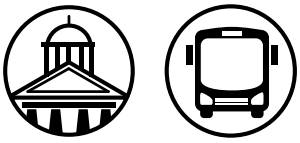
TYPE OF TRIPS TARGETED

All

POTENTIAL APPLICATION LOCATIONS

Charlotte, Raleigh, other locations with significant transit presence

IMPLEMENTED BY



COUNTY/ LOCAL GOV'T TRANSIT AGENCY

Support

TRANSIT FARE SUBSIDIES

REGION TYPE

URBAN SUBURBAN RURAL

Community Challenge
Funding Type: Federal
Agency: AARP

Advanced Transportation Technologies and Innovative (ATTAIN) Program
Funding Type: Federal
Agency: US Federal Railway Administration

FUNDING SOURCES

Support

VANPOOL FARE SUBSIDIES

REGION TYPE

URBAN SUBURBAN RURAL

DESCRIPTION

Vanpool fare subsidies are funds that are used to directly offset the individual cost for commuters to participate in a vanpool program. Subsidies can be paid out directly to commuters in the form of a refund or can be paid out to the vanpool organizing agency/company and passed onto the commuter in the form of a discount. Subsidies can also be offered to existing vanpools that are experiencing fluctuation in ridership by monetarily "filling" empty seats while waiting for new members to prevent the vanpool from dissolving. Determining if a vanpool is qualified for a subsidy is usually based on the county of their origin and/or destination.

Subsidizing vanpool fares can help attract the needed riders to achieve these goals. Providing vanpool subsidies can also make vanpooling an affordable option for low-income commuters, with base rates for vanpools being around $150 per month per rider, though rates vary widely based on distance and number of occupants.

PROS

- Attracts new vanpool riders into the program, including low-income commuters.
- Prevents existing vanpools from dissolving.

CONS

- Requires a long-term financial commitment.
- Requires administrative effort to determine eligibility and manage payouts.
- Vanpool participants may leave the program suddenly and dissolve many existing vanpools if the subsidies are defunded.

POTENTIAL VMT REDUCTION IMPACT

In California, a plan to reduce new vanpool fares by $350/month for five years saw an increase of 17 new vanpools in the first two months in an area where almost 500 already operate. The program required $9.5 million in funding.

IMPLEMENTATION CONSIDERATIONS

Potential significant costs in subsidy funding is required on a consistent basis. Requires financial management and oversight.

NORTH CAROLINA EXAMPLES

- Go Triangle
  https://gotriangle.org/vanpool-faq

OTHER EXAMPLES

- California
  https://mtc.ca.gov/whats-happening/news/new-subsidy-program-fuels-bay-area-vanpooling

SOURCES

"New Subsidy Program Fuels Bay Area Vanpooling", Metropolitan Transportation Commission, 24 January, 2019
https://mtc.ca.gov/whats-happening/news/new-subsidy-program-fuels-bay-area-vanpooling

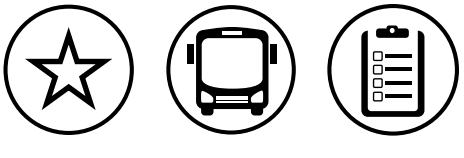
TYPE OF TRIPS TARGETED

Commuter

POTENTIAL APPLICATION LOCATIONS

Any existing or starting vanpool program

IMPLEMENTED BY



STATE GOV'T TRANSIT AGENCY MPO/RPO

PRIVATE

Note: Click on any funding source listed for more information.

FUNDING SOURCES

VIEW TDM MEASURES

- Advanced Transportation Technologies and Innovative (ATTAIN) Program
- Areas of Persistent Poverty Program
- Better Bike Share Partnership
- Bloomberg Initiative for Cycling Infrastructure (BICI)
- Capital Investment Grants
- Carbon Reduction Program
- Choice Neighborhoods Program Implementation Grants
- Choice Neighborhoods Program Planning Grants
- Community Challenge
- Community Connect Grant Program
- Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant
- PeopleForBikes' Industry Community Grant Program
- Congestion Mitigation and Air Quality Program
- Consolidated Rail Infrastructure and Safety Improvement (CRISI) Grant funding
- Corridor Identification and Development (ID) Program
- Enhancing Mobility Innovation
- Environment / Climate Change Grant
- Expedited Project Delivery Pilot Program
- Grants for Buses and Bus Facilities Competitive Program
- Highway Safety Improvement Program
- IMD Multimodal Planning Program
- Innovative Coordinated Access and Mobility (ICAM)
- League of American Bicyclists Community Spark Grants
- Low or No Emission Vehicle Program
- National Highway Performace Program
- Outdoor Recreation Legacy Partnership Program
- Pilot Program for Transit-Oriented Development (TOD) Planning
- Public Works & Economic Adjustment Assistance (EAA) Programs
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- ReConnect Program
- Reconnecting Communities Pilot Program
- Recreational Trails Program
- Rural and Tribal Assistance Pilot Program
- Rural Infrastructure Program
- Rural Surface Transportation Grant Program
- Safe Streets and Roads for All (SS4A) Discretionary Grant Program
- Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
- Surface Transportation Block Grants
- The Mega Grant Program
- The Passenger Ferry Program
- Thriving Communities Grant Program
- TIFIA 49
- Trail Grants
- Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- **Providing Affordable Housing**
- Complete Streets
- **Transit Oriented Development**
- Connectivity
- Development Impact Mitigation
- **Job/Housing Balance**
- **Mixed Land Use**

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- **Information Services/Broadband Expansion**
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- **Compact Development**
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Choice Neighborhoods Program Planning Grants

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Housing and Urban Development (HUD)

PURPOSE / GOALS

To support locally driven strategies that address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation.

APPLICANT ELIGIBILITY

Public Housing Agencies (PHA), local governments, tribal entities, and nonprofits.

ELIGIBLE USE OF FUNDS

Each application must focus on the revitalization of at least one severely distressed public and/or HUD-assisted housing through a comprehensive approach to neighborhood transformation. To this end, Choice Neighborhoods is focused on three core goals:

Housing: Replace severely distressed public and HUD-assisted housing with high-quality mixed-income housing that is well-managed and responsive to the needs of the surrounding neighborhood;

People: Improve outcomes of households living in the target housing related to income and employment, health, and education; and

Neighborhood: Create the conditions necessary for public and private investment in distressed neighborhoods to offer the kinds of amenities and assets, including safety, good schools, and commercial activity, that are important to families' choices about their community.

LOAN OR GRANT MAXIMUM & TERMS

Up to $500,000

Match of 5% of the grant amount in cash or in-kind donations is required.

ADDITIONAL REQUIREMENTS & TERMS

Successful applicants must develop and implement a comprehensive neighborhood revitalization strategy, or "Transformation Plan." This Transformation Plan becomes the guiding document for the revitalization of the public and/or assisted housing units.

CONTACT

ChoiceNeighborhoods@hud.gov

FUNDING CYCLE

Most recent cycle closed on June 6, 2023.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- **Providing Affordable Housing**
- Complete Streets
- **Transit Oriented Development**
- Connectivity
- Development Impact Mitigation
- **Job/Housing Balance**
- **Mixed Land Use**

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- **Information Services/Broadband Expansion**
- Telecommuting (telework)

PRICING
- Gas Tax Increase
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- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- **Compact Development**
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT

ChoiceNeighborhoods@hud.gov

FUNDING PROGRAM

Choice Neighborhoods Program Implementation Grants

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Housing and Urban Development (HUD)

PURPOSE / GOALS

To support locally driven strategies that address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation.

APPLICANT ELIGIBILITY

Public Housing Agencies (PHA), local governments, tribal entities, and nonprofits.

ELIGIBLE USE OF FUNDS

Eligible Target Housing: Each application must focus on the revitalization of at least one severely distressed public and/or assisted housing project. Eligible target housing meets the following criteria:

- Is currently HUD "public housing" or "assisted housing" as defined in section I.A.4.
- If the project's occupancy is limited to "elderly" or "disabled" residents, it cannot be the only target housing project identified in this grant application. At least one target housing project must be available for general occupancy by families.
- For public housing projects, the Actual Date of Full Availability (DOFA) date in PIC must be earlier than January 1, 1996.
- Severely distressed: The definition of severely distressed housing from section 24(j)(2) of the United States Housing Act of 1937 (42 USC 1437a).

Eligible Neighborhood: An eligible neighborhood for Choice Neighborhoods grant funds is a neighborhood with at least 15% of the residents estimated to be in poverty or have extremely low incomes. A capacity rating factor includes applicants promoting racial equity and resources to support underserved communities.

LOAN OR GRANT MAXIMUM & TERMS

Calculate development cost for replacement housing units to be developed in the Plan plus funding to cover non-housing activities. An applicant may request the lesser of this calculated amount or $30,000,000 for applications with a target housing project <250 public housing/assisted units or $35,000,000 if the target housing has 250+ public housing/ assisted units.

Matching funds in the amount of at least 5% of the requested grant amount in cash or in-kind donations must be secured and used by the end of the grant term.

Typically make 5 awards / year.

ADDITIONAL REQUIREMENTS & TERMS

A comprehensive neighborhood revitalization strategy, or "Transformation Plan" must already be in place. This Plan is the guiding document for the revitalization of the public and/or assisted housing units, while simultaneously directing the transformation of the surrounding neighborhood.

The Eligible Neighborhood threshold is now based only on poverty/Extremely Low Income (ELI) rate. Long term vacancy and Part I violent crime rate remain Need scoring factors.

Additional departmental requirements related to Advancing Racial Equity and Affirmative Marketing.

FUNDING CYCLE

Applications are to be submitted by February 13, 2024.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT

info@oakfnd.ch

FUNDING PROGRAM

Environment / Climate Change Grant

VISIT WEBSITE

FUNDING TYPE
Foundation

AGENCY
Oak Foundation

PURPOSE / GOALS

Creating a cleaner, low-carbon world. This can be achieved through laws that regulate vehicle efficiency and encourage the use of electric vehicles, as well as the implementation of driverless cars.

APPLICANT ELIGIBILITY

Non-profits.

ELIGIBLE USE OF FUNDS

The climate change sub-program has 4 focus areas: Clean and efficient energy systems; Sustainable cities; Vehicle efficiency and electrification; An enabling environment.

The Oak Foundation supports clean transport solutions such as electric, shared and automated mobility options, all of which reduce pollution, maintenance and fuel costs and emit zero greenhouse gases.

They also support research efforts to:

- find out what policies will strengthen clean technology solutions;
- come up with ways to make electric transport an option for people on lower incomes;
- identify how partners can support state and local governments to lead on this issue; and
- explore how new technology can be beneficial for everyone, not just the few.

LOAN OR GRANT MAXIMUM & TERMS

No maximum listed; grants range from $25,000 - $7,000,000, with an average award of $600,000.

ADDITIONAL REQUIREMENTS & TERMS

Recommend reaching out to one of their already funded partners; for example, ClimateWorks Foundation or Rocky Mountain Institute.

