



Ohio
Department of Health



Public Transit and Health Implementation Guide

September 2019

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Key Terms

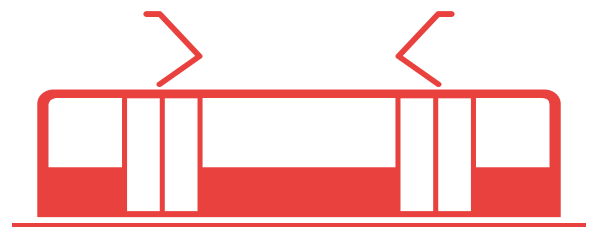
Public transit is an essential community resource that allows people to safely and reliably access their everyday destinations and needs, such as jobs, schools, healthcare, and healthy food.¹ To effectively discuss public transit use and policy, it is helpful to have a basic understanding of the following key terms.

- » **Accessibility** – The ability of public transportation users to access all transit modes and information.
- » **Environmental Justice** – The “equal treatment and meaningful involvement of all people, irrespective of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, policies, and development projects.”²
- » **First Mile/Last Mile Connection** – The gap between the beginning or end of a public transportation trip and an individual’s origin or destination. While walking is often an acceptable connection, it is not always feasible due to longer distances or missing infrastructure. First mile/last mile connections may be covered with a variety of strategies, including walking, biking, local transit, ride hailing, and/or microtransit.
- » **Frequency** – The number of vehicles per unit of time that pass a given stop.
- » **Headway** – The time between the arrival of each transit vehicle at a given stop.
- » **High-quality transit service** – A fixed route transit service with a maximum 15-minute headway during peak travel times.
- » **Mobility** – The movement of people or goods (in public transit, usually measured as passenger-miles).
- » **Regional Transit Authority** – A transportation provider that is structured as a political subdivision of the state.
- » **Transportation Demand Management (TDM)** – TDM focuses on how people can best use existing transportation infrastructure more efficiently.³ TDM involves programs and strategies that encourage people to change their behavior by exploring their options and trying new modes of getting around other than driving alone.

Types of Public Transit

The term “public transit” can refer to a wide variety of types of services and systems. This section briefly describes the different types of public transit and related terms.

- » **Fixed or Published Route:** Public transit that follows a pre-determined route and posted schedule. A main driver of fixed route service planning is efficiency, or the ability to transport the most people at the lowest cost. This often means focusing on rush hour travel to/from a community’s primary employment center.
 - » **Fixed Guideway Systems** use a separate right-of-way or rail. They can include heavy rail/metro systems, light rail, commuter rail, streetcar, and bus rapid transit systems.
 - » **Rail Systems** require more planning time and funding to implement and often result in land use changes that strengthen the local economy through denser development.
 - » **Bus Rapid Transit (BRT)** systems combine the lower cost of bus service with a fixed-guideway-type dedicated travel lane along streets.
 - » **Published bus routes** can adapt more easily to ridership or development changes. Bus service can also adapt to needs in rural communities. Because of the relatively low set-up cost, communities establish bus systems before considering more costly fixed guideway systems.
- » **Deviated Fixed Route –** A transportation service that has routes and schedules but can modify the route to a limited extent based on passenger requests for origins and destinations.
- » **Demand Response Transit (DRT) –** A transportation service lacking a fixed schedule and route. Demand response transit uses advance scheduling and live requests from the passenger to provide transit flexibility. Public entities, nonprofits, and private companies can all provide DRT.⁴
- » **Paratransit –** Specialized transit services for people with disabilities. Paratransit can either be demand-responsive or may run along a fixed route. Public transit systems are required through federal mandate to provide comparable paratransit service for individuals who are unable to use fixed route systems. In systems where only DRT is offered, separate paratransit services are usually not required.⁵
- » **Microtransit –** Flexible, private multi-passenger transportation services that use information technology to dynamically generate routes. Microtransit may provide door-to-door service or pick up from designated points, and use a range of vehicles from SUVs to small buses. Microtransit is most commonly used for first mile/last mile connections or to serve specific destinations or employers.
- » **Mobility on Demand Service (MOD)**
 - Multimodal, integrated, automated, accessible, and connected transportation system in which personalized mobility is a key feature. MOD allows for the use of on-demand information, real-time data, and predictive analysis to provide travelers with transportation choices that best serve their needs and circumstances. MOD leverages



technologies that allow for a traveler-centric approach to provide better mobility options for everyone. In recent years, and in part because of competition from bikeshare and ride-hailing services, more transit agencies now offer route deviation and demand response service distinct from paratransit service, funded through the federal Mobility on Demand program. These models are valuable in suburban and rural areas that lack robust public transit service.⁶

» **Human Services Transportation –**

Transportation services to meet the needs of people who do not drive or cannot use fixed route transit service, especially older adults and individuals with low incomes or disabilities. This may include a combination of dial-a-ride or DRT, transit passes, taxi vouchers, and/or mileage reimbursement. Public transit agencies may also work with human service transportation programs to coordinate medical and social service transportation, using a single call center to schedule trips.

» **Mobility Management –** A community-based and collaborative approach to designing and delivering transportation based on user need. With mobility management, transit agencies often take a broad role of connecting suppliers and customers of transportation by coordinating between public transit and multiple human services transportation providers.

» **Urban Public Transit –** For the purposes of FTA funding requirements, Section 5307, urban transit systems serve urbanized areas with populations over 50,000.

» **Rural Public Transit –** For the purposes of FTA funding requirements, Section 5311, rural transit systems serve nonurbanized areas.

» **Rural Regional Transportation –**

Transportation from a rural area that crosses county or jurisdictional boundaries to serve a destination that has services (e.g., medical, educational, employment, retail, government) not available in the rural area.

» **Intercity Transportation –** Transportation between non-urbanized areas and urbanized areas that result in connections of greater regional, statewide, and national significance.





