

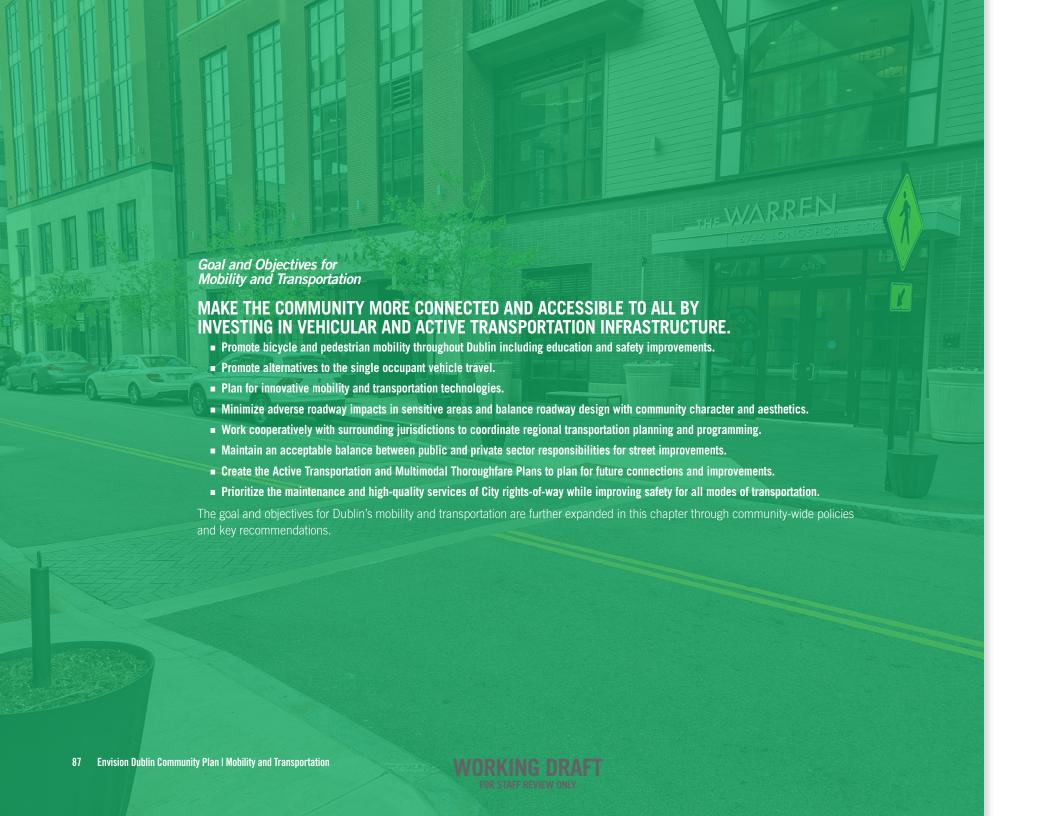
O 7 MOBILITY AND TRANSPORTATION

The Community Plan Update process culminated in future land use recommendations that include all necessary infrastructure needs for future development including roadways improvements, utility extensions, parks and open space, and community facilities. Envision Dublin has worked handin-hand with other planning initiatives to ensure plans and policies related to infrastructure needs are incorporated in the Update. This includes the Active Transportation Plan and Multimodal Thoroughfare Plan, Economic Development Strategic Plan Update, Parks and Recreation Master Plan, Dublin Area Housing Study, Sustainability Framework,

and Metro Center Implementation Plan. This ensures that the City of Dublin will succeed in meeting the goals and objectives of the next two decades.

As part of the Envision Dublin process, the Multimodal Thoroughfare Plan was created to re-shape our growth, development, land use, and recreational spaces. Mobility is a common thread throughout these efforts, has been incorporated throughout the process, and for the first time, an Active Transportation Plan has been integrated into the Community Plan.











Most Sustainable.