FUNDING CYCLE

Invitation-only application process. The majority of awards are made to long-standing partners or are invited to apply based on fieldwork and research. However, they want to hear about ideas and work that fit within program strategies. Therefore, if an organization believes that strong alignment exists with Oak Foundation's funding priorities, the organization is encouraged to submit an unsolicited letter of enquiry. They will invite the organization to apply for a grant if they agree on alignment with funding priorities.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - **Non-Motorized Mode Support**
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

CONTACT
Mountain Region,
Piedmont Region, or
Coastal Region offices.

FUNDING PROGRAM

Recreational Trails Program

VISIT WEBSITE

FUNDING TYPE
State

AGENCY
North Carolina Department of Natural and Cultural Resources

PURPOSE / GOALS

To meet the trail and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan.

APPLICANT ELIGIBILITY

State, federal or local government agencies or qualified nonprofit organizations.

ELIGIBLE USE OF FUNDS

Maintenance and restoration of existing trails;
Development and rehabilitation of trailside and trailhead facilities and trail linkages;
Construction of new trails (with certain restrictions on federal lands*); and
Acquisition of easements and fee simple title to property for recreational trails or recreational trail corridors.

LOAN OR GRANT MAXIMUM & TERMS

Grant for up to 75% of eligible project costs or $250,0000, whichever is less.

Grants range from $10,000 to $100,000 and have a 25% match requirement.

ADDITIONAL REQUIREMENTS & TERMS

Projects are evaluated for Recreational Trails Program (RTP) funding through a two-phase application process, the Pre-Application and Final Application.

FUNDING CYCLE

Most recent cycle closed on February 17, 2023.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - **Public Transit**
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
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  - **Access Priority/Restriction**
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  - VMT Fee or Tax
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  - Ride-matching Applications
  - Mobility as a Service
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  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

CONTACT
202-366-4033

FUNDING PROGRAM

Capital Investment Grants (CIG)

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

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.

APPLICANT ELIGIBILITY

State and local government agencies, including transit agencies.

ELIGIBLE USE OF FUNDS

Four categories of eligible projects:

1. New Starts projects are new fixed guideway projects or extensions to existing fixed guideway systems with a total estimated capital cost of $400 million or more, or that are seeking $150 million or more in Section 5309 CIG funding.

2. 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 $400 million and that are seeking less than $150 million in Section 5309 CIG funding.

3. Core Capacity projects are substantial corridor-based capital investments in existing fixed guideway systems that increase capacity by not less than 10% 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.

4. Programs of Interrelated Projects are comprised of any combination of two or more of first 3 types of projects. The projects in the program must have logical connectivity to one another and all must begin construction within a reasonable timeframe.

New: This grant now allows public transportation and intercity passenger rail projects to qualify as New Starts or Core Capacity projects (there is a specific methodology for determining eligible project costs and project ratings for such joint projects).

LOAN OR GRANT MAXIMUM & TERMS

New Start maximum is 60%, and
Small Start and Core Capacity maximum is 80% of total federal funding.

ADDITIONAL REQUIREMENTS & TERMS

Recommendations of funding are based on a number of factors, including:

- the "readiness" of the project for capital funding,
- the project's overall rating,
- geographic equity, and
- the amount of available funds versus the number and size of the projects in the pipeline.

Small Starts projects require completion of the Project Development phase to be funded, while New Starts and Core Capacity projects require completion of Project Development and Engineering phases.

FUNDING CYCLE

Instead of an annual application cycle, CIG requires that projects complete a series of steps over several years to be eligible for funding, starting with a request to enter Project Development as a New Starts, Small Starts or Core Capacity project.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- **Flexible Public Transit**
- **Public Transit**
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
Colby McFarland
202–366–1648

FUNDING PROGRAM

Areas of Persistent Poverty Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To improve transit services in areas experiencing long-term economic distress. It also supports coordinated human service transportation planning to improve transit service or provide new services, including paratransit.

APPLICANT ELIGIBILITY

States, tribes, and designated or direct recipients eligible under 49 U.S.C. 5307, 49 U.S.C. 5310, or 49 U.S.C. 5311 that are located in areas of persistent poverty. State departments of transportation may apply on behalf of eligible applicants within their States. Applicants are also encouraged to work with non-profit organizations.

ELIGIBLE USE OF FUNDS

Planning, engineering, technical studies, or financial plans that will result in improved public transportation, new routes and facilities, and innovative technologies in communities experiencing a high poverty rate, for projects eligible under Chapter 53 of title 49 U.S.C. in areas of persistent poverty.

For example, these activities may include planning, engineering, or development of technical or financing plans for improved transit services; new transit routes; engineering for transit facilities and improvements to existing facilities; innovative technologies; low or no emission buses or a new bus facility or intermodal center that supports transit services; integrated fare collections systems; or coordinated public transit human service transportation plans to improve transit service in an area of persistent poverty or to provide new service such as transportation for services to address the opioid epidemic, as well as increase access to environmental justice populations, while reducing greenhouse gas emissions and the effects of climate change. An eligible project also may be a planning and environmental linkages study that advances the environmental analysis and review process as part of the metropolitan planning process.

LOAN OR GRANT MAXIMUM & TERMS

Minimum Federal share of 90%.

ADDITIONAL REQUIREMENTS & TERMS

Criteria: Demonstration of Need, Demonstration of Benefits, Funding Commitments, Project Implementation Strategy, Technical, Legal, and Financial Capacity.

FTA requires that its recipients receiving planning, capital, and/or operating assistance that will award prime contracts exceeding $250,000 in FTA funds in a Federal fiscal year comply with Department of Transportation Disadvantaged Business Enterprise (DBE) program regulations.

FUNDING CYCLE

Most recent grants awarded on July 20, 2023.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - **Public Transit**
  - **HOV Facilities**
  - **Non-Motorized Mode Support**
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
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  - Providing Affordable Housing
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  - **Connectivity**
  - Development Impact Mitigation
  - Job/Housing Balance
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  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (USDOT)

PURPOSE / GOALS

Provides a unique opportunity for the USDOT to invest in road, rail, transit and port projects that promise to achieve national objectives.

APPLICANT ELIGIBILITY

State, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of State or local governments.

ELIGIBLE USE OF FUNDS

Surface transportation capital projects: (1) highway, bridge, or other road projects eligible under title 23, United States Code; (2) public transportation projects eligible under chapter 53 of title 49, United States Code; (3) passenger and freight rail transportation projects; (4) port infrastructure investments (including inland port infrastructure and land ports of entry); (5) intermodal projects; and (6) projects investing in surface transportation facilities that are located on tribal land and for which title or maintenance responsibility is vested in the Federal Government. Please note that USDOT may award a Better Utilizing Investments to Leverage Development (BUILD) Transportation grant to pay for the surface transportation components of a broader project that has non-surface transportation components, and applicants are encouraged to apply for BUILD Transportation grants to pay for the surface transportation components of these projects.

Research, demonstration, or pilot projects are eligible only if they will result in long-term, permanent surface transportation infrastructure that has independent utility.

Planning Projects: planning, preparation, or design—including environmental analysis, feasibility studies, and other pre-construction activities—of eligible surface transportation capital projects. Also, eligible activities related to multidisciplinary projects or regional planning may include: (1) Development of master plans, comprehensive plans, or corridor plans; (2) Planning activities related to the development of a multimodal freight corridor, including those that seek to reduce conflicts with residential areas and with passenger and non-motorized traffic; (3) Development of port and regional port planning grants, including State-wide or multi-port planning within a single jurisdiction or region; (4) Risk assessments and planning to identify vulnerabilities and address the transportation system's ability to withstand probable occurrence or recurrence of an emergency or major disaster.

LOAN OR GRANT MAXIMUM & TERMS

Grants not less than $5 million and not greater than $25 million, except that for projects located in rural areas (as defined in Section C.4.(a)) the minimum award size is $1 million. Must provide 20% non-federal match. There is no minimum award size, regardless of location, for RAISE Transportation planning grants.

ADDITIONAL REQUIREMENTS & TERMS

Multiple States or jurisdictions may submit a joint application and must identify a lead applicant as the primary point of contact and also identify the primary recipient of the award. Each applicant in a joint application must be an Eligible Applicant. Each lead applicant may submit no more than three applications. Unrelated project components should not be bundled in a single application for the purpose of adhering to the limit.

FUNDING CYCLE

Most recent cycle closed on February 28, 2023.

CONTACT
Howard Hill
202-366-0301
RAISEgrants@dot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - **Mixed Land Use**
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - **Information Services/Broadband Expansion**
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Public Works & Economic Adjustment Assistance (EAA) Programs

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Economic Development Administration (EDA)

PURPOSE / GOALS

Provides grants to economically distressed areas for public works projects that: promote economic development; create long-term jobs; and/or benefit low-income persons or the long-term unemployed.

APPLICANT ELIGIBILITY

States, cities, counties; Indian tribes; the Federated States of Micronesia; the Republic of the Marshall Islands; commonwealths and territories of the United States; and private or public nonprofits representing a redevelopment area or a designated economic development center.

ELIGIBLE USE OF FUNDS

Public Works: Construction and/or infrastructure projects that meet the needs of communities to enable them to become more economically competitive. Examples include projects supporting water and sewer system improvements, industrial parks, high-tech shipping and logistics facilities, workforce training facilities, business incubators and accelerators, brownfield redevelopment, technology-based facilities, wet labs, multi-tenant manufacturing facilities, science and research parks, and telecommunications infrastructure and development facilities.

EAA: supports a wide range of construction and non-construction activities including infrastructure, design and engineering, technical assistance, economic recovery strategies, and capitalization or re-capitalization of Revolving Loan Funds (RLF).

LOAN OR GRANT MAXIMUM & TERMS

50% of total project costs, up to $30,000,000

ADDITIONAL REQUIREMENTS & TERMS

Must align with regional Comprehensive Economic Development Strategy (CEDS) document.

FUNDING CYCLE

No application submission deadlines, applications will be ongoing until new NOFO published, cancellation of NOFO, or all available funds expended.

CONTACT
Hillary Sherman
828-707-2748
hsherman@eda.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - **Alternative Mode Sharing**
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - **Non-Motorized Mode Support**
  - Vanpool
- WORKSITE
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- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - **Facility Amenities**
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Travel, Tourism, and Outdoor Recreation Grants - Competitive Tourism Grants

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Economic Development Administration (EDA)

PURPOSE / GOALS

To help communities hardest hit by challenges facing the travel, tourism and outdoor recreation sectors to invest in infrastructure, workforce or other projects to support the recovery of the industry and economic resilience of the community in the future.

APPLICANT ELIGIBILITY

District Organization of an EDA-designated Economic Development District; Indian Tribe or a consortium of Indian Tribes; State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; Institution of higher education or a consortium of institutions of higher education; Public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

ELIGIBLE USE OF FUNDS

Construction activities where the project is owned by the Applicant such as:

- Water and stormwater/wastewater improvements,
- Pier construction and improvements,
- New outdoor recreation and trail infrastructure and public access enhancements,
- Nature-based infrastructure projects to improve access to recreation,
- Cultural, arts, and tourism facilities
- Workforce training facilities & capacity building programs,
- Accessibility enhancements,
- Country-wide or multi-state travel, tourism, or outdoor recreation promotion.