Partnering to Improve Public Transit

Improvements to public transit networks can have wide-ranging effects on personal, community, and environmental health. Public health practitioners interested in advocating for public transit will need to work together with other members of their communities to identify needs, opportunities and priorities to move towards a healthier transportation system for all.

Transit Actors

Implementing changes to public transit systems requires partnership and collaboration between many agencies and organizations, including:

- » **Federal Transit Authority (FTA):** A US Department of Transportation division that administers federal funding for public transit.
- » **Ohio Department of Transportation (ODOT):** Distributes state and federal funding and provides technical assistance.
- » **Metropolitan Planning Organization (MPO)/Regional Transportation Planning Organization (RTPO):** Undertakes transportation planning and distributes funding for a region. Maps of Ohio [MPOs](#)⁷ and [RTPOs](#)⁸ can be found on ODOT's website.
- » **Transportation Provider:** an organization, company, agency or other entity that provides transit services. Ohio currently has 61 public transportation systems,⁹ along with numerous human services transportation providers.
- » **Regional Transit Authority:** A transportation provider that is structured as a political subdivision of the state.
- » **Mobility Manager:** Coordinates between transit providers and transit users.
- » **Transit Workers:** Call center, operations, human resources, planning, maintenance, and all other staff that make a transportation provider function.
- » **Human Services Agency:** May provide some transportation services, and/or has clients with transportation needs.
- » **Department of Public Works:** Local government agency that makes decisions about and implements changes to the built environment and transportation network.
- » **Riders and potential riders:** Individuals who use public transit or are interested in using it.
- » **Public health practitioner:** Teaches the community about healthy behaviors and convenes partners to make public health improvements.

Public Health Practitioners' Role in Transit

Public health practitioners who are interested in supporting and expanding transit access can be effective at convening stakeholders and making the case for how public transit can impact public health. Steps they can take include:

- » In areas with regional transit service, promote and support regional communication and collaboration with public health colleagues in neighboring jurisdictions.
- » Help identify specific groups or health disparities that could be addressed through transit improvements, for example by utilizing the [USDOT Transportation and Health Tool](#).¹⁰
- » Convene stakeholders and members of the public to form coalitions and identify gaps and needs in the transit system.
- » Lead efforts to ensure all transit planning decisions are made through community engagement with all affected groups.
- » Participate in transit planning initiatives to analyze the potential health impacts of proposed changes, such as Locally Coordinated Transit Plans and Transportation Improvement Plans.
- » Publicly support and participate in initiatives to reallocate or raise new funds for transit and transit-supportive infrastructure.
- » Support the development of transit-supportive infrastructure.
- » Educate the public on their transportation options.

Considerations for Successful Public Transit

Land Use and Population

- » High-density development
- » Demographics

Transportation Networks

- » Connected active transportation networks
- » Complete streets/dedicated space

Station design and amenities

- » Universal design/accessibility
- » Comfortable stations
- » Real time information and wayfinding

Operations

- » Technology
- » Frequency and reliability

Politics

- » Political will
- » Funding



Implementation Strategies

This section explores specific ways in which communities can identify and implement changes to public transit in both urban and rural contexts. It includes various outcomes with corresponding strategies that should be selected based on a community’s need.

Strategy <i>(strategies below linked to corresponding page)</i>	Page	Outcomes					
		Improve service	Increase ridership	Reduce injuries	Support service expansion	Ensure equitable access	Increase political will
Design streets that prioritize transit	7	●		●		●	
Design and site stations for safe multimodal access	8	●	●	●		●	
Implement land use changes to encourage density and walkability	9	●	●		●		
Implement service changes to better meet customer needs	10	●	●		●	●	
Implement new technologies for better communications, payment and/or scheduling	11	●	●			●	
Start a Mobility Management program	12	●	●		●	●	
Provide fare assistance to those in need	13		●			●	
Promote, educate and market transit service	14		●				●
Support resident-led coalition building	15	●	●			●	●

Design streets that prioritize transit

The majority of our streets are designed to prioritize the quick movement of private automobiles. This comes at the expense of less dedicated space for other users, and increased traffic congestion. Transit vehicles need far less road space per person than private vehicles and move people more efficiently. Different street designs can prioritize the quick movement and on-time performance of transit vehicles, provide more space for well-designed transit stops, and reduce conflicts with other road users. While many of the principles described below are often associated with bus rapid transit lines, they can also be applied to standard transit lines, alone or in combination, to increase efficiency.

- **Dedicate transit priority lanes.** Dedicated space allows transit vehicles uninhibited travel even when there is traffic congestion in other lanes. Transit priority lanes can be physically separated by curbs or other hardscape features, also known as a fixed guideway; or marked with paint or colored pavement to differentiate a “bus only” lane. Bus only lanes may be dedicated at all times of the day, or access may be restricted to other modes only during peak hours using signage and enforcement. Signal priority technology can augment transit priority lanes. Traffic signals automatically detect an approaching bus and change the light to green, creating a green wave to reduce stopping and travel times. For commuter routes that travel on highways, buses may also be permitted to travel on shoulders during peak hours where space is available, allowing them to bypass traffic congestion.
- **Install boarding platforms.** These allow transit vehicles to stop for passengers within the travel lane, saving time and reducing the risk of collisions that occur when buses must merge back into the travel lane. These can be created with curb bulbouts that extend into the parking lane; floating islands that allow bicycle lanes to continue behind the

platform; or temporary solutions that allow for rapid implementation and testing. Boarding platforms can be raised to the level of the bus doors to reduce the need for bus “kneeling” and simplify boarding and alighting for users with mobility devices, wheelchairs and other mobility challenges. Boarding platforms also provide additional space for placing transit shelters, ticketing machines, and other amenities.

- **Collect fares off-board.** Collecting fares before passengers board the bus can support these other measures to ensure the efficient movement of buses. Ticketing machines, mobile apps, and/or random fare enforcement allow riders to pay for their ride before (or even after) they get on the bus rather than waiting in line at the door to pay, which can cause delays.