Sustainable transportation systems aim to improve public health, reduce greenhouse gas emissions, and improve quality of life. They also aim to reduce emissions and improve transportation energy efficiency through community design and planning, traffic operations, and roadway design.

Most Connected.

Connecting more people to more places through improved access to multimodal transportation, this area defines goals to support economic development, advance multimodal transportation options, promote equity, and focus on future growth.

Most Resilient.

Transportation resilience is about systems working together to provide flexible and resilient infrastructure that helps people move safely through changing conditions. It means planning ahead and being thoughtful about our long-term infrastructure, maintenance strategies, and investments.





PARADIGM SHIFT

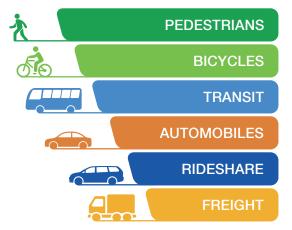
Historically, thoroughfare plans define a hierarchy of functional classifications for streets based on the need to accommodate future vehicular traffic volumes. This process was based on an evaluation of roadway capacity and level-of-service (LOS) for vehicles to determine the number of travel lanes needed for a roadway and an associated right-of-way width. Traditional thoroughfare plans have generally led to transportation networks that are auto centric with more vehicular lanes, wider intersections, and higher travel speeds, but can be difficult to use and less safe for vulnerable road users (VRU), such as pedestrians and bicyclists.

Previous Community Plans relied on the traditional philosophy regarding how the transportation network has been prioritized, including measuring and designing for the peak traffic period of the day, while the remaining 23 hours have excess capacity. In recent public engagement processes, however, Dublin residents have emphasized safer streets, slower traffic, and more mobility options are needed. Based on this feedback, rethinking what success looks like for Dublin's transportation network means a holistic evaluation of the public rights-of-ways to better balance safe travel within the City. As a result, a new paradigm was developed by the Envision Dublin process, which changes the order of priority of users on the roadway.

In the new paradigm, the selected Key Performance Indicator to be used when evaluating the transportation network is the Demand-to-Capacity (d/c) ratio, assessing whether the demand exceeds capacity at any time during the day, or across an entire 24-hour period. By focusing on the d/c ratio, slower travel speeds and reduced intersection sizes that are safer and more comfortable for pedestrians and bicyclists will result. Consequently, some drivers may adapt to these changing conditions by changing modes of transportation, the time of day during which they make the trip or taking a different route.

In addition to adopting the d/c ratio, and consistent with previous Community Plans, the maximum roadway footprint for arterial type roadways remains a four-lane divided roadway with turn lanes and medians. For lower classification streets, however, changing the paradigm means evaluating the adequacy of pedestrian and bicycle facilities as the primary criteria before evaluating vehicle capacity. For instance, using sidewalk and/or shared use path locations and crossing lengths to determine the number of lanes at intersections. To ensure the safest and most efficient type of traffic control is considered first, a single lane roundabout will be evaluated for intersection improvements on minor arterials and collectors before other types of traffic control.

New Transportation Paradigm



Traditional Transportation Paradigm



CONCLUSIONS AND RECOMMENDATIONS

- Promote the safety of all users, including those walking and rolling, through speed management techniques and the study and design of transportation improvements.
- Replace using the traditional vehicular LOS as the transportation Key Performance Indicator with the 24-hour Demand-to-Capacity (d/c) ratio when evaluating the transportation network.
- Use a four-lane divided roadway with turn lanes and medians as the maximum roadway footprint for arterial type roadways.

- Evaluate the adequacy of pedestrian and bicycle facilities as the primary criteria before evaluating vehicle capacity for all non-arterial roadways.
- Evaluate a single lane roundabout first for intersection control for all non-arterial roadways.
- Support LinkUS and the implementation of transit supportive infrastructure to encourage mode shift and enhance first mile and last mile safety and connectivity.







MOBILITY

Today, transportation planning efforts recognizes the paradigm shift that prioritizes active transportation, particularly the safety of pedestrians and bicyclists, followed by the analysis of roadway connectivity and travel demand.