LOAN OR GRANT MAXIMUM & TERMS

50 non-construction and construction projects that cost between $500,000 and $10,000,000, although EDA will consider applications above and below these amounts. EDA generally expects to fund at least 80%, and up to 100%, of eligible project costs. In determining the grant rate, EDA's Grants Officers in the applicable Regional Office will consider on a case-by-case basis whether the circumstances of the proposed project warrant a larger amount.

ADDITIONAL REQUIREMENTS & TERMS

Proposed projects must be consistent with the region's current Comprehensive Economic Development Strategy (CEDS) or equivalent. Proposed projects must be consistent with at least one of EDA's Recovery and Resilience Investment Priorities (those meeting more than one more competitive):

1. Equity
2. Recovery & Resilience
3. Workforce Development
4. Manufacturing
5. Technology-Based Economic Development
6. Environmentally Sustainable Development
7. Exports & Foreign Direct Investments

FUNDING CYCLE

Most recent cycle closed on November 20, 2023.

CONTACT
Hillary Sherman
828-707-2748
hsherman@eda.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- **Alternative Mode Sharing**
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- **Public Education and Promotion**
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

IMD Multimodal Planning Program

VISIT WEBSITE

FUNDING TYPE
State

AGENCY
NCDOT

PURPOSE / GOALS

To encourage municipalities to develop comprehensive bicycle plans and pedestrian plans.

APPLICANT ELIGIBILITY

All North Carolina municipalities and counties with populations of less than 100,000 may also apply on behalf of incorporated communities and/or unincorporated areas within their jurisdiction.

ELIGIBLE USE OF FUNDS

The development of: Comprehensive Bicycle Plan, Comprehensive Pedestrian Plan, Comprehensive Bike + Ped Plan, Project Acceleration Plans (abbreviated plans focusing on priority project identification and project implementation) or Plan Update.

Funding is only intended to support the development of a comprehensive bicycle, pedestrian or joint bicycle and pedestrian transportation plan for the entire municipality.

LOAN OR GRANT MAXIMUM & TERMS

Grants ranging from 50% - 90%, depending on the size of the municipality (the smaller the city, the larger the grant percentage).

ADDITIONAL REQUIREMENTS & TERMS

The relevant approval processes and procedures of Metropolitan Planning Organizations (MPOs) and Regional Planning Organizations (RPOs) should be followed by any municipality applying for funding. A resolution by the local MPO and/or RPO is required.

FUNDING CYCLE

Most recent cycle closed on April 10, 2023.

CONTACT
Bryan Lopez
919-707-2606
balopez@ncdot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - **Non-Motorized Mode Support**
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
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  - Mobility as a Service
- SUPPORT
  - Compact Development
  - **Facility Amenities**
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - **Public Education and Promotion**
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

PeopleForBikes' Industry Community Grant Program

VISIT WEBSITE

FUNDING TYPE
Private/Non-Profit

AGENCY
People for Bikes (PFB)

PURPOSE / GOALS

Industry Community Grant Program supports bicycle infrastructure projects and targeted initiatives that make it easier and safer for people of all ages and abilities to bike.

APPLICANT ELIGIBILITY

- All organizations must be based in the United States.
- Non-profit organizations, including organizations relying upon a fiscal sponsor for their nonprofit status.
- Local or state government agencies or federal agencies working locally.
- Small businesses, such as bicycle retailers and community-oriented businesses serving disadvantaged communities.

ELIGIBLE USE OF FUNDS

Our top priority is funding infrastructure projects that improve a community's City Ratings score by building connections in a low-stress bikeway network or improving access to recreational amenities. Grants should support the material costs of infrastructure construction or non-material costs directly related and necessary to getting infrastructure built.

Costs related to the development of permanent bike infrastructure, including trails, shared-use paths, bike parks, pump tracks, bicycle playgrounds, neighborhood greenways/bike boulevards, and protected bike lanes.

Costs related to "quick-build" or "demonstration projects," provided that any temporary infrastructure is part of a strategy to subsequently develop permanent infrastructure
Land or easement acquisition costs for bike infrastructure.

Events or programs that support cultural acceptance and support of specific planned or recently constructed bike infrastructure projects, like "bike buses" or "community bike rides." Such events or programs must show a connection between the event and organizing for permanent infrastructural improvements and must show a likelihood of permanence beyond the term of the grant.

LOAN OR GRANT MAXIMUM & TERMS

$5000 - $10000

ADDITIONAL REQUIREMENTS & TERMS

Priority given to: Funding that closes a financial gap that allows a project to move forward, Funding that leverages additional funds, Projects that address historical inequities in low-income communities and communities of color, and projects that are part of a larger strategy to build a network of bikeways and bike facilities that enable people of all ages and abilities to access bicycling as transportation or recreation.

FUNDING CYCLE

Most recent cycle closed on October 20, 2023.

CONTACT

infrastructure@peopleforbikes.org.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- **Alternative Mode Sharing**
- Carsharing
- **Flexible Public Transit**
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- **Providing Affordable Housing**
- **Complete Streets**
- **Transit Oriented Development**
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- **Mixed Land Use**

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- **Information Services/Broadband Expansion**
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- **Mobility as a Service**

SUPPORT
- **Compact Development**
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- **Public Education and Promotion**
- **Ride-Matching Services**
- **Transit Fare Subsidies**
- Vanpool Fare Subsidies

FUNDING PROGRAM

Community Challenge

VISIT WEBSITE

FUNDING TYPE
Foundation

AGENCY
American Association of Retired Persons (AARP)

PURPOSE / GOALS

To improve housing, transportation, public space, technology ("smart cities"), civic engagement and more.

APPLICANT ELIGIBILITY

501(C)(3), 501(C)(4) and 501(c)(6) nonprofits, government entities, other types of organizations will be considered on a case-by-case basis.

ELIGIBLE USE OF FUNDS

Prioritize projects that aim to achieve the following outcomes:

- Increasing civic engagement with innovative and tangible projects that bring residents and local leaders together to address challenges and facilitate a greater sense of community inclusion and diversity. (Although this category is targeted to local governments, nonprofit organizations can apply for and receive a grant in this category provided they demonstrate that they are working with local governments to solicit and include residents' insights about the project or to help solve a pressing challenge.)
- Create vibrant public places that improve open spaces, parks and access to other amenities.
- Deliver a range of transportation and mobility options that increase connectivity, walkability, bikeability, wayfinding, access to transportation options and roadway improvements.
- Support the availability of a range of housing that increases accessible and affordable housing options.
- Demonstrate the tangible value of "Smart Cities" with programs that engage residents in accessing, understanding and using data, and participating in decision-making to increase the quality of life for all.
- Other community improvements: In addition to the five areas of focus, AARP wants to hear about local needs and new, innovative ideas for addressing them.

LOAN OR GRANT MAXIMUM & TERMS

Grants can range from several hundred dollars for smaller, short-term activities to several thousand or tens of thousands of dollars for larger projects.

ADDITIONAL REQUIREMENTS & TERMS

Planning activities not eligible.

FUNDING CYCLE

Most recent cycle closed on March 15, 2023.

CONTACT
communitychallenge@AARP.org

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - **Public Transit**
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Low or No Emission Vehicle Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To support the wider deployment of advanced propulsion technologies within the nation's transit fleet.

APPLICANT ELIGIBILITY

An Eligible Applicant is a designated recipient of FTA grants, states, local governmental authorities and Indian Tribes.

ELIGIBLE USE OF FUNDS

Eligible projects include: the purchase or lease of zero-emission and low-emission transit buses, including acquisition, construction, and leasing of required supporting facilities such as recharging, refueling, and maintenance facilities, constructing new public transportation facilities to accommodate low- or no-emission buses, rehabilitating or improving existing public transportation facilities to accommodate low- or no-emission buses, and workforce development training. FTA will only consider eligible projects relating to the acquisition or leasing of low or no emission buses or bus facilities that make greater reductions in energy consumption and harmful emissions than comparable standard buses or other low or no emission buses and are part of the recipient's long-term integrated fleet management plan.

LOAN OR GRANT MAXIMUM & TERMS

Federal share of the cost of leasing or purchasing a transit bus is not to exceed 85% of the total transit bus cost. The federal share in the cost of leasing or acquiring low- or no-emission bus-related equipment and facilities is 90% of the net project cost. The Federal share of the cost of other projects shall not exceed 80%.

FTA may cap the amount a single recipient or State may receive as part of the selection process.

ADDITIONAL REQUIREMENTS & TERMS

Project should be consistent with local and regional long-range planning documents and local government priorities.

Funds are available for obligation for three fiscal years after the fiscal year in which the competitive awards are announced. Funds are only available for projects that have not incurred costs prior to the announcement of project selections.

Applicants may submit applications that include partnerships with other entities that intend to participate in the implementation of the project, including, but not limited to, vehicle manufacturers, equipment vendors, owners or operators of related facilities, or project consultants. If an application that involves such a partnership is selected for funding, the competitive selection process will be deemed to satisfy the requirement for a competitive procurement under 49 U.S.C. 5325(a) for those named.

FUNDING CYCLE

Most recent cycle closed on April 13, 2023.

CONTACT
Margaretta Veltri
202-366-5094
ftalownobusnofo@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- **Public Transit**
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- **Transit Oriented Development**
- **Connectivity**
- Development Impact Mitigation
- **Job/Housing Balance**
- **Mixed Land Use**

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Pilot Program for Transit-Oriented Development (TOD) Planning

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To integrate land use and transportation planning in new fixed guideway and core capacity transit project corridors.

APPLICANT ELIGIBILITY

State or local governmental authorities and FTA grant recipients (i.e., existing direct and designated recipients) as of the publication date of any funding notice.

FTA requires that transit project sponsors partner with entities with land use planning authority in the project corridor.

ELIGIBLE USE OF FUNDS

Comprehensive planning projects covering an entire transit capital project corridor, rather than proposals that involve planning for individual station areas or only a small section of the corridor. To be eligible, the proposed transit capital project must be a new fixed guideway project or a core capacity improvement project as defined by Federal public transportation law (49 U.S.C. 5309(a)), although it is not required to be approved for funding through the Capital Investment Grant program.

A fixed guideway is a public transportation facility:
- Using and occupying a separate right-of-way for the exclusive use of public transportation; using rail; using a fixed catenary system; for a passenger ferry system; or for a bus rapid transit system.

Projects must address all six aspects:
- Enhance economic development and ridership
- Facilitate multimodal connectivity and accessibility
- Increase non-motorized access to transit hubs
- Enable mixed-use development
- Identify infrastructure needs associated with the transit project
- Include private sector participation

LOAN OR GRANT MAXIMUM & TERMS

Grants ranging from $250,000 to $2 million, up to 80% Federal funding share.