Resources

- [NACTO, Transit Street Design Guide](#)¹¹
- [Mineta Transportation Institute, Shared-Use Bus Priority on City Streets](#).¹²
- [Streetsblog USA, Snapping Together a Better Bus Stop](#).¹³
- [Citylab, Building Better Bus Stops Can Be a Snap](#).¹⁴



Bus and bike only lane.

Design and site stations for safe multimodal access

For a transit system to be truly accessible to the population, people should be able to arrive by bike, walking, and by personal vehicle (where appropriate). Station siting and design are important elements of an accessible transit network. Research has shown that improving access conditions has a direct impact on people's willingness to take transit, and in some cases can be just as effective as changes to service.¹⁵ Stations should serve as mobility hubs that offer seamless integration between a wide range of modes by considering the unique needs of each mode user.

• Pedestrian access should consider:

- » Comfortable sidewalks on both sides of the street that are continuous and well maintained over time.
- » Logical network of pedestrian connections that offer legible, direct pathways within at least one mile of transit stations.
- » Frequent, safe crossing opportunities within one mile of stations and stops to minimize pedestrian delays and detours.
- » Traffic calming to slow vehicle speeds on roads with or near transit stations and stops and increase safety for pedestrians.
- » Pedestrian scaled lighting for personal comfort and for safety at crossings.
- » Enhanced pedestrian realm that is inviting and comfortable, such as improved streetscape with amenities and adjacent storefronts.
- » Universal design elements and ADA compliance that improve accessibility for all ages and abilities.
- » Sidewalk maintenance and snow clearance to ensure access year-round.

• Bicycle and scooter access should consider:

- » Dedicated routes that connect to the stop within a three-mile radius, with a preference for separated facilities.
- » Traffic calming to slow vehicle speeds and increase cyclist comfort and safety.



Accessible bus shelter and wide sidewalk.

- » Well-connected bike network that continues through intersections, accesses stops directly, and connects to surrounding roads and trails.
- » Protected long-term bicycle parking located close to stations that allows bicyclists to leave their bicycles safely throughout the day.
- » Bike racks on buses that allow riders to bring their bikes with them.
- » Bike share stations located at or near stops and stations.

• Curbside access should consider:

- » Separate curbside areas for bus transit, ride hailing, and pickup/dropoff. Space should be allocated to maximize function as a mobility hub for multiple modes.
- » Delineated space for each mode to reduce conflicts.

• Transit vehicle access should consider:

- » Exclusive lanes (always or during peak).
- » Clear, direct transfers between buses.

• Automobile access should consider:

- » Park and rides in low-density areas.
- » Shared parking partnerships with commercial buildings and weekend uses, such as religious institutions.
- » Guaranteed parking for people carpooling to the park and ride.

- » Designated parking and pickup spaces for ride hailing services.

Resources

- [Transit Cooperative Research Program, Guidelines for Providing Access to Public Transportation Stations.](#)¹⁶
- [Ohio Department of Health, Bicycle Infrastructure Frequently Asked Questions.](#)¹⁷
- [Ohio Department of Health, Pedestrian Infrastructure Frequently Asked Questions.](#)¹⁸
- [Seattle Department of Transportation, Flex Zone/Curb Use Priorities in Seattle.](#)¹⁹
- [King County Metro, Transit Corridors, Parking & Facilities.](#)²⁰



Bike lockers at a Park and Ride.

Implement land use changes to encourage density and walkability

Built environments that are walkable and bikeable are typically transit-friendly as well. Fixed route service is most feasible in walkable environments with high population densities and many destinations. These characteristics will also support walking and bicycling. Communities should consider transit as a key element in their growth and development.

• **Promote transit-oriented development (TOD).**

A TOD is a dense mixed-use town center node around a major transit station or hub. TODs are high-density, walkable districts with a mix of housing, retail, and services within a ten-minute walk of a transit station. TODs also feature reduced or managed parking since more people are able to use transit for their mobility needs. TOD can be encouraged through land use planning, zoning laws, building codes, and tax incentives. It can facilitate transit use in urban areas, as well as in suburban areas and regional nodes where longer-distance commuter transportation is available, such as light rail or BRT. Affordable housing is a crucial element to include in TOD to ensure equitable access to reliable transit for underserved groups. Funding from the Federal Transit Authority and other sources may be leveraged to support TOD when coinciding with a federally funded transit project.

Resources

- [ODH, Land Use and Health Implementation Guide.](#)²¹
- [FTA, Transit Oriented Development.](#)²²
- [Newurbanism.org, Transit Oriented Development Advances.](#)²³
- [Urban Land Institute, Ten Principles for Successful Development Around Transit.](#)²⁴
- [Institute for Transportation Development Policy, TOD Standard.](#)²⁵
- [Transit Oriented Development Institute, Transit Oriented Development.](#)²⁶

Implement service changes to better meet customer needs

According to one national study, “transit service that is infrequent, slow, and unreliable” is one of the top complaints of transit riders.²⁷ Addressing these factors should be a top concern both for improving service for existing riders and encouraging new riders to start taking transit.

- **Increase the frequency of service and/or expand the service hours.** More frequent buses make transit a more convenient and reliable option. In many smaller systems, service hours are limited to weekday business hours, and therefore are not serving a large number of trips that people may take outside of those hours. Additional funding is usually needed to increase service. However, with limited resources, transit providers may have to choose between coverage and frequency.

» Coverage refers to the geographic area that the transit system serves. Transit agencies that focus on coverage try to reach as many places as possible, so everyone gets some level of access.

» Frequency refers to how often the bus comes. Transit agencies that focus on



Demand responsive transit service.

frequency may be interested in increasing their ridership by providing a more convenient service.