In this plan, the roadway network is analyzed for connectivity and travel demand modeling based on the Future Land Use Plan. This effort, however, was preceded by a thorough examination of the active transportation network, which not only identified gaps in the network, but now includes a functional classification hierarchy of active transportation features and defines the space allocated within the rights-of-way.

Several other modes and/or aspects of mobility, such as pedestrian, bikes, micro-mobility, mobility hubs, transit, and passenger rail are included in this chapter. There are several micro-mobility options currently provided in Dublin, which could be expanded and/or upgraded in the future. CoGo Bike Share and e-scooters are either planned or already available in Dublin. In addition, several Mobility Hub locations have been identified throughout Dublin. Mobility Hubs improves access, provides space to co-locate at least two modes of transportation, and facilities convenient to transition between modes.

Transit not only includes COTA fixed route service in Dublin, but also Bus Rapid Transit (BRT), also known as LinkUS here in Central Ohio. BRT will be a premium transit service from downtown Columbus to Dublin and extending to the West Innovation District. Dublin is also preparing for a potential passenger rail station on Amtrak's Midwest Connect route, connecting Chicago, Columbus and Pittsburgh via Fort Wayne, Indiana, by advancing plans for a passenger rail station location near S.R. 161 and Houchard Road.

WORKING DRAFT

CONCLUSIONS AND RECOMMENDATIONS

- Encourage mode shift by enhancing the existing and future active transportation network by prioritizing that infrastructure along mobility corridors, particularly along transit routes.
- Embrace other modes and/or aspects of mobility, such as pedestrian, bikes, micro-mobility, mobility hubs, transit, and passenger rail.
- Encourage piloting and partnering with major employers and hotels on exploring other means for meeting daily travel needs.
- Collaborate with neighboring communities and MORPC to create regional connections with Central Ohio Greenways and other trails of significance, and specifically, promote efforts to achieve trail connectivity with the Heritage Trail, Quarry Trails Metro Park, Olentangy Trail/Antrim Park, and the Columbus Zoo.
- Promote Scioto River recreational opportunities in cooperation with MORPC, the Urban Land Institute of Columbus, Columbus and Franklin County Metro Parks, and many other public and private partners throughout Central Ohio's Rapid 5 initiative.
- Continue to consistently require street and multimodal connectivity between adjacent developments, to improve residential mobility options, as well as improved access for delivery, maintenance, and emergency vehicles.
- Add or weave in the health/equity/sustainable/resilient benefits of pedestrian infrastructure (sidewalks are social justice)

PEDESTRIANS

Walking is a natural extension of our daily travel and provides benefits to personal health, environmental sustainability, and social interaction. The first and last mile of every trip should be safe, comfortable, and inviting as a pedestrian. A safe environment is the foundation of a walkable city, with complete sidewalks and safe crossings to accommodate all ages and abilities. Sidewalks are also a social justice issue and should be available near all housing types and varieties. Improving the walkability in Dublin means focusing on filling sidewalk and shared use path gaps and providing wider facilities within one-half mile of critical areas such as activity centers, schools, community parks, bus stops, future BRT stations, and Mobility Hubs.

Shared use paths that are eleven-feet wide are the preferred facility type. Wider paths encourage students walking and biking to/from school. While it is acceptable to ride bicycles on streets where vehicle volumes and speeds are low, this becomes challenging on other roadways when wide shared use paths are not avialable near schools.

In addition to the construction and expansion of shared use paths, sidewalks are an integral part of Dublin's pedestrian network. To ensure safe and comfortable walking spaces. all new sidewalks should be at least six-feet wide to allow multiple pedestrians to walk side-by-side or pass each other. Existing sidewalks should be widened on a case-bycase basis as constraints and conditions allow.