ADDITIONAL REQUIREMENTS & TERMS

Comprehensive planning funded through the pilot program must examine ways to improve economic development and ridership, foster multimodal connectivity and accessibility, improve transit access for pedestrian and bicycle traffic, engage the private sector, identify infrastructure needs, and enable mixed-use development near transit stations.

The statute also requires that the planning work be associated with a new fixed guideway or core capacity transit project as defined in federal transit statute.

FUNDING CYCLE

Most recent cycle closed on October 10, 2023.

CONTACT
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april.mcleanmccoy@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
Tom Wilson
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FUNDING PROGRAM

Grants for Buses and Bus Facilities Competitive Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.

APPLICANT ELIGIBILITY

Designated recipients that allocate funds to fixed route bus operators, states or local governmental entities that operate fixed route bus service, and Indian tribes.

ELIGIBLE USE OF FUNDS

Capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities.

LOAN OR GRANT MAXIMUM & TERMS

The federal share of eligible capital costs is 80% of the net capital project cost, unless the grant recipient requests a lower percentage. The Federal share may exceed 80% for certain projects related to the Americans with Disabilities Act (ADA), the Clean Air Act (CAA), and certain bicycle projects.

Total of $469M was available in 2023.

ADDITIONAL REQUIREMENTS & TERMS

Awards based on
1. Demonstration of Need
2. Demonstration of Benefits
3. Planning/Local Prioritization
4. Local Financial Commitment
5. Project Implementation Strategy
6. Technical, Legal, and Financial Capacity

FUNDING CYCLE

Last cycle closed on April 13, 2023.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
919-707-2600

FUNDING PROGRAM

Congestion Mitigation and Air Quality Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (USDOT) - Federal Transit Administration (FTA) & Federal Highway Administration (FHWA)

PURPOSE / GOALS

To fund transportation projects that reduce regulated emissions associated with carbon monoxide, ozone and particulate matter pollution in nonattainment and maintenance areas, often through congestion mitigation techniques.

APPLICANT ELIGIBILITY

States

ELIGIBLE USE OF FUNDS

A transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, and that is included in the metropolitan planning organization's (MPO's) current transportation plan and transportation improvement program (TIP) or the current state transportation improvement program (STIP) in areas without an MPO.

LOAN OR GRANT MAXIMUM & TERMS

FHWA apportions funding to states based on the population in non-attainment and maintenance areas of the state and the severity of air quality problem.

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

No application, formula-based funding program to the state. However, metropolitan planning organizations, rural planning organizations and NCDOT divisions submit projects through the prioritization process.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - Public Transit
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - **Ride-matching Applications**
  - **Mobility as a Service**
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - **Ride-Matching Services**
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Innovative Coordinated Access and Mobility (ICAM)

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To advance pilot projects that improve the coordination of transportation services and non-emergency medical transportation (NEMT) services projects for transportation disadvantaged populations. Transportation disadvantaged populations include older adults, people with disabilities, and people of low income.

APPLICANT ELIGIBILITY

State departments of transportation, designated recipients for Section 5310 funds, or local governmental entities that operate a public transportation service, or their eligible subrecipients that have the authority and technical capacity to implement a regional or statewide cost allocation pilot.

ELIGIBLE USE OF FUNDS

Funds made available under the ICAM pilot program may only be used for capital expenditures, including mobility management, that are included in the State Transportation Improvement Plan/Transportation Improvement Plan. Eligible projects are capital projects, as defined in 49 U.S.C.5302(3). FTA may make grants to assist in financing innovative projects for the transportation disadvantaged that improve the coordination of transportation services and NEMT services, including: Regional or statewide mobility management projects; deployment of coordination technology; and regional or statewide projects that create or increase access to one-call/one-click centers. FTA's goal for these pilot program grants is to identify and test promising, innovative, coordinated mobility strategies other communities can replicate. Only one project may be included in each application.

Projects will be evaluated under the following criteria: (a) Demonstration of need; (b) demonstration of benefits; (c) planning and partnerships; (d) local financial commitment; (e) project implementation strategy; and (f) technical, legal, and financial capacity.

FTA will give priority consideration to projects that support the Government-wide Justice 40 Initiative with the goal of delivering 40% of the overall benefits of relevant federal investments to disadvantaged communities; as well as to applications that have considered racial equity in the planning stage and are designed with specific elements to address racial equity and overcoming barriers to opportunity for underserved communities.

LOAN OR GRANT MAXIMUM & TERMS

Up to 80% of project costs.

ADDITIONAL REQUIREMENTS & TERMS

Grantees will have up to 24 months from the time of the award to complete the project. Within the first year, projects must be able to demonstrate impacts related to the expected outcome as described in the application.

FUNDING CYCLE

Application due 11:59 PM on February 13, 2024.

CONTACT
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TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - Public Transit
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - **Ride-matching Applications**
  - **Mobility as a Service**
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - **Ride-Matching Services**
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Enhancing Mobility Innovation

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

Goals fall under two categories:
1. Accelerating innovative mobility with concept development and/or improving mobility and enhancing the rider experience;
2. Supporting development of software solutions that facilitate integrated demand-response public transportation.

APPLICANT ELIGIBILITY

Providers of public transportation; Federally recognized Indian tribes; Private for-profit and not-for-profit organizations; State, city or local government entities, including Metropolitan Planning Organizations; or Institutions of higher education.

ELIGIBLE USE OF FUNDS

Projects that advance emerging technologies, strategies and innovations in passenger-centric mobility, in one of two areas: (a) development of novel operational concepts and/or innovations that improve mobility and enhance the rider experience, with a focus on innovative service delivery models, creative financing, novel partnerships, and integrated payment solutions;
(b) projects supporting the development of software solutions that facilitate the provision of demand-response public transportation service that dispatches public transportation fleet vehicles, through riders' mobility devices or other advanced means.

This effort seeks to harness Federal, local, and private sector investments in transportation and mobility innovations. As such, FTA seeks applications for projects that enhance the current state of mobility innovation research or build on existing successful projects and partnership efforts. For illustrative purposes, some examples of project research areas include:
- Novel data approaches for improved service delivery;
- Data-driven tools to predict and influence traveler behavior;
- Data-driven strategies that balance mobility options to travelers with climate smart choices;
- Next generation replicable seamless payments systems and solutions that can enhance integrated mobility management and operations across a variety of modes;
- New, smarter business models for providing more effective transportation and mobility options in underserved communities;
- Use of Artificial Intelligence (AI) tools to personalize mobility options to travelers;
- Mobility payment integration with dynamic pricing strategies;
- Public private partnerships with nontraditional transportation providers.

LOAN OR GRANT MAXIMUM & TERMS

Minimum award amount of $250,000 with maximum award of $1,000,000 or up to 80% of project costs.

$2 million available for cooperative agreements - $1 million for each project area.

ADDITIONAL REQUIREMENTS & TERMS

Prioritizes the promotion of increased access to transit for environmental justice populations and adoption of equity-focused policies.

Builds on previous efforts such as the Mobility on Demand (MOD) Sandbox, the Integrated Mobility Innovation (IMI) Program and the Accelerating Innovative Mobility (AIM) Challenge Grant Initiative, and others.

FUNDING CYCLE

Most recent opportunity closed on April 27, 2023.

CONTACT
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TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- **Public Transit**
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Expedited Project Delivery Pilot Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration (FTA)

PURPOSE / GOALS

To expedite delivery of new fixed guideway capital projects, small starts projects, or core capacity improvement projects.

APPLICANT ELIGIBILITY

State or local government authorities

ELIGIBLE USE OF FUNDS

Eligible projects are new fixed guideway capital projects, small start projects, or core capacity improvement projects that have not entered into a full funding grant agreement with FTA. The law defines these types of eligible projects for the Expedited Project Delivery (EPD) Pilot Program in a manner similar to, but not entirely the same as, FTA's Capital Investment Grants (CIG) program.

LOAN OR GRANT MAXIMUM & TERMS

Up to 25% of project costs.

$100 Million total available.

ADDITIONAL REQUIREMENTS & TERMS

These projects must utilize public-private partnerships, be operated and maintained by employees of an existing public transportation provider, and have a Federal share not exceeding 25% of the project cost.

FUNDING CYCLE

Applications will be accepted on a rolling basis until up to eight grants are awarded and subject to funding availability.

CONTACT
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faisal.chowdhury@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- **Providing Affordable Housing**
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- **Job/Housing Balance**
- **Mixed Land Use**

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- **Compact Development**
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Community Development Block Grant Program Neighborhood Revitalization (CDBG-NR) Grant

VISIT WEBSITE

FUNDING TYPE
Federal
(through the state)

AGENCY
North Carolina
Department of Commerce

PURPOSE / GOALS

To support housing and community development efforts.

APPLICANT ELIGIBILITY

All municipalities are eligible to receive State CDBG funds with special consideration for de-obligated pre-2015 CDBG-NR projects. Entitlement communities receive funds directly from HUD. North Carolina's 24 entitlement municipalities are: Asheville, Burlington, Cary, Chapel Hill, Charlotte, Concord, Durham, Fayetteville, Gastonia, Goldsboro, Greensboro, Greenville, Hickory, High Point, Jacksonville, Kannapolis, Lenoir, Morganton, New Bern, Raleigh, Rocky Mount, Salisbury, Wilmington, and Winston-Salem.

ELIGIBLE USE OF FUNDS

Community Revitalization activities include: Infrastructure and public improvements that support existing housing in the designated area (e.g., streets, sidewalks/pedestrian ways, curbs and gutters, parks, playgrounds, greenways, water and sewer lines, flood and drainage improvements, and trees). Housing activities include (for single or multi-family housing): Rehabilitation, Relocation, Clearance/ Remediation, Replacement, or Emergency Repairs.

Public Facilities activities include: Acquisition, construction, reconstruction, rehabilitation or installation of public facilities and improvements; Removal of material and architectural barriers that restrict the mobility and accessibility of elderly or severely disabled persons to public facilities and improvements; Inclusion of design features and improvements which promote energy efficiency; Inclusion of architectural design features and similar treatments intended to enhance the aesthetic quality of facilities and improvements receiving CDBG assistance, such as decorative pavements, railings, sculptures, pools of water and fountains, and other works of art; Improvements such as parks, playgrounds, and greenways.

LOAN OR GRANT MAXIMUM & TERMS

The maximum grant amount is $950,000 per grantee with some restrictions for specific activities. There is no minimum grant amount.

ADDITIONAL REQUIREMENTS & TERMS

70% of annual income from US Department of Housing and Urban Development (HUD) to state must go to projects that address low-to-middle income income households. HUD's publication, "2023 or the most current Income Limits", defines income limits for low and moderate-income families per family size for non-metro and metro areas of the state.

CONTACT

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FUNDING CYCLE

Most recent cycle closed on November 15, 2023.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- **Public Transit**
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- **Information Services/Broadband Expansion**
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Rural Infrastructure Program

VISIT WEBSITE

FUNDING TYPE
State

AGENCY
North Carolina Department of Commerce

PURPOSE / GOALS

To assist with infrastructure projects that will lead to the creation of new, full-time jobs.