There is a basic tension between these two strategies. Networks with lower coverage may be able to provide higher frequency, because their buses have to travel shorter distances and can re-circulate more times per day. However, transit providers may have to offer on-demand and paratransit service to areas that fixed routes do not serve. In addition, service during off-peak hours may not have high ridership numbers but can provide crucial access for third shift or late-night workers. Tradeoffs between frequency and coverage should be made through partnership and engagement with the groups who would likely be affected by any service changes.²⁸ Expanded routes or service hours can also be offered on a trial basis to measure response and usage before being implemented permanently.

- **Institute free or low-cost circulators.** In key locations, these can provide transit access to popular destinations and also help communities reduce their parking needs. Circulator services are appropriate for downtown loops, tourist areas, and some employment or educational centers with the potential for high ridership to supplement other fixed route or demand-response services. Circulators can also serve specific communities, such as older adults. Effective circulator services can be costly to operate, and therefore should be designed to maximize ridership. This includes having high frequency (10-15 minute headways), charging low or free fares, and operating all week and with extended hours on the weekend. Transit agencies and community partners should support circulator services with a strong branding campaign to encourage ridership, and a dedicated funding source.
- **Explore providing shuttle services to major destinations.** These can encourage new and existing transit riders to skip the inconvenience of driving and parking and take



Via to Transit first/last mile service.

transit. This could include programs similar to COTA's Ohio State University (OSU) football service that provides express service from select park and rides on game days²⁹ or King County Metro's Trailhead Direct program that provides shuttle service from transit hubs to popular hiking destinations on the weekends in the summer.³⁰ Circulators can also introduce people who do not normally take the bus to transit and encourage them to explore it for other trips in the future.

- **Provide first and last mile services.** Such services can connect riders to and from destinations that are beyond a transit system's standard coverage area. If well executed, these services have the potential to geographically expand access to transit. Microtransit providers such as Via use smaller vehicles and mobile apps to schedule and provide such trips.³¹ These services may include circulator buses to specific employers or destinations, or demand response that takes people to their front door. Communities looking to implement such measures should be cautious to ensure that microtransit services are complementing, rather than competing with, fixed route transit. Because microtransit companies are not administered publicly, local government agencies must regulate and monitor these companies closely to ensure that they are acting in the public interest.

- **Start a new transit service.** This may be daunting, but a large part of Ohio's population currently has no access to transit. Local jurisdictions can apply for funding from ODOT's Rural Transit Program or Urban Transit Program on an annual basis. Service may also be expanded from a neighboring jurisdiction through contracts and agreements.
- **Conduct Title VI and Environmental Justice reviews.** Providers should review any proposed changes to service to determine if current service and/or changes to service have discriminatory or disparate impacts on low income communities and/or communities of color.

Resources

- [ODOT, Urban Transit Manual.](#)³²
- [ODOT, Rural Transit Manual.](#)³³
- [National Rural Transit Assistance Program.](#)³⁴
- [FTA, Mobility on Demand \(MOD\) Sandbox Program.](#)³⁵

Implement new technologies for better communications, payment and/or scheduling

New technologies can help increase awareness of available transit services and improve ease of use. Technology can provide real-time information on transit arrival times, access to on-demand services, facilitate fare payment, and even transition between modes.

- **Provide passenger information systems at stops and stations.** Showing real-time information and any delays in service directly at stops is an equitable way to serve all transit users, regardless of access to cell service. Transit agencies can use text messages that allow riders to text a number to obtain information about their stop. These systems may be added to existing transit infrastructure and/or incorporated as new services are implemented. For example, the City of Pittsburgh launched a text-based information system in 2018 to complement their existing online information tools.³⁶

- **Implement smart phone applications.** Apps such as Transit App and others are becoming increasingly common. These provide routing, GPS tracking and real-time information for riders; Transit App also shows walking, bike share, and ride hailing options, and is piloting in-app purchases of tickets. Local transit systems pay a fee to Transit App to integrate their service into the app and provide GPS trackers on buses. App users' locations also help provide accurate real-time information. Some local systems have developed their own custom apps that integrate bus information and payment.

- **Provide varied payment options.** A variety of options helps ensure that all riders, including people with or without smart phones, people with credit cards, and people who are unbanked, can easily pay for their ride. Smart cards and passes may be reloadable online or at payment machines by card or by cash. For passengers paying on board with cash, change cards should be provided if they don't have exact change for the fare. Mobile tickets that can be bought and displayed on a smart phone allow users to ride the bus even if they don't have cash handy. In some systems, the same payment card can be used to access buses, trains, and bikeshare across multiple providers. There are many services available to provide these options, or transit agencies can develop custom solutions. Cincinnati's Metro system offers the EZRide App to pay for bus and streetcar tickets, along with ticketing stations and traditional farebox collection systems on board.³⁷ Portland, OR's TriMet allows riders to pay with their phones using Apple Pay.³⁸

- **Implement scheduling systems** for demand response services. These should be easy for transit providers and riders to use. Systems with a provider interface can allow medical and other service providers to directly schedule transportation for their patients while scheduling an appointment. Several new technologies are currently under development through the FTA Mobility On Demand Sandbox Program (see Best Practices Report)

aimed at improving trip planning and multi-modal integration. New Haven, Connecticut launched a new Trip Connect App that allows paratransit users to request trips and check bus status from their phones.³⁹

Resources

- FTA , Mobility on Demand (MOD) Sandbox Program.⁴⁰

Start a Mobility Management program

ODOT provides funding for local agencies to hire Mobility Managers in small towns and rural regions. Mobility Managers help coordinate transportation options to meet the needs of transit users (See Best Practices Report). Jurisdictions interested in hiring a mobility manager should follow the steps below.

- **Survey residents on their transit needs.**

Start by surveying residents from a variety of demographics to understand their transportation needs and gaps in service.



Real-time transit information.

Create an inventory of all the providers currently offering any type of transportation service in the community.