Conclusions and Recommendations

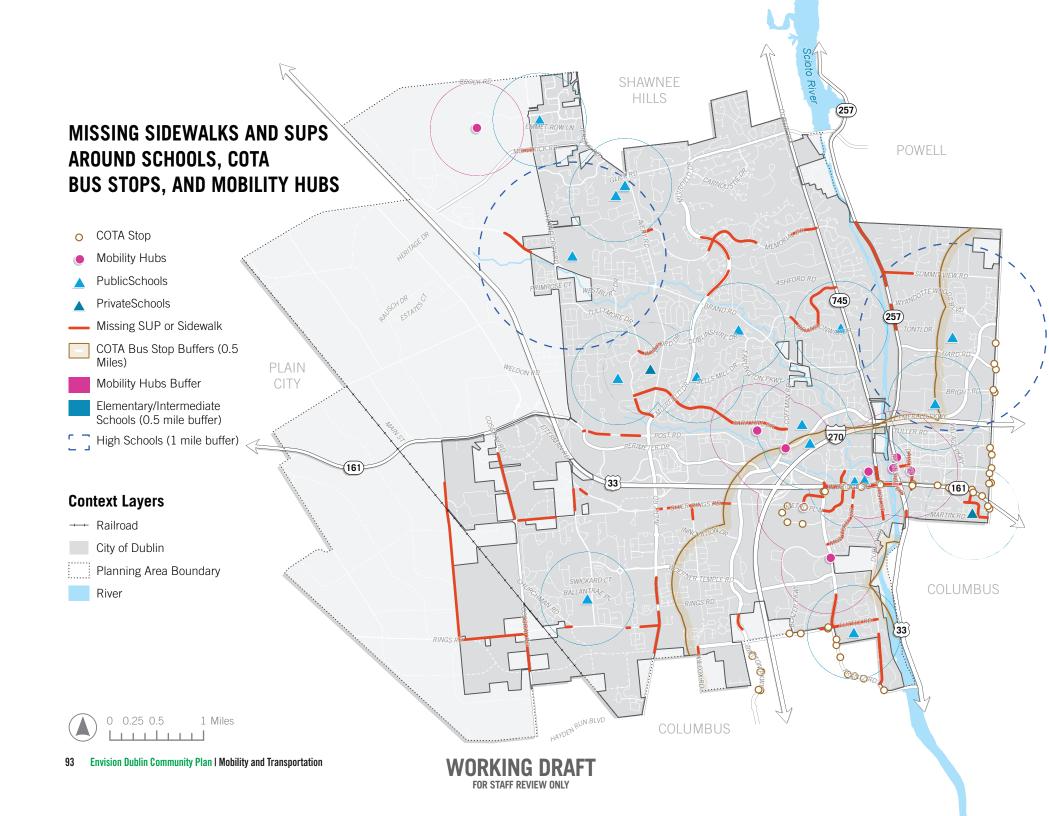
- Invest in a comprehensive active transportation network that provides sidewalks, shared use paths, and on-street protected bike lanes.
 - Use eleven-feet as the preferred shared use path width for areas of new construction and development.
- Use six-feet as the preferred sidewalk width for areas of new construction and development to ensure safe and comfortable walking spaces.
- Evaluate providing wider shared use path and sidewalk facilities within one-half mile of critical areas such as activity centers, schools, community parks, bus stops, future BRT stations, and Mobility Hubs.
- Evaluate widening existing shared use paths to eleven-feet wide and existing sidewalks to six-feet wide on a case-by-case basis as constraints and conditions allow.
- Promote safe walking and biking to schools and other destinations.
 - Prioritize constructing missing sidewalks and shared use paths in locations that are within ½-mile of schools, mobility hubs, parks, commercial areas, and other community gathering locations. Currently there are 5.3 miles of roads without shared use paths within one-half mile of schools. Additionally. the existing 19.6 miles of SUPs within one-half mile of schools are not wide enough as shown on the following Missing Sidewalks and SUPs map.