APPLICANT ELIGIBILITY

Units of local government with priority given to the counties that have the 80 highest rankings under N.C.G.S.143B-437.08. The rankings can be found on the county tier designations page.

ELIGIBLE USE OF FUNDS

Eligible projects include but are not limited to: Upgrades or repair of public drinking water or wastewater treatment plants; Upgrades, extensions, or repair of public water or sewer lines; Extensions of publicly owned natural gas line (with an executed Pipeline Construction, Operating and Resale Agreement; Installation or extension of public broadband infrastructure; Construction of publicly owned access roads not funded or owned by the NC Department of Transportation; Construction of public rail spur improvements.

LOAN OR GRANT MAXIMUM & TERMS

Cash match of 5% of grant amount.

ADDITIONAL REQUIREMENTS & TERMS

Application process requires a pre-application conference call.

Job creation goals must be achieved within 18 months of grant awarded.

FUNDING CYCLE

Most recent opportunity closed on April 27, 2023.

CONTACT
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melody.adams@nccommerce.com

TDM MEASURES

REGIONAL
- Park and Ride Lots
- **Alternative Mode Sharing**
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Better Bike Share Partnership

VISIT WEBSITE

FUNDING TYPE
Foundation

AGENCY
Better Bike Share Partnership

PURPOSE / GOALS

The Better Bike Share Partnership has funded many initiatives to pilot, support and share strategies to increase the access to and use of shared micromobility in low-income and Black, Indigenous and People of Color (BIPOC) communities since its inception.

APPLICANT ELIGIBILITY

Partnerships of cities, bike share systems and community-based organizations

ELIGIBLE USE OF FUNDS

Opportunities have included: Challenge Grants: Matching grants awarded to partnerships of cities, bike share systems and community-based organizations; Research Grants: Funding for academic institutions conducting studies to shed light on the barriers, incentives, practices, environment and other factors that increase or inhibit bike share ridership; Mini-grants: Small, focused awards to support modest programs or activities; Living Lab Cities: New in 2020, this program will support four cities taking a deep dive into addressing a barrier or capitalizing on an opportunity to make the use of shared micromobility easier, safer and more accessible in BIPOC communities.

LOAN OR GRANT MAXIMUM & TERMS

ADDITIONAL REQUIREMENTS & TERMS

CONTACT

https://betterbikeshare.org/contact/

FUNDING CYCLE

Most recent cycle closed on September 19, 2023.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
ss4A@dot.gov

FUNDING PROGRAM

Safe Streets and Roads for All (SS4A) Discretionary Grant Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (USDOT)

PURPOSE / GOALS

The SS4A program supports Secretary of Transportation Pete Buttigieg's National Roadway Safety Strategy and the Department's goal of zero deaths and serious injuries on our nation's roadways.

APPLICANT ELIGIBILITY

Special district governments, Native American tribal governments (Federally recognized), County governments, City or township governments and MPOs.

ELIGIBLE USE OF FUNDS

Eligible activities for the SS4A program include developing or updating a comprehensive safety action plan (Action Plan), conducting planning, design, and development activities in support of an Action Plan, and carrying out projects and strategies identified in an Action Plan. There are two types of SS4A grants: Action Plan Grants and Implementation Grants.

Communities can use Planning and Demonstration Grants and Implementation Grants to develop or complete an Action Plan or to conduct supplemental planning activities. Illustrative examples of such activities include: Leadership commitment and goal setting; safety analysis, public and stake-holder engagement and collaboration; equity and policy assessments; and other activities needed to develop an Action Plan. Supplemental Action Plan activities that support or enhance an existing Action Plan could include, but are not limited to: additional analysis; expanded data collection and evaluation using integrated data; testing Action Plan concepts before implementation; feasibility studies; follow-up stakeholder engagement and collaboration; targeted equity assessments; and progress report development and complementary planning efforts.

Illustrative examples of activities that could be conducted as part of an Implementation Grant include: applying low-cost roadway safety treatments system-wide; identifying and correcting common risks across a network; transforming a roadway corridor into a Complete Street; working with community members to carry out quick-build street design changes informed by outreach and user input; supporting the development of safe bikeway networks; creating safe routes to school and public transit services in underserved communities; promoting the adoption of innovative technologies or strategies to promote safety and protect vulnerable road users; conducting education campaigns to accompany new or innovative infrastructure; implementing data collection and analysis technologies; deploying advanced transportation technologies; combating roadway departure crashes through safety improvements; evaluating and improving the safety of intersections with innovative design; and improving methods to allow for better data sharing across jurisdictions.

LOAN OR GRANT MAXIMUM & TERMS

In fiscal year 2023, $817 million was awarded.

ADDITIONAL REQUIREMENTS & TERMS

- Maximum of 80% Federal
- Not more than 15% of funds to be awarded to projects in single State in a FY (Tribal projects not part of the State cap)
- Minimum 40% awarded for Action Plan Grants and supplemental Action Plan activities
- Remainder for implementation grants (Applicants must have an established Action Plan to apply for Implementation Grants.)

FUNDING CYCLE

Most recent cycle closed on July 10, 2023. A NOFO for 2024 is expected to open in February 2024.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- **Alternative Mode Sharing**
- Carsharing
- **Flexible Public Transit**
- **Public Transit**
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Reconnecting Communities Pilot Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (USDOT)

PURPOSE / GOALS

To reconnect communities by removing, retrofitting, or mitigating transportation facilities such as highways and rail lines that create barriers to community connectivity including those that impede mobility, access, or economic development.

APPLICANT ELIGIBILITY

States, units of local government, Federally recognized Tribal governments, Metropolitan Planning Organizations, and non-profit organizations.

ELIGIBLE USE OF FUNDS

Planning:
- Public engagement activities, including community visioning or other place-based strategies for public input into project plans.
- Planning studies to assess the feasibility of removing, retrofitting, or mitigating an existing eligible facility to reconnect communities.
- Other planning activities in advance of the project.

Capital:
- Preliminary and detailed design activities and associated environmental studies;
- predevelopment / preconstruction; permitting activities including the completion of the National Environmental Policy Act (NEPA) process;
- the removal, retrofit, or mitigation of an eligible facility; the replacement of an eligible facility with a new facility that restores community connectivity;
- delivering community benefits and the mitigation of impacts identified through the NEPA process or other planning and project development for the capital construction project.

LOAN OR GRANT MAXIMUM & TERMS

Planning Grant awards are not to exceed $2 million per recipient. DOT anticipates that Planning Grants may range from $100,000 to $2,000,000.

Capital Construction Grant awards are no less than $5 million per project. DOT anticipates that Capital Construction Grants may range from $5 million to $100 million.

Both Grants require a 20% non-Federal match.

ADDITIONAL REQUIREMENTS & TERMS

An eligible facility that has separated the community may include any highway or roadway, bridge or viaduct, transit, rail, airport, port, or gas pipeline.

FUNDING CYCLE

Most recent cycle closed on October 13, 2022.
NOFO to be published December 2023 or January 2024 for FY 2023 - 2024.

CONTACT
Faith Hall
202-366-9055
ReconnectingCommunities@dot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - **Public Transit**
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
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  - Transit Oriented Development
  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
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- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
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  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

Corridor Identification and Development (ID) Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Federal Railway Administration

PURPOSE / GOALS

The Corridor ID Program establishes a comprehensive intercity passenger rail planning framework that will help guide future federal project development work and capital investments.

APPLICANT ELIGIBILITY

Amtrak; States; groups of States; entities implementing interstate compacts; regional passenger rail authorities; regional planning organizations; political subdivisions of a State; federally-recognized Indian Tribes; and other public entities, as determined by the Secretary.

ELIGIBLE USE OF FUNDS

- A new intercity passenger rail route of less than 750 miles;
- the enhancement of an existing intercity passenger rail route of less than 750 miles;
- the restoration of service over all or portions of an intercity passenger rail route formerly operated by Amtrak; and
- the increase of service frequency of a long-distance intercity passenger rail route.

LOAN OR GRANT MAXIMUM & TERMS

FRA is authorized to use up to 5% of the funding made available for the Federal-State Partnership for Intercity Passenger Rail grants (Fed-State Partnership) program to carry out planning and development activities

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

Most recent cycle closed on March 20, 2023.

CONTACT
PaxRailDev@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
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- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
Nate Halubka
919-707-9358
nate.halubka@ncparks.gov

FUNDING PROGRAM

Outdoor Recreation Legacy Partnership Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of the Interior

PURPOSE / GOALS

To help economically disadvantaged urban communities with little to no access to nearby, publicly available outdoor recreation.

APPLICANT ELIGIBILITY

Primarily states; the LWCF Act provides that only State Lead Agencies for the LWCF may apply for funds. However, the lead agency may apply on behalf of itself or on behalf of an eligible sub-recipient (including other state agencies, government subdivisions, special purpose districts such as park districts, and federally recognized Indian tribes). The urban, economically-disadvantaged community served by the proposed park/site must be within an incorporated city or town having a population of 30,000 or more per the 2020 U.S. Census. The community must also be must be a full 10 percentage points above the highest poverty rate of the city, county and state.

ELIGIBLE USE OF FUNDS

Funds can be used for the acquisition and/or development of, or to substantially renovate, obsolete public parks and other outdoor recreation spaces. Matching grants (1:1) are available to help acquire and/or develop public land for all manner of outdoor recreation activities such as hiking, camping, unstructured play, picnicking, cycling, field and court sports, fishing, bird watching, swimming, paddling, and skating. Funds can be used for purely recreational facilities as well as some supporting facilities and infrastructure such as restrooms/bathhouses, cabins, pool houses, lighting, parking areas, etc. when part of a larger project to develop recreation facilities.

LOAN OR GRANT MAXIMUM & TERMS

Maximum $10 million (2022 program).

ADDITIONAL REQUIREMENTS & TERMS

NPS website has more info:

VISIT WEBSITE

NC Parks & Recreation website states population requirement to be no more than 50,000 (as per their own source) the 2022 grant program aims to reduce this cap from 50,000 to 30,000.

VISIT WEBSITE

FUNDING CYCLE

Applications for next cycle are due April 30, 2024.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - Complete Streets
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  - Connectivity
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
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- TELECOM
  - Internet-Based Strategies
  - **Information Services/Broadband Expansion**
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

ReConnect Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Agriculture

PURPOSE / GOALS

To provide funds for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide broadband service in eligible rural areas.

APPLICANT ELIGIBILITY

- Corporation;
- Limited Liability Company and Limited Liability Partnership;
- Cooperative or mutual organization;
- States or local governments, including any agency, subdivision, instrumentality, or political subdivision thereof;
- A territory or possession of the United States; or
- A recognized Indian Tribe

ELIGIBLE USE OF FUNDS

- To fund the construction or improvement of facilities required to provide fixed terrestrial broadband service. Eligible facilities include buildings, land, and fixed wireless service.
- To fund reasonable pre-application expenses.
- To fund the acquisition of an existing system that does not currently provide sufficient access to broadband (eligible for 100 percent loan requests only).