- **Create a coordinated transportation plan.**

ODOT awards grants to communities based on a locally developed, coordinated public transit - human services transportation plan. These plans identify community resources for transportation and mobility, analyze the gaps and unmet needs within those resources, and determine how to address them. Plans should be developed in partnership with seniors, individuals with disabilities, representatives of public, private, and nonprofit transportation and human services providers, and other members of the public. ODOT provides guidance and templates for communities developing plans. Public health practitioners should play a major role in such planning processes by convening stakeholders and promoting the public health benefits of the plan.

- **Apply to ODOT for funding.** Applications are accepted through a two-step process, with a letter of intent due annually around October and a full application due around March. Eligible entities include non-profits and government authorities in small urbanized or rural areas. Funding is provided through Section 5310 and requires a 20 percent local match for funding. Typical programs have an

annual cost of around \$80,000.

Resources

- [ODOT, Ohio Mobility Management Program.](#)⁴¹
- [ODOT, Locally Developed, Coordinated Public Transit-Human Services Transportation Plans.](#)⁴²
- [FTA, Enhanced Mobility of Seniors and Individuals with Disabilities Program.](#)⁴³

Provide fare assistance to those in need

Nearly all transit rides are subsidized in some way. However, individuals with the greatest need include low-income people, zero car households, students, older adults, and people with disabilities. Providing fare assistance can increase ridership and create more equitable access to transit services. Because farebox recovery on many systems covers a minimal part of the overall cost of running a system, subsidizing some fares can have minor impacts on system budgets and major impacts on families' personal resources.

- **Explore group purchase agreements.** Paying for transit passes in bulk can help reduce prices overall. For example, the Ohio State University charges a very low annual fee (around \$13) to all students for an unlimited bus pass on Columbus' COTA system.⁴⁴ Because not all students will use the pass, the sheer number of students paying the fee helps cover the cost for those who do. Similarly, the CPass program charges downtown Columbus property owners an annual fee to provide free bus passes for tens of thousands of downtown workers, leading to a measurable increase in transit use.⁴⁵
- **Provide reduced fares for the elderly, students, people with disabilities, and other groups.** Direct subsidies can be provided to help reduce the cost of transit for riders in need. ODOT reimburses the difference in fares to systems who provide a fare discount to the elderly and disabled, up to 50 percent of the full fare, through the Elderly and Disabled



Surveying residents about their community needs.

Transit Fare Assistance Program. This is required by state law, and available funds are allocated first to rural and small urban systems. In 2018, only 27 of the state's 61 transit providers applied for reimbursement. Eligible systems are those receiving allocations from ODOT's Rural Transit Program or Urban Transit Program. Transit agencies can also provide reduced cost transit passes to residents meeting certain income eligibility requirements, which are funded through increased fares for full-paying riders, tax levies, congestion pricing, and/or general funds.

Resources

- [COTA, Downtown Cpass.](#)⁴⁶
- [ODOT, Elderly & Disabled Transit Fare Assistance Program.](#)⁴⁷
- [City of New York, Fair Fares NYC.](#)⁴⁸

Promote, educate and market transit service

In many areas, transit services may be underused due to stigma or lack of information. Automobile manufacturers invest billions annually in marketing cars, yet most transit systems do not dedicate significant funds to their own publicity campaigns. Some potential users may be interested in trying transit but do not know how to start. Public campaigns, TDM programs, and/or targeted information may help increase ridership.

- **Build a strong brand.** In many communities, car culture is still dominant, and a sense of stigma has evolved around riding the bus. A modern brand that portrays transit as clean, reliable, safe, and comfortable can help overcome such perceptions, especially as changing demographics create new opportunities for increasing transit ridership. A clever brand identity and campaign can change people's ideas about how riding transit can look and feel. Economic development and tourism groups can help create a brand that is attractive and cohesive with other local branding efforts.



An off-board ticketing machine.

- **Educate riders and potential riders on how to use transit, starting at a young age.** One barrier to using transit or trying out a new transit service can be a lack of knowledge about where it goes or how to use it. User education may involve integration into school curricula or demonstration events and informational kiosks when opening a new service. Free or discounted bus passes for high school students can incentivize younger people to try transit while also increasing their mobility.⁴⁹ Some transit agencies also employ guides to help new riders navigate the system.
- **Standardize user information systems for effective navigation.** Transit user information systems should make it clear where and how to access transit for people of all ages, abilities, and literacy levels. Signage should be intuitive and context sensitive, providing clear information on connections and routes available. Transit information should be available in multiple languages according to local demographics.
- **Publicize demand response services to Medicare and Medicaid recipients and other key groups.** Medicare and Medicaid health providers are in regular contact with

their patients, many of whom need access to transportation options to reach their appointments. Health providers should understand what public transit options are available and can communicate that information to their patients or connect them with a Mobility Manager for assistance with scheduling.

- **Implement community-based TDM programs.** Programs that educate residents about their current transportation options can encourage them to explore new ways of getting around. Successful programs usually provide an incentive to help support participants' behavior change. Surveying participants and measuring behavior changes from pre- to post-program implementation can help track progress.

Resources

- [King County Metro, In Motion Toolkit.](#)⁵⁰
- [EMBARQ, From Here to There.](#)⁵¹
- [Trapeze, Transit Marketing Campaigns.](#)⁵²
- [Mobility Lab, Austin's transit marketing.](#)⁵³
- [Citylab, The World's Most Elegant Public Transit Campaign.](#)⁵⁴
- [ODH, Active Commute Support FAQ Factsheet.](#)⁵⁵



TDM marketing materials promoting transit use.
(Source: King County Metro, via Facebook)

Support resident-led coalition building

At times, transit service is underfunded and underused due to a lack of political will. Especially in rural areas and small towns, transit riders come from many demographic backgrounds, but may not have the opportunity to organize or advocate for better service. Public health practitioners and other professionals can help reach out to members of the public to provide opportunities for collaboration and organization to create the political will to make change.