- Prioritize adding pedestrian-related facilities on roads that do not have facilities prior to adding facilities on roads that already infrastructure on one side.
- Construct missing sidewalk and shared use path links so that there are sidewalks or shared use path on both sides of all roads.
- Create shared use path signing and striping standards to ensure the safe travel of all users on the active transportation system.
 - Install signs and striping, or special treatments, to indicate directionality or warning of special circumstances on shared use paths to improve safety based on the conditions and the volume of pedestrians, bicycles, and other modes of traffic.

"WALKING IS THE RHYTHM OF LIFE."

-Gary Snyder





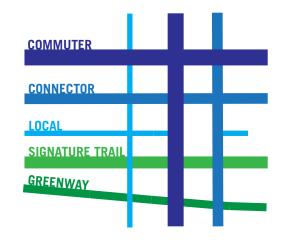


BICYCLES

Dublin has a more extensive bicycle network than many communities in the region. While there is tremendous support and fondness for this network among Dublin's residents, the desire for a more robust active transportation network has also been articulated. There are 150+ miles of shared use paths in Dublin, which in part awarded the prestigious League of American Bicyclists "Silver Bicycle Friendly Community" designation. As the first community in Ohio to achieve this status, Dublin must not stop here, but rather continue in the quest for even higher awards of gold or platinum. If the vision is for the City of Dublin to have a premier active transportation network, the mobility plan should go well beyond simply filling gaps and expanding the bicycle network. To reimagine the active transportation network in Dublin, this plan proposes a functional classification hierarchy of active transportation features, similar to the manner in which roadways were previously classified. By defining such a functional classification hierarchy, Dublin is purposefully prioritizing and elevating the focus of the active transportation network as a safe, healthy, sustainable, and resilient mode of transportation.

Prioritization begins with the Signature Trail, incorporating natural elements in its own alignment and using a wider path section than is typically seen on shared use paths in Dublin. Commuter Routes either incorporate on-street bike facilities physically separated from vehicular traffic for safety or are part of a wider shared use path parallel to the road.

Representative Bike Hierarchy



Connector Routes are characterized as a shared use paths adjacent to minor roadways. Local Routes are either separated shared use paths or on-street facilities where it is safe and comfortable to ride with mixed traffic on low-volume. low-speed residential neighborhoods. Dublin's first Active Transportation Plan is shown on page 98.

A Signature Trail in Dublin will represent the centerpiece of the active transportation network. Dublin dreams big and has a history of developing projects that are transformational. The Signature Trail will provide the opportunity for outdoor recreation and physical exercise in a natural setting, linking people with destinations. While the exact

alignment is yet to be determined, the Signature Trail will run generally east-west through Dublin, strategically eliminate major transportation barriers with grade separations, and provide alternative connection options and trailheads at strategic locations along the corridor. Specifically, the Signature Trail will be wider than a typical shared use path to accommodate the volume of users it attracts, and will include wayfinding, lighting, and areas of respite with amenities such as benches, shelters, tire pump stations, bike parking, and trash/recycling receptacles.

A Signature Trail incorporates community character, cultural history, and placemaking - all serving to establish enduring memories across generations. Dublin's Signature Trail will serve as a catalyst for enhancing neighborhood unity, fostering regional ecotourism, enhancing air quality, helping mitigate climate change, providing natural habitat throughout our urban fabric, and stimulating economic growth.

"THINK OF BICYCLES AS RIDEABLE ART THAT CAN JUST **ABOUT SAVE THE WORLD."**

-Grant Petersen





Dublin has several named and themed bike routes. The Emerald Trail is designated as a MORPC Central Ohio Greenway trail running northwest to southeast through Dublin. The Glacier Ridge - Coffman Park signed route connects users to the named destinations. The Celtic Cocktail, Fishing, Ice Cream, Irish Fairy Door, Public Art, Recreation, and Waterfalls & Natural Features Loops are all bike loops under development. These routes are aimed to encourage and promote recreation, sustainability, and adventure throughout the community.