LOAN OR GRANT MAXIMUM & TERMS

Maximum requests for loans are as follows:

100% Loan: $50,000,000
50% Loan-50% Grant: $25,000,000 (each)
100% Grant: $25,000,000 ($35,000,000 conditionally).

ADDITIONAL REQUIREMENTS & TERMS

Only projects that USDA-determined financially feasible and sustainable will be eligible for an award and must demonstrate a positive ending cash balance as reflected in the cash flow statement for each year of the forecast period and demonstrate positive cash flow from operations by the end of the forecast period. Debt service requirements must also be met.

FUNDING CYCLE

Most recent cycle closed on November 2, 2022.

CONTACT
Laurel Leverrier
202-720-9554
laurel.leverrier@usda.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - **Public Transit**
  - HOV Facilities
  - Non-Motorized Mode Support
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  - Mobility as a Service
- SUPPORT
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  - **Facility Amenities**
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

CONTACT
Douglas Gascon
202-493-0239
douglas.gascon@dot.gov

FUNDING PROGRAM

Consolidated Rail Infrastructure and Safety Improvement (CRISI) Grant funding

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Federal Railway Administration

PURPOSE / GOALS

To invest in a wide range of projects within the United States to improve railroad safety, efficiency, and reliability; mitigate congestion at both intercity passenger and freight rail chokepoints to support more efficient travel and goods movement; enhance multi-modal connections; and lead to new or substantially improved Intercity Passenger Rail Transportation corridors.

APPLICANT ELIGIBILITY

States, non-profits, railroad agencies, public agencies, and other publicly chartered authorities.

ELIGIBLE USE OF FUNDS

Grant funding can be used for capital rail projects and railway improvement undertakings that boost connectivity and level of service. Research and development projects, establishment of safety programs or institutes, and workforce development and training activities are also considered appropriate for funding.

Specifically, projects eligible for funding under this grant program include, but are not limited to:

- Deployment of railroad safety technology;
- Capital projects, as defined in section 49 U.S.C. § 24401(2) for intercity passenger rail service, except that a project under this NOFO is not required to be in a state rail plan;
- Capital projects that address rail service congestion and improve railroad infrastructure;
- Highway-rail grade crossing improvement projects;
- Rail line relocation and improvement projects;
- Regional rail and corridor service development plans and environmental analyses;
- Any project necessary to enhance multimodal connections or facilitate service integration between rail service and other modes;
- The development and implementation of measures to prevent trespassing;
- Any research that the Secretary considers necessary to advance any particular aspect of rail related capital, operations, or safety improvements;
- Workforce development and training activities, coordinated to the extent practicable with the existing local training programs supported by the Department of Transportation, the Department of Labor, and the Department of Education;
- Research, development, and testing to advance and facilitate innovative rail projects;
- Preparation of emergency plans for communities where hazardous materials are transported by rail;
- Rehabilitating, remanufacturing, procuring or overhauling locomotives for emissions reduction;
- Deployment of Magnetic Levitation Transportation Projects.

LOAN OR GRANT MAXIMUM & TERMS

Total funding amount: $1,427,462,902.

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

NOFO to be published December 2023 or January 2024 for FY 2023-2024.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- **Public Transit**
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- **Ride-matching Applications**
- **Mobility as a Service**

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (USDOT)

PURPOSE / GOALS

To provide grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.

APPLICANT ELIGIBILITY

- a State;
- a political subdivision of a State;
- a Tribal government;
- a public transit agency or authority;
- a public toll authority;
- a metropolitan planning organization; and
- a group of 2 or more eligible entities detailed above, applying through a single lead applicant.

ELIGIBLE USE OF FUNDS

A SMART grant may be used to carry out a project that demonstrates at least one of the following:
- Coordinated automation
- Connected vehicles
- Sensors
- Systems integration
- Delivery/logistics
- Innovative aviation
- Smart grid
- Traffic signals

LOAN OR GRANT MAXIMUM & TERMS

Total Funding: $100,000,000
Grant Award Ceiling: $2,000,000

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

Most recent cycle closed on October 10, 2023

CONTACT
Roxanne Ledesma
202-774-8003
smart@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- **Flexible Public Transit**
- **Public Transit**
- **HOV Facilities**
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- **Transportation Management Associations**
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- **Parking Pricing**
- **Road Pricing and Cordon Pricing**
- VMT Fee or Tax

APP BASED
- **Ride-matching Applications**
- **Mobility as a Service**

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- **Transit Fare Subsidies**
- Vanpool Fare Subsidies

FUNDING PROGRAM

Advanced Transportation Technologies and Innovative (ATTAIN) Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Federal Railway Administration

PURPOSE / GOALS

To promote advanced technologies to improve safety and reduce travel times for drivers and transit riders that can serve as national examples.

APPLICANT ELIGIBILITY

Eligible applicants are:
- State or local governments,
- transit agencies,
- Metropolitan Planning Organizations (MPO),
- other political subdivisions of a State or local government (such as publicly owned toll or port authorities), or
- a multijurisdictional group or consortia of research institutions or academic institutions.

ELIGIBLE USE OF FUNDS

Applicants may use funds under this program to deploy advanced transportation technologies, including:

- Advanced traveler information systems
- Advanced transportation management technologies
- Infrastructure maintenance, monitoring, and condition assessment
- Advanced public transportation systems
- Transportation system performance data collection, analysis, and dissemination systems
- Advanced safety systems, including vehicle-to-vehicle and vehicle-to-infrastructure communications
- Technologies associated with autonomous vehicles, and other collision avoidance technologies, including systems using cellular technology
- Integration of intelligent transportation systems with the Smart Grid and other distribution systems
- Electronic pricing and payment systems, Toll collections
- Advanced mobility and access technologies, such as dynamic ride sharing and information systems to support human services for elderly and disabled individuals
- On demand transportation service, and other shared use mobility applications.

LOAN OR GRANT MAXIMUM & TERMS

Total Funding: $60,000,000
Grant Award Ceiling: $12,000,000
Cost sharing/matching of 20% of the total cost of the project is required
Up to 80% of the cost of the project.

ADDITIONAL REQUIREMENTS & TERMS

Not less than 20% of the amounts made available to carry out this program shall be reserved for projects serving rural areas. [§ 13006(b)(5); 23 U.S.C. 503(c)(4)(D)(ii)(II)]

FUNDING CYCLE

Grant application due 11:59 PM on February 2, 2024.

CONTACT

Ryan Buck
ATTAIN@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

TIFIA 49

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation (Build America Bureau)

PURPOSE / GOALS

U.S. Department of Transportation's Build America Bureau will offer low-cost and flexible financing for transit and Transit-oriented Development (TOD) projects at the maximum level authorized under law. USDOT's Transportation Infrastructure Finance and Innovation Act (TIFIA) program is designed to help project sponsors reduce costs and speed the delivery of infrastructure projects, which saves taxpayer dollars and improves transportation in communities. This new initiative, "TIFIA 49," authorizes borrowing up to 49% of eligible project costs for projects that meet certain eligibility requirements, helping more projects get off the ground.

APPLICANT ELIGIBILITY

Eligible borrowers are the same as traditional TIFIA:
- State, tribal, county, municipal governments
- State Infrastructure Banks
- Private entities/developers
- Special authorities
- Transportation improvement districts

ELIGIBLE USE OF FUNDS

FTA TIFIA funds can be used for the following:
- Transit projects such as capital projects or associated improvement infrastructure or vehicles for public transportation systems, including but not limited to bus, subway, light rail, commuter rail, trolley, or ferry, etc.

- TOD projects described as projects to improve or construct public infrastructure that are either:
  - located within walking distance (approximately 1/2-mile) of, and accessible to, a fixed guideway transit facility, passenger rail station, intercity bus station, or intermodal facility, including transportation, public utility, or joint development projects, and related infrastructure; or
  - for economic development, including commercial and residential development, and related infrastructure and activities.

LOAN OR GRANT MAXIMUM & TERMS

Projects must be at least $10 million in size and may borrow up to 49 percent of eligible project costs. TIFIA has favorable terms including low interest rates (Treasury rate), interest does not accrue until proceeds are drawn, flexible amortization, up to 35 year repayment period, deferrable for five years after substantial project completion and no pre-payment penalty.

There is no maximum amount, however, for most TIFIA projects the minimum total cost is $50 million, but for intelligent transportation systems the minimum total cost is $15 million, and for TOD, rural, and local projects the minimum total cost is $10 million.

FUNDING CYCLE

Applications accepted on a rolling basis.

CONTACT
Build America Bureau
202-366-2300
buildamerica@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- **Alternative Mode Sharing**
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
BICI
bici@gdci.global

FUNDING PROGRAM

Bloomberg Initiative for Cycling Infrastructure (BICI)

VISIT WEBSITE

FUNDING TYPE
Private/Non-Profit

AGENCY
Bloomberg Cities Network

PURPOSE / GOALS

Led in partnership with the Global Designing Cities Initiative (GDCI), BICI will foster catalytic change in city cycling infrastructure around the world by:

- Funding ambitious cycling infrastructure projects by providing grants of $400k USD to $1M USD.
- Refining project plans by connecting winning cities with world-class technical assistance from GDCI.
- Implementing projects and tracking progress by training city leaders on data collection, resident engagement and other industry best practices.
- Connecting cities with a global network of peers.

APPLICANT ELIGIBILITY

Any city, town, metropolitan authority or other local government authority with a population of 100,000 or more may apply for funding.

Aggregations of cities, towns, metropolitan authorities or other local government authorities are also allowed to apply (within the same metropolitan area). However, one authority is expected to take the lead on the application.

ELIGIBLE USE OF FUNDS

BICI grant funds will typically support the purchase of products and materials used to create, deliver, and evaluate safe cycle infrastructure. The majority of funds should be used to directly support the expansion or completion of cycle infrastructure. However we will also consider funding other supportive cycling facilities, such as cycle parking, cycle path lighting, cycle-hire equipment, and equipment used for metrics collection. Part of the funds can also be used to fund elements of cycleshare projects. Consulting and/or staff support will be considered on a case-by-case basis.

The BICI Program is focused on accelerating the implementation of cycling infrastructure, so eligible expenses must contribute directly to this work. BICI will support cities that:

- Dramatically re-imagine infrastructure to reclaim and repurpose existing space, or create new facilities that put cyclists first,
- Create complete networks that allow people of all ages and abilities to cycle safely and conveniently,
- Show what's possible by bringing world-class cycling infrastructure to regions that currently lack it,
- Experiment with new materials, technology, or implementation methods in ways that make cycling networks easier to build or encourage more people to ride,
- Center people above all else by taking into consideration the risks, choices, and tradeoffs residents face when deciding how to travel through their cities.

LOAN OR GRANT MAXIMUM & TERMS

Up to $1,000,000 each to 10 cities.