- **Engage a wide constituency of transit users and supporters.** Any coalition focused on improving public transit should work to engage transit-dependent populations, environmental and active transportation organizations, labor unions, transit drivers, healthcare providers, disability rights groups, students, supportive employers, chambers of commerce, and other allies. Surveying current transit riders to understand their needs and develop a set of common priorities is an important first step.
- **Propose ballot initiatives or legislation for transit funding.** Organized community groups can provide the political will to pass important legislation in support of transit. This could include creating a ballot issue to levy taxes for funding transit improvements, preventing cuts in funding or service, or developing new innovations to improve transit.

Resources

- [Transportation for America, Fight for your Ride.](#)⁵⁶
- [Good Jobs First, Organizing Transit Riders.](#)⁵⁷



Funding Sources

Funding for public transit comes from a wide range of federal, state, and local sources. The tables below provide basic information on the potential avenues to search for funding; for more information follow the links in the first column. Many state and federal sources require local matching funds to qualify. Funding is often earmarked for only planning, capital, or operating costs. This information is subject to change.

Federal

Large transit agencies can access certain federal funds while other grants are dispersed by ODOT.⁵⁸

State

ODOT allocates most state funding in Ohio.^{59 60}

Local

Local jurisdictions also contribute resources to supporting their transit systems and providing local match dollars to access federal funding sources.⁶¹

Federal Grants and Set-Asides

Funding Source	Funding Amount	Eligible Locations	Allowable Expenses			Description	Local Match Requirement
			Planning	Capital	Operating		
<u>Ohio Transit Preservation Partnership Program</u>	\$33 million (\$10 million based on a formula, with remaining funds based on a competitive application)	Urban transit systems receiving Federal Section 5307 Funds		●		Funds urban transit systems to maintain, sustain or keep in good sound state.	Usually 20% for capital projects and at least 50% for operating. Requirements differ between the urban and rural areas.
<u>Ohio Public Transportation Grant Program</u>	\$28 million		●	●	●	Federal funds allocated through the Urban Transit Program (Section 5307) and the Rural Transit Program (Section 5311) for operating and capital expenses.	Usually 20% for capital projects and at least 50% for operating. Requirements differ between the urban and rural areas.
<u>Specialized Transportation Program</u>	\$4.4 million	Small urban communities, or rural communities		●	●	Providing transit for those with disabilities (beyond traditional public transit and ADA paratransit services.	20%
<u>Urbanized Area Formula Grants (Section 5307)</u>	\$94 million, allocated based on a formula	Urbanized areas with population over 200,000	●	●		Funding for transit in urbanized areas, allocated directly to large transit systems.	20%
<u>Various FTA grants</u>	Amount varies significantly by program	Urban and rural areas (depending on programs)	Varies. See this page for more details: https://www.transit.dot.gov/grants			Money is distributed through ODOT. Requirements are set by the different programs.	Usually 20%, but often there are relaxed requirements for rural areas.

Flexible Federal Funding							
Funding Source	Funding Amount	Eligible Locations	Allowable Expenses			Description	Local Match Requirement
			Planning	Capital	Operating		
<u>National Highway Performance Plan (NHPP)</u>	\$801 million (expected for Ohio)	Statewide, and Ohio localities	●	●		Focuses on highway construction, but some transit projects may be eligible.	20% state match in most cases; lower in limited instances.
<u>Surface Transportation Block Program (STBG)</u>	\$372 million	Statewide, and Ohio localities	●	●		Flexible funding that may be used for transit capital projects, including intercity bus terminals.	20% state match in most cases; lower in limited instances.
<u>Surface Transportation Block Program Transportation Alternatives (STBG-TA)</u>	\$27 million	Statewide and Ohio localities	●	●		A set-aside of STBG for transportation alternatives including public transportation access and enhanced mobility.	20% state match in most cases; lower in limited instances.
<u>Congestion Mitigation and Air Quality (CMAQ)</u>	\$101 million	Statewide and Ohio localities	●	●	●*	Flexible funding for projects that help reduce congestion and improve air quality.	20% state match in most cases; lower in limited instances.
<u>Metropolitan Planning</u>	\$12 million	Statewide and Ohio localities	●			Funds planning activities by MPOs for transit enhancement, capital investment, travel demand reduction, etc.	

*Some cases, limited to 3 years

State Funding (General Revenue)

Funding Source	Funding Amount	Eligible Locations	Allowable Expenses			Description	Local Match Requirement
			Planning	Capital	Operating		
<u>Ohio Elderly & Disabled (E & D) Grants</u>	\$2.2 million	Rural, Small Urban, Large Urban (distributed separately)			●	Refunds transit systems for fare reductions for the elderly and passengers with disabilities.	No. There is no application program (done via reimbursement).
<u>Ohio Public Transportation Grant Program—State of Ohio General Revenue</u>	\$4.7 million (\$3.1 million for urban transit and \$1.6 million for urban areas), allocated based on a formula incorporating system data and performance measures	Urban and rural locations statewide		●*	●**	In addition to FTA funds for the Urban and Rural Transit Programs, Ohio allocates additional funds from the State's general revenue.	None required.

*Up to 80% of cost

** Up to 50% of net project cost

Local Funding

Funding Source	Eligible Locations	Allowable Expenses			Description	Local Match Requirement
		Planning	Capital	Operating		
<u>Taxes</u>	Mostly Urban				Property, earnings, sales tax.	Can be used for local match.
<u>Local match contributions</u>	All				General revenue funds, charitable donations.	Can be used for local match.
<u>Soft-Match or In-Kind Contributions</u>	All				Donated products or services.	Can be applied toward the local share requirement, although in that instance, an in-kind cost allocation plan must be developed.
<u>Investment Income</u>	All				Revenues from invested reserve funds.	Can be used to meet the local match requirement.
<u>Rental Income</u>	All				Rents from the use of equipment and facilities.	Can be used as a local match.
<u>Prior Year Net Income</u>	All				Excess revenues or surplus from prior years.	Can be used as a local match.
<u>Sponsorships</u>	All				Partnerships with local organizations.	Can be used as a local match.
<u>Coordination and Collaboration</u>	All				Sharing or trip capacity and local resources with other transit providers.	Can use non-federal funds spent by transit partners toward meeting the local match requirements.
<u>Advertising Income</u>	All				Advertising space sold on assets such as buses and shelters.	