Conclusions and Recommendations

- Enhance the bicycle network to provide routes for commuting, connecting, and local trips.
 - Continue to develop the bicycle network to allow non-vehicular trips to be made by encouraging development to install covered and secure bicycle parking, and shower and changing facilities for cycling commuters.
 - Incorporate on-street bike facilities physically separated from vehicular traffic for safety or are part of a wider shared use path parallel to the road on Commuter Routes.
 - Select the appropriate facility type for Local Routes, either separated shared use paths or on-street facilities, based on safety and comfort in mixed traffic, using volume and speed as the criteria.
- Promote and enhance biking in Dublin by using various forms of wayfinding and branding.
 - Increase awareness and promote the Emerald Trail,
 which is designated as a Central Ohio Greenway Trail.
 - Maintain the Glacier Ridge-Coffman Park signed route.
 - Provide secondary wayfinding for the named Bike Loops shown on the following map.

- Develop a Signature Trail through Dublin as the centerpiece of the active transportation network providing outdoor recreating in a natural setting, similar to the Monon Trail in Indianapolis.
 - Prioritize the Signature Trail, incorporating natural elements in its own alignment, using a wider path section than is typically seen on shared use paths in Dublin.
 - Invest in the development of a Signature Trail that connects east-west across the city.
 - The Signature Trail should feature natural elements and cultural placemaking, while incorporating multiple trailheads, wayfinding, and lighting in order to provide a safe and convenient environment for users.
 - The Signature Trail alignment and amenities should involve robust planning and public engagement but should be a minimum 15-feet wide and incorporate safe crossing at major transportation barriers.



MICRO-MOBILITY

The new mobility and transportation paradigm prioritizes non-vehicular modes of transportation by focusing on shared use paths, protected bike lanes, and safety of VRUs at crossings and intersections. This includes wider shared use paths and sidewalks. With the increased emphasis on mobility in this new plan, the promotion of scooters, bikeshare, and e-bikes is consistent with this paradigm and improving first mile and last mile connectivity.

Dublin supports micro-mobility modes such as scooters and bikeshare programs. The e-scooter pilot program began with 50 motorized scooters in within the I-270 outer belt, which was expanded to 125 scooters distributed across the entire City based on the success of the initial project. Dublin also has nine strategically located bikeshare stations planned using CoGo that will eventually be part of the mobility hubs shown in the Signed and Named Bike Loops and Mobility Hubs map. In order to allow micro-mobility devices like scooters to continue to operate in Dublin, Dublin policies and code would need to be modified to allow electric scooters and other micro-mobility devices on shared use paths and continue to use scooter slow zones in areas of high activity.

Conclusions and Recommendations

- Promote and enhance the use of e-scooter, bikeshare, e-bike and other modes of transportation.
- Plan for wider shared use paths and sidewalks to accommodate various modes of transportation safely and comfortably.
- Update Dublin Code to allow electric scooters and other micro-mobility devices on shared use paths.
- Continue to use e-scooter slow zones in areas of high activity.
- Compliment transit options such as BRT and passenger rail for first mile and last mile connections.
- Coordinate with other Central Ohio municipalities and organizations to leverage the power of the region to bring the best mobility options to Dublin.

MOBILITY HUBS

Mobility Hubs provide seamless transfer points between transportation modes and mobility services, providing choices for various modes of transportation. As mobility options expand and diversify, Mobility Hubs will play a pivotal role in enhancing the quality, convenience, and experience of multimodal travel in Dublin. Mobility Hubs are to be strategically located along key mobility corridors including BRT, bus, bike, and greenways for maximum impact. Dublin has identified the Phase 1 and Phase 2 locations, and future potential locations, as shown in the Signed and Named Bike Loops and Mobility Hubs map.

Mobility Hubs should be aesthetically attractive, contemporary, have internet connectivity, power, lighting, equitable access, expandable options, incorporate placemaking components, and improve public health. As mobility options expand and diversify, Mobility Hubs will play a pivotal role in enhancing the quality, convenience, and experience of multimodal travel in Dublin.