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

Most recent cycle closed on February 3, 2023.
Program support finishes: March 2026.

VISIT WEBSITE

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- Non-Motorized Mode Support
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
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FUNDING PROGRAM

Surface Transportation Block Grants

FUNDING TYPE
Federal

AGENCY
USDOT Federal Highway Administration

PURPOSE / GOALS

Flexible funding to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

APPLICANT ELIGIBILITY

State and local transportation authorities.

ELIGIBLE USE OF FUNDS

The STBG grants can be used to fund projects including, but not limited to:

- Construction projects including:
  - Highways, bridges, and tunnels
  - Ferry boat and terminal facilities
  - Transit capital projects
  - Infrastructure-based intelligent transportation systems capital improvements
  - Truck parking facilities
  - Border infrastructure projects
  - Wildlife crossing structures
- Operational improvements and capital and operating costs for traffic monitoring, management and control facilities and programs,
- Environmental measures,
- Highway and transit safety infrastructure improvements and programs,
- Fringe and corridor parking facilities and programs,
- Recreational trails projects, including maintenance and restoration of existing recreational trails, pedestrian and bicycle projects,
- Planning, design, or construction of boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways,
- Development and implementation of a State asset management plan for the National Highway System (NHS) and a performance-based management program for other public roads.

LOAN OR GRANT MAXIMUM & TERMS

Fiscal Year (FY)
FY 2024: $14.394 Billion
FY 2025: $14.682 Billion

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

NOFO to be published December 2023 or January 2024 for FY 2023 - 2024.

CONTACT
David Bartz
512-417-5191
david.bartz@dot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - **Public Transit**
  - **HOV Facilities**
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  - Vanpool Fare Subsidies

CONTACT
David Bartz
512-417-5191
david.bartz@dot.gov

FUNDING PROGRAM

National Highway Performance Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
USDOT Federal Highway Administration

PURPOSE / GOALS

The NHPP provides support for the condition and performance of the National Highway System (NHS), provides support for the construction of new facilities on the NHS, ensures that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS, and provides support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters.

APPLICANT ELIGIBILITY

States can apply for NHPP grants.

ELIGIBLE USE OF FUNDS

The NHPP funding can be used for the following activities that may relate to VMT reduction:

- Construction, reconstruction, resurfacing, restoration, rehabilitation, preservation, or operational improvement of segments of the NHS,
- Construction, replacement (including replacement with fill material), rehabilitation, preservation, and protection of bridges and tunnels on the NHS,
- Construction, rehabilitation, or replacement of existing ferry boats and ferry boat facilities, including approaches connecting to the NHS,
- Construction, reconstruction, resurfacing, restoration, rehabilitation, and preservation of, and operational improvements for a Federal-aid highway not on the NHS, and construction of a transit project eligible for assistance (conditionally),
- Bicycle transportation and pedestrian walkways,
- Highway safety improvements on the NHS,
- Capital and operating costs for traffic and traveler information monitoring, management, and control facilities and programs,
- Infrastructure-based intelligent transportation systems capital improvements, including the installation of vehicle-to-infrastructure communication equipment,
- Environmental restoration and pollution abatement,
- Environmental mitigation efforts related to projects funded with NHP,
- Construction of publicly owned intracity or intercity bus terminals servicing the NHS,
- Undergrounding public utility infrastructure carried out in conjunction with a project otherwise eligible under NHPP.

LOAN OR GRANT MAXIMUM & TERMS

2024: $29.588 Billion
2025: $30.180 Billion

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

A NOFO to be published December 2023 or January 2024 for FY 2023-2024.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- **Public Transit**
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- **Complete Streets**
- Transit Oriented Development
- **Connectivity**
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- **Access Priority/Restriction**
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
- Road Pricing and Cordon Pricing
- VMT Fee or Tax

APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- **Facility Amenities**
- Guaranteed Ride Home
- Incentive Programs
- Parking Management
- Public Education and Promotion
- Ride-Matching Services
- Transit Fare Subsidies
- Vanpool Fare Subsidies

FUNDING PROGRAM

Carbon Reduction Program (CRP)

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
USDOT Federal Highway Administration

PURPOSE / GOALS

To provide funding for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources.

APPLICANT ELIGIBILITY

States can receive CRP funds; for urbanized areas with population over 200k and urbanized areas with population of 50k to 200k, the CRP funding will be provided at the individual urbanized area level.

ELIGIBLE USE OF FUNDS

Elgible activities include, but are not limited to, establishment of traffic monitoring, management, and control systems, deployment of ITS and associated capital improvments, as well as public transit and environmental impact reduction initiatives.

Projects must be identified in the Statewide Transportation Improvement Program (STIP)/ Transportation Improvement Program (TIP) and be consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s).

LOAN OR GRANT MAXIMUM & TERMS

FY 2024: $1.283 Billion
FY 2025: $1.309 Billion

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

No application submission deadlines, applications will be ongoing until new NOFO published, cancellation of NOFO, or all available funds expended.

CONTACT
Becky Lupes
Rebecca.Lupes@dot.gov
202-366-7808

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
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FUNDING PROGRAM

Highway Safety Improvement Program (HSIP)

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
USDOT Federal Highway Administration

PURPOSE / GOALS

A core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance.

APPLICANT ELIGIBILITY

States can receive funding from the HSIP program based on a reporting mechanism.

ELIGIBLE USE OF FUNDS

The Bipartisan Infrastructure Law (BIL) allows a State to use up to 10% of its HSIP funding for specified safety projects. This includes a project that:

- promotes public awareness and informs the public regarding highway safety matters;
- facilitates enforcement of traffic safety laws;
- provides infrastructure and infrastructure-related equipment to support emergency services;
- conducts safety-related research to evaluate experimental safety countermeasures or equipment; or
- supports Safe Routes to School non-infrastructure-related activities.

Grants funds can be used for the following construction activities:

- intersection safety improvements that provide for the safety of all road users, as appropriate, including multimodal roundabouts,
- construction and improvement of a railway-highway grade crossing safety feature, including installation of protective devices or a grade separation project,
- construction or installation of features, measures, and road designs to calm traffic and reduce vehicle speeds,
- installation or upgrades of traffic control devices for pedestrians and bicyclists including pedestrian hybrid beacons and the addition of bicycle movement phases to traffic signals,
- roadway improvements that provide separation between motor vehicles and bicyclists, including medians, pedestrian crossing islands, protected bike lanes, and protected intersection features,
- pedestrian security features designed to slow or stop a motor vehicle.

LOAN OR GRANT MAXIMUM & TERMS

2022: $2.980 Billion (total funding)
Each State's HSIP apportionment is calculated based on a percentage specified in law.

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

A State shall submit its HSIP report to the FHWA Division Administrator no later than August 31st of each year.

CONTACT
Karen Scurry
202-897-7168
karen.scurry@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
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WORKSITE
- Employee Parking Cash-Out Programs
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- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
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PUBLIC POLICY
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APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
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- Parking Management
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- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
Rails-to-Trails Conservancy
National Headquarters
202-331-9696

FUNDING PROGRAM

Trail Grants

VISIT WEBSITE

FUNDING TYPE
Private/Non-Profit

AGENCY
Rails-to-Trails Conservancy

PURPOSE / GOALS

Trail networks provide essential elements and have a proven transformative impact on America's communities. RTC's Trail Grants program invests in the infrastructure and programming that's necessary to create more access to trails for more people across the country. These grants help organizations and government agencies accelerate their trail network plans, while supporting community-based organizations working to connect more people to these spaces in neighborhoods across the country.

APPLICANT ELIGIBILITY

ELIGIBLE USE OF FUNDS

Grantees work to support, develop and activate local and regional trail networks. The projects and programs funded are helping to create equitable access to safe spaces where people can walk, bike and be active outside in the communities where they live.

LOAN OR GRANT MAXIMUM & TERMS

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - **Public Transit**
  - **HOV Facilities**
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
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  - Mobility as a Service
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  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

FUNDING PROGRAM

The Mega Grant Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation

PURPOSE / GOALS

Supports large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits.

APPLICANT ELIGIBILITY

Eligible applicants are:
- State;
- group of states;
- MPO;
- political subdiviions;
- local government

ELIGIBLE USE OF FUNDS

Highway or bridge project on National Freight, Highway, or Multimodal system or intermodal, intercity passenger rail or public transportation projects. Must be likely to yield mobility or safety benefits.

LOAN OR GRANT MAXIMUM & TERMS

$1.8 billion total. 50% reserved for projects greater than $500 million in cost, and 50% for projects between $100 and $500 million in cost.

ADDITIONAL REQUIREMENTS & TERMS

The Mega grant program funding will be made available under the MPDG combined Notice of Funding Opportunity (NOFO).

FUNDING CYCLE

Most recent cycle closed on August 21, 2023.

CONTACT
Office of the Secretary
MPDGrants@dot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - **Public Transit**
  - **HOV Facilities**
  - Non-Motorized Mode Support
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
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- LAND USE
  - Providing Affordable Housing
  - Complete Streets
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  - **Connectivity**
  - Development Impact Mitigation
  - Job/Housing Balance
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- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - **Mobility as a Service**
- SUPPORT
  - **Compact Development**
  - Facility Amenities
  - Guaranteed Ride Home
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FUNDING PROGRAM

Rural Surface Transportation Grant Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation

PURPOSE / GOALS

The Rural Surface Transportation Grant Program supports projects that improve and expand the surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability of the movement of people and freight, and generate regional economic growth and improve quality of life. Rural Surface Transportation grant program funding will be made available under the MPDG combined Notice of Funding Opportunity (NOFO).

APPLICANT ELIGIBILITY

Eligible applicants are:
- State;
- regional transportation planning organization;
- local government;
- Tribal government.

ELIGIBLE USE OF FUNDS

- A highway, bridge, or tunnel project eligible under the National Highway Performance Program, Surface Transportation Block Grant or Tribal Transportation Program.
- A highway safety improvement project, including a project to improve a high-risk rural road as defined by the Highway Safety Improvement Program.
- A project on a publicly owned highway or bridge that provides or increases access to an agricultural, commercial, energy, or intermodal facility that supports the economy of a rural area.
- A project to develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on demand mobility services.

LOAN OR GRANT MAXIMUM & TERMS

Rural grants may be used for up to 80 percent of future eligible project costs, except eligible projects that further the completion of a designated segment of the Appalachian Development Highway System under 40 U.S.C. § 14501.

ADDITIONAL REQUIREMENTS & TERMS

Address outcome criteria of safety, climate change, resiliency and environment, and equity. Subject to Build America Buy America.

FUNDING CYCLE

Most recent cycle closed on August 21, 2023.