Conclusion

Transportation systems have the potential to help or harm the health of our communities. Systems that focus exclusively on the quick movement of single-occupancy vehicles can lead to sedentary lifestyles, traffic injuries, air pollution, social isolation, and inequitable access to opportunities. Instead, public health practitioners, local governments, transit providers and other partners should work together to improve and expand access to public transit. While every community has unique needs, urban, suburban, and rural communities alike can explore the strategies outlined in this report to improve transit service. By doing so they will create new opportunities for active lifestyles and improve public health outcomes for their residents.

References

- 1 United States Department of Transportation (USDOT) (2015). "Connectivity". <https://www.transportation.gov/mission/health/connectivity>
- 2 United States Environmental Protection Agency (EPA) (2019). "Environmental Justice". <https://www.epa.gov/environmentaljustice>
- 3 Fortunati, J. & Kittner, M. (2018). "What is transportation demand management, actually?". Mobility Lab. <https://mobilitylab.org/2018/07/27/what-is-transportation-demand-management-actually/>
- 4 Federal Transit Administration (FTA) (2013). "Demand Response Service Explained". <https://www.transit.dot.gov/regulations-and-guidance/access/charter-bus-service/demand-response-service-explained>
- 5 FTA (2013).
- 6 FTA (2019). "Mobility on Demand (MOD) Sandbox Program". <https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program>
- 7 ODOT (2014). "Statewide Planning MPO Maps & Contacts". http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Pages/MPO_Map.aspx
- 8 ODOT (2018). "Ohio RTPO Boundaries". <http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/maps/RTPO%20map.pdf>
- 9 ODOT (2018). *Status of Public Transit in Ohio*. [http://www.dot.state.oh.us/Divisions/Planning/Transit/Documents/2018%20Status%20of%20Transit%20\(SOT%202018\).pdf](http://www.dot.state.oh.us/Divisions/Planning/Transit/Documents/2018%20Status%20of%20Transit%20(SOT%202018).pdf)
- 10 FTA (2015). "Transportation and Health Tool". <https://www.transportation.gov/transportation-health-tool>
- 11 National Association of City Transportation Officials (2016). *Transit Street Design Guide*. <https://nacto.org/publication/transit-street-design-guide/>
- 12 Weinstein Agrawal, A., Goldman, T. and Hannaford, N. (2012). 'Shared-Use Bus Priority Lanes on City Streets: Case Studies in Design and Management'. *Mineta Transportation Institute Report CA-MTI-12-2606*. https://nacto.org/docs/usdg/shared_use_bus_priority_lanes_on_city_streets_agrawal.pdf
- 13 Schmitt, A. (2018). "Snapping Together a Better Bus Stop". *Streetsblog USA*. <https://usa.streetsblog.org/2018/03/05/snapping-together-a-better-bus-stop/>
- 14 Poon, L. (2018). "Building Better Bus Stops Can Be a Snap". *Citylab*. <https://www.citylab.com/transportation/2018/03/quick-easy-way-to-build-a-bus-stop-zicla/554873/>
- 15 Brons, M., Givoni, M. & Rietveld, P. (2009) "Access to Railway Stations and Its Potential in Increasing Rail Use". *Transportation Research Part A: Policy and Practice*, Vol. 43, No. 2, pp. 136–149.
- 16 Transit Cooperative Research Program (2012). "Guidelines for Providing Access to Public Transportation Stations". *TCRP Report 153*. https://nacto.org/wp-content/uploads/2016/04/1-4_Coffell-et-al_Guidelines-for-Providing-Access-to-Public-Transportation-Stations_TCRP-153_2012.pdf
- 17 Ohio Department of Health (ODH) (2019). "Bicycle Infrastructure Frequently Asked Questions". <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/creating-healthy-communities/resources/bicycle-infrastructure>
- 18 ODH (2019). "Pedestrian Infrastructure Frequently Asked Questions". <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/creating-healthy-communities/resources/pedestrian-infrastructure>
- 19 Seattle Department of Transportation (2019). "Flex Zone/Curb Use Priorities in Seattle". <https://www.seattle.gov/transportation/projects-and-programs/programs/parking-program/parking-regulations/flex-zone/curb-use-priorities-in-seattle>
- 20 King County Metro (2019). "Transit Corridors, Parkign & Facilities". <https://www.kingcounty.gov/depts/transportation/metro/programs-projects/transit-corridors-parking-and-facilities.aspx>
- 21 ODH (2019). "Land Use and Health Implementation Guide". <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/creating-healthy-communities/resources/land-use-and-health-implementation-guide>
- 22 Federal Transit Administration (2019). "Transit Oriented Development". <https://www.transit.dot.gov/TOD>
- 23 Newurbanism.org (2019). "Transit Oriented Development Advances". <http://www.newurbanism.org/bookstore/todadvances.html>