Conclusions and Recommendations

- Strategically locate Mobility Hubs along key mobility corridors including BRT, bus, bike, and greenways for maximum impact.
- Improve mobility options by advancing plans for Mobility Hubs, co-locating at least two modes of transportation in each hub, and providing convenient facilities to transition between modes.
- Construct attractive, contemporary, connected with Smart Technology, and well-lit mobility hubs that are expandable and incorporate place-making components that improve public health.





SIGNED AND NAMED BIKE LOOPS AND MOBILITY HUBS

Bikeway Signed Routes

- Emerald Trail
- Fishing Loop
- Recreation Loop
- Waterfalls & Natural Features
- Irish Fairy Door Loop
- Glacier Ridge Coffman Park
- Celtic Cocktail Loop
- Ice Cream Loop
- Public Art Loop

Mobility Hub Locations by Phase



Phase 1

- 1. DCRC
- 2. CML Dublin branch
- 3. North Market Bridge Park
- 4. Frantz Road & Metro Place North



Phase 2

- 1. COTA Park & Ride
- 2. Dublin Arts Council
- 3. Dublin City Hall
- 4. Emerald Pkwy & Coffman Park Drive

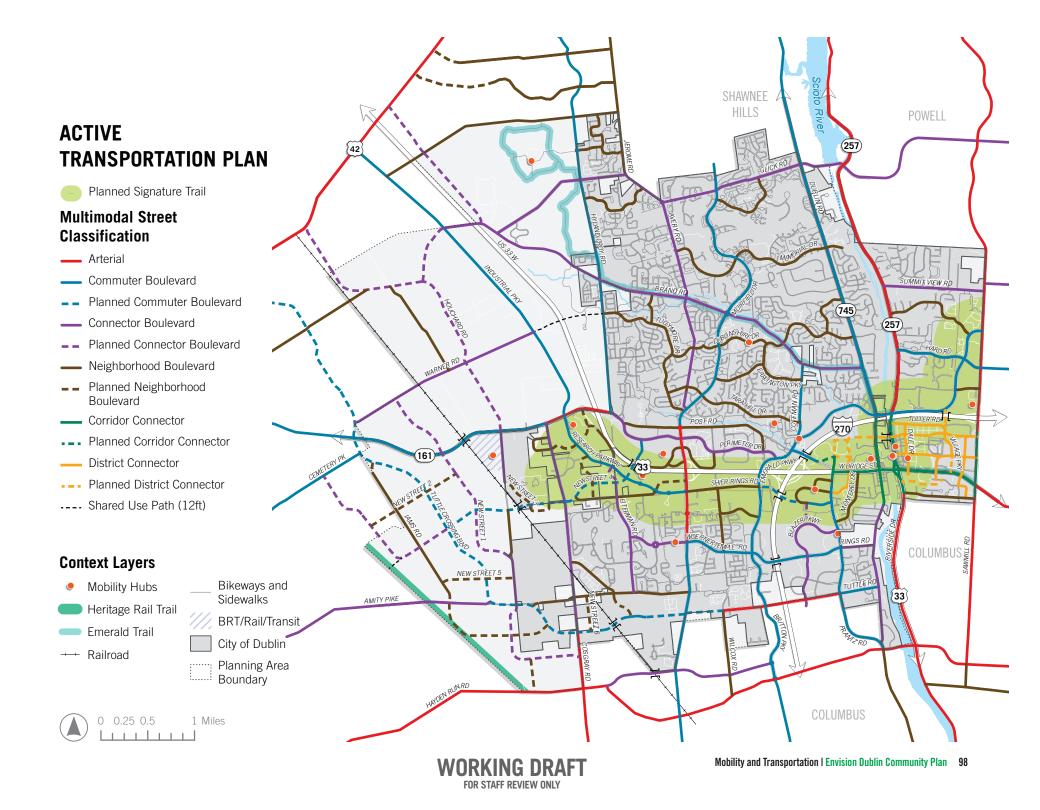


Future Phases

- 1. Riverside Crossing Park
- 2. Sawmill Rd & Bright Rd
- 3. The Corners
- Dublin Methodist Hospital
- 5. Community Pool (North)
- 6. Community Pool (South)
- 7. OSU Dublin Ambulatory Care Center
- 8. OU Dublin Branch
- 9. West Dublin Passenger Rail Station