CONTACT

Office of the Secretary
MPDGrants@dot.gov

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- **Flexible Public Transit**
- **Public Transit**
- **HOV Facilities**
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
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LAND USE
- Providing Affordable Housing
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PUBLIC POLICY
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- VMT Fee or Tax

APP BASED
- **Ride-matching Applications**
- **Mobility as a Service**

SUPPORT
- Compact Development
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- Transit Fare Subsidies
- Vanpool Fare Subsidies

CONTACT
Monica Guerra
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ThrivingCommunities@dot.gov

FUNDING PROGRAM

Thriving Communities Grant Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation

PURPOSE / GOALS

Funds state and local governments and their agencies, Tribal governments, and regional governments or organizations through cooperative agreements to provide support to communities selected by the applicant that are located within their jurisdiction or service area. The focus of this program is to enable state, Tribal, local, and regional governments to support the advancement of transportation opportunities in disadvantaged communities that align with state, Tribal, or regional housing, economic development, public health, climate, and other community development goals. While this program overlaps with the TCP-N Program in scope and purpose, it has a narrower focus on coordination and alignment within a specific geography. TCP-R Capacity Builders will play a coordination and capacity building role rather than providing intensive, tailored technical assistance.

APPLICANT ELIGIBILITY

Eligible applicants are:
- State governments,
- Indian Tribes,
- local governments,
- Governmental planning or transportation organizations working at the regional or metropolitan level,
- regional planning non-profit organizations

ELIGIBLE USE OF FUNDS

Eligible use of funds includes:
- Identifying and responding to funding opportunities that align with projects that implement local community mobility, access, climate and community development goals and regional or statewide plans,
- activities to support grant writing, project management, and compliance with grant administration requirements,
- conducting project scoping, planning, and pre-engineering studies, market, and other technical analysis,
- supporting comprehensive community planning activities that better coordinate transportation with other land use, housing, climate, health, and other infrastructure,
- evaluating and establishing emerging transportation and planning technologies, data systems, and software.

LOAN OR GRANT MAXIMUM & TERMS

TCP-R cooperative agreements are anticipated to be in the range of $1-2 million each in 2023.

ADDITIONAL REQUIREMENTS & TERMS

Will prioritize those communities working to advance projects to improve health outcomes; reduce housing and transportation costs; preserve or expand jobs and increase reliable mobility options for disadvantaged households to better access health care, food, education, and other essential destinations.

FUNDING CYCLE

Most recent cycle closed on November 28, 2023.

VISIT WEBSITE

TDM MEASURES

REGIONAL
- Park and Ride Lots
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FUNDING PROGRAM

The Passenger Ferry Program

FUNDING TYPE
Federal

AGENCY
Federal Transit Administration

PURPOSE / GOALS

- Designated recipients as defined in FTA Circular "Urbanized Area Formula Program: Program Guidance and Application Instructions" (FTA.C.9030.1E) and
- Direct recipients of FTA's Urbanized Area Formula Grants, as well as public entities engaged in providing public transportation passenger ferry service in urban areas that are eligible to be direct recipients.

APPLICANT ELIGIBILITY

Support or modernize passenger ferry service in rural and urban communities across the country. Across the country, there are approximately three million ferry riders each month. For many Americans ferries are the best way to travel, and provides an affordable, reliable, transportation option.

ELIGIBLE USE OF FUNDS

Supports capital projects to buy, replace, or modernize passenger ferries, terminals, and related equipment.

LOAN OR GRANT MAXIMUM & TERMS

$50.1 million is available, of which $5 million is set aside specifically for low- or zero-emission ferries and related facilities/equipment.

ADDITIONAL REQUIREMENTS & TERMS

FUNDING CYCLE

Last funding cycle closed on July 17, 2023.

CONTACT
Vanessa Williams
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FTAFerryPrograms@dot.gov

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - **Flexible Public Transit**
  - **Public Transit**
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  - **Non-Motorized Mode Support**
  - Vanpool
- WORKSITE
  - Employee Parking Cash-Out Programs
  - Transportation Management Associations
  - Alternative Work Schedules (compressed work weeks)
- LAND USE
  - Providing Affordable Housing
  - **Complete Streets**
  - Transit Oriented Development
  - **Connectivity**
  - Development Impact Mitigation
  - Job/Housing Balance
  - Mixed Land Use
- PUBLIC POLICY
  - Access Priority/Restriction
  - Trip Reduction Ordinances
- TELECOM
  - Internet-Based Strategies
  - Information Services/Broadband Expansion
  - Telecommuting (telework)
- PRICING
  - Gas Tax Increase
  - Parking Pricing
  - Road Pricing and Cordon Pricing
  - VMT Fee or Tax
- APP BASED
  - Ride-matching Applications
  - Mobility as a Service
- SUPPORT
  - Compact Development
  - Facility Amenities
  - Guaranteed Ride Home
  - Incentive Programs
  - Parking Management
  - Public Education and Promotion
  - Ride-Matching Services
  - Transit Fare Subsidies
  - Vanpool Fare Subsidies

CONTACT

FUNDING PROGRAM

Rural and Tribal Assistance Pilot Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
US Department of Transportation

PURPOSE / GOALS

The BIL created the Rural and Tribal Assistance Pilot Program, which makes $10 million available over five years to provide states, local governments, and tribal governments with grants to support project development leading to future applications to DOT credit or grant programs.

The grants can support legal, technical, and financial advisors to help advance infrastructure projects. The first notice of funding opportunity includes two fiscal years and makes $3.4 million available to eligible applicants on a first-come, first-served basis.

APPLICANT ELIGIBILITY

- A unit of local government or political subdivision that is located outside of an urbanized area with a population of more than 150,000 residents as determined by the Bureau of the Census
- A State seeking to advance a project in an area located outside of an urbanized area with a population of more than 150,000 residents as determined by the Bureau of the Census
- A federally recognized Indian Tribe
- The Department of Hawaiian Home Lands

ELIGIBLE USE OF FUNDS

Eligible project sponsors may receive grant funds to select advisors to assist with pre- development-phase activities, including:

- feasibility studies
- project planning
- revenue forecasting and funding and financing options analyses
- preliminary engineering and design work
- environmental review
- economic assessments and cost-benefit analyses
- public benefits studies
- statutory and regulatory framework analyses
- value-for-money (VFM) studies
- evaluations of costs to sustain the project
- evaluation opportunities for private financing and project bundling

LOAN OR GRANT MAXIMUM & TERMS

$10,000 to $360,000.

ADDITIONAL REQUIREMENTS & TERMS

N/A

FUNDING CYCLE

Last funding cycle closed on September 28, 2023.

TDM MEASURES

REGIONAL
- Park and Ride Lots
- Alternative Mode Sharing
- Carsharing
- Flexible Public Transit
- Public Transit
- HOV Facilities
- **Non-Motorized Mode Support**
- Vanpool

WORKSITE
- Employee Parking Cash-Out Programs
- Transportation Management Associations
- Alternative Work Schedules (compressed work weeks)

LAND USE
- Providing Affordable Housing
- Complete Streets
- Transit Oriented Development
- Connectivity
- Development Impact Mitigation
- Job/Housing Balance
- Mixed Land Use

PUBLIC POLICY
- Access Priority/Restriction
- Trip Reduction Ordinances

TELECOM
- Internet-Based Strategies
- Information Services/Broadband Expansion
- Telecommuting (telework)

PRICING
- Gas Tax Increase
- Parking Pricing
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APP BASED
- Ride-matching Applications
- Mobility as a Service

SUPPORT
- Compact Development
- Facility Amenities
- Guaranteed Ride Home
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- **Public Education and Promotion**
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CONTACT
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FUNDING PROGRAM

League of American Bicyclists Community Spark Grants

VISIT WEBSITE

FUNDING TYPE
Private/Non-Profit

AGENCY
League of American Bicyclists

PURPOSE / GOALS

Create Bicycle Friendly Communities and build capacity for local leaders and influencers by uplifting the community and creating inclusive coalitions that can shed new light on current issues.

APPLICANT ELIGIBILITY

- Public or Government Agencies/ Organizations (e.g. Library, Parks and Rec Department).
- Non-Profits - 501(C)(3), 501(C)(4), and 501(c)(6).
- Other types of organizations will be considered on a case-by-case basis.
- U.S.-based organization.

ELIGIBLE USE OF FUNDS

Funds may support a wide range of bicycling-related projects such as but are not limited to, short-term pop-up events, education campaigns, tactical urbanism demonstrations, educational events or resources, accessibility audits, or street safety improvements. We are especially looking for projects with new perspectives that increase opportunities for healthy and active ways to get around, focus on issues faced by people from underserved or under-resourced populations, and include authentic engagement with the community.

LOAN OR GRANT MAXIMUM & TERMS

$1500 each for 15 organizations.

ADDITIONAL REQUIREMENTS & TERMS

Of the 15 organizations to receive awards, 7 must be in GM home communities. (List of eligible GM Communities https://bicyclefriendly.secure-platform.com/a/page/spark/GM.) Seeking proposals for projects that can be completed by the end of the calendar year (December 31, 2024).

FUNDING CYCLE

Next funding cycle closes on February 01, 2024.

TDM MEASURES

- REGIONAL
  - Park and Ride Lots
  - Alternative Mode Sharing
  - Carsharing
  - Flexible Public Transit
  - Public Transit
  - HOV Facilities
  - Non-Motorized Mode Support
  - Vanpool
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  - Vanpool Fare Subsidies

FUNDING PROGRAM

Community Connect Grant Program

VISIT WEBSITE

FUNDING TYPE
Federal

AGENCY
Rural Development, US Department of Agriculture

PURPOSE / GOALS

The purpose of the Community Connect Program is to provide financial assistance in the form of grants to eligible applicants that will provide, on a "community oriented connectivity" basis, broadband service that fosters economic growth and delivers enhanced educational, health care, and public safety benefits.

APPLICANT ELIGIBILITY

- Incorporated organizations
- Federally-recognized Tribes
- State and local units of government
- Any other legal entity, including cooperatives, private corporations, or limited liability companies organized on a for-profit or not-for-profit basis

ELIGIBLE USE OF FUNDS

Must be in Rural areas that lack any existing broadband speed of at least 25 Mbps downstream and 3 Mbps upstream are eligible.The construction, acquisition, or leasing of facilities, spectrum, land or buildings used to deploy broadband service for:

- All residential and business customers located within the Proposed Funded Service Area (PFSA)
- All participating critical community facilities (such as public schools, fire stations, and public libraries)
- The cost of providing broadband service free of charge to the critical community facilities for 2 years.
- Less than 10% of the grant amount or up to $150,000 may be used for the improvement, expansion, construction or acquisition of a community center that provides online access to the public.

LOAN OR GRANT MAXIMUM & TERMS

ADDITIONAL REQUIREMENTS & TERMS

Buildings constructed with grant funds must be located on property owned by the awardee.

Leasing expenses will only be covered through the advance of funds period included in the award documents.

Grantees must have legal authority to provide, construct, operate and maintain the proposed facilities or services

Partnerships with other federal, state, local, private and non-profit entities are encouraged For additional detail see Code of Federal Regulations 7 CFR, Part 1739

FUNDING CYCLE

Most recent cycle closed on June 20, 2023.

CONTACT
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