- 24 Dunphy, R., Myerson, D. & Pawlukiewicz, M. *Ten Principles for Successful Development Around Transit*. Urban Land Institute. <https://americas.uli.org/report/ten-principles-for-successful-development-around-transit/>
- 25 Institute for Transportation Development Policy (ITDP). (2017). *TOD Standard*. <https://www.itdp.org/library/standards-and-guides/tod3-0/>
- 26 Transit Oriented Development Institute (2019). "Transit Oriented Development". <http://www.tod.org/>
- 27 Transit Center (2016). *Who's On Board 2016: What Today's Riders Teach Us About Transit that Works*. <https://transitcenter.org/publication/whos-on-board-2016/>
- 28 Walker, J. (2019). "The Transit Ridership Recipe". <https://humantransit.org/basics/the-transit-ridership-recipe#ridershipcoveragetradeoff>
- 29 Central Ohio Transit Authority (COTA) (2019). "Ohio State Football Service". <https://www.cota.com/osufootball/>
- 30 King County Metro (2019). "Trailhead Direct". <https://trailheaddirect.org>
- 31 Federal Transit Authority (FTA) (2018). *Mobility on Demand (MOD) Sandbox Demonstrations Independent Evaluation (IE) - Los Angeles County and Puget Sound MOD First and Last Mile Partnership with Via Evaluation Plan*. <https://rosap.ntl.bts.gov/view/dot/40261>
- 32 Ohio Department of Transportation (ODOT) (No Date). *Urban Transit Manual*. <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/UrbanTransitManual.aspx>
- 33 ODOT (2012). *Rural Transit Manual*. <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/RuralTransitManual2012.aspx>
- 34 National Rural Transit Assistance Program (RTAP) (2019). "Home Page". <https://www.nationalrtap.org/Home>
- 35 FTA (2019). "Mobility on Demand (MOD) Sandbox Program". <https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program>
- 36 Bauder, B. (2018), "Port Authority launches digital system for tracking buses, light rail trains". *Trib Live*. <https://archive.triblive.com/local/pittsburgh-allegheeny/port-authority-launches-digital-system-for-tracking-buses-light-rail-trains/>
- 37 Go Metro (2019). "Mobile Apps & User Created Resources". <https://www.go-metro.com/how-to-ride/howtoride/cincy-ez-ride-app>
- 38 TriMet (2019). "Your Hop card is now on iPhone". <https://trimet.org/applepay/index.htm>
- 39 Greater New Haven Transit District. "Welcome to GNHTD Trip Connect!". <http://www.gnhtd.org/tripconnect/>
- 40 FTA (2019). "Mobility on Demand (MOD) Sandbox Program". <https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program>
- 41 ODOT (2019). "Ohio Mobility Management Program". <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/Coordination.aspx>
- 42 ODOT (2019). "Locally Developed, Coordinated Public Transit-Human Services Transportation Plans". <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/LocallyDevelopedCoordinatedPlans.aspx>
- 43 FTA (2019). "Enhanced Mobility of Seniors and Individuals with Disabilities Program Guidance and Application Instructions". <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/enhanced-mobility-seniors-and-individuals-disabilities>
- 44 Ohio State University (2019). "About BuckID: COTA Bus Service". <https://buckid.osu.edu/about-buckid/cota-bus-service/>
- 45 Ferencik, M. (2019). "OH: More Downtown workers taking the bus because of Cpass". *Mass Transit*. <https://www.masstransitmag.com/technology/fare-collection/news/21092861/oh-more-downtown-workers-taking-the-bus-because-of-cpass>
- 46 COTA (2019). "Downtown Cpass". <https://www.cota.com/cpass/>
- 47 ODOT (2019). "Elderly & Disabled Transit Fare Assistance Program". <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/ElderlyDisabled.aspx>
- 48 City of New York (2019). "Fair Fares NYC". <https://www1.nyc.gov/office-of-the-mayor/fair-fares-nyc.page>
- 49 Pyzyk, K. (2019). "Los Angeles to give students free bus passes". *Smart Cities Dive*. <https://www.smartcitiesdive.com/news/los-angeles-to-give-students-free-bus-passes/556093/>

50 King County Metro (No Date). *In Motion Toolkit*. <https://kingcounty.gov/~media/depts/transportation/metro/programs-projects/in-motion/toolkit/in-motion-toolkit.pdf>

51 Weber, M., Arpi, E. & Carrigan, A. (No Date). *From Here to There: A creative guide to making public transport the way to go*. EMBARQ. http://www.embarq.org/sites/default/files/EMB2011_From_Here_to_There_web.pdf

52 Hsu, M. (2018). "Transit Marketing Campaigns We Loved in 2016". Trapeze. <https://www.trapezegrup.com/blog-entry/transit-marketing-campaigns-we-loved-in-2016#>

53 Goffman, E. (2018). "Austin's transit marketing focused on "fun" trips instead of commuting (and it worked)". Mobility Lab. <https://mobilitylab.org/2018/09/05/austins-transit-marketing-focused-on-fun-trips-instead-of-commuting-and-it-worked/>

54 Byrnes, M. (2017). "The World's Most Elegant Public Transit Campaign". Citylab. <https://www.citylab.com/transportation/2017/04/the-worlds-most-elegant-public-transit-campaign/522189/>

55 ODH (2019). "Active Commute Support Frequently Asked Questions". <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/creating-healthy-communities/resources/worksites-active-commute-support>.

56 Transportation for America (2018). *Fight for your Ride: An Advocate's Guide for Improving & Expanding Transit*. Smart Growth America. <http://t4america.org/wp-content/uploads/2018/02/Transit-Advocates-Guide.pdf>

57 Good Jobs First (2011). *Organizing Transit Riders: A How-To Manual*. <https://www.goodjobsfirst.org/sites/default/files/docs/pdf/transitmanual.pdf>

58 Jackson, V. & Patton, W. (2017). *How Ohio Funds Public Transit*. Policy Matters Ohio. <https://www.policymattersohio.org/research-policy/sustainable-communities/transit/how-ohio-funds-public-transit>

59 ODOT (2019). "Funding Programs". <http://www.dot.state.oh.us/Divisions/Planning/Transit/Pages/Programs.aspx>

60 ODOT (2019). *Program Resource Guide*. <http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Documents/ProgramResourceGuide.pdf>

61 ODOT (No Date). "Chapter 5 - Allocation and Funding". *Urban Transit Manual*. <http://www.dot.state.oh.us/Divisions/Planning/Transit/Documents/Urban%20Transit%20Manual/CH-%205%20Allocation%20and%20Funding.PDF>