TRANSIT

Public transportation service in the Dublin area is provided by the Central Ohio Transit Authority (COTA). As the regional public transit provider for greater Columbus and Central Ohio, COTA serves over 1.1 million residents with over 9 million trips annually. Currently, there are two fixed routes that serve the City of Dublin, Route 33 and Route 73, primarily serving the southeast portion of the City. COTA also operates a park-and-ride in Bridge Park, one of the busiest in the region, and a Zoo Bus in the peak season.

COTA's plans include the goal of increasing frequency of buses on existing routes in Dublin as well as adding two additional fixed routes: Lines 32 and 35. In addition, The Ohio Department of Transportation (ODOT) and COTA are studying the East-West Workforce Connector transit service on I-270 in light of Intel's effect on the region and was recently added to the COTA LinkUS Plan.

The City of Dublin also operates a micro-transit service for eligible residents and commuters. The Dublin Connector is currently a fare-free, on-demand service for residents aged 55 or older, residents with disabilities, or member of the Dublin workforce. Another option for this service is a new COTA//Plus zone in Dublin. Similar to the Dublin Connector, COTA//Plus is a door-to-door, on-demand service. COTA's Short Range Transit Plan 2023-2027 includes a future COTA//Plus zone in Dublin.

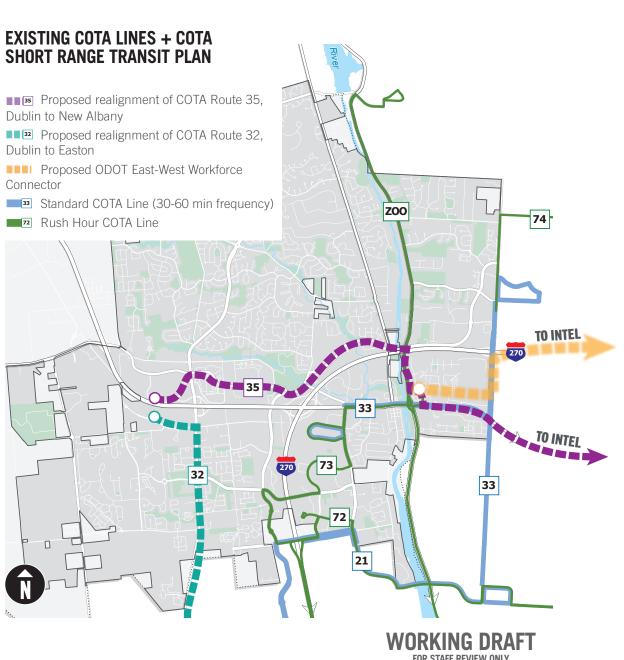
CONCLUSIONS AND RECOMMENDATIONS

- Support COTA's 2023-2027 Short Range Transit Plan (SRTP) goal of increasing frequency of buses on existing routes in Dublin.
- Encourage COTA to implement the extension of two additional fixed routes to Dublin: Lines 32 and 35 identified in their SRTP.
- Participate in the joint Ohio Department of Transportation (ODOT)/COTA East-West Workforce Connector Study, analyzing transit service along I-270, connecting Dublin to New Albany in light of Intel's effect on the region.
- Review and analyze service options for the Dublin Connector micro-transit service for eligible residents and commuters, such as a new COTA//Plus zone in Dublin as included in the COTA SRTP.

"LIFE IS SIMILAR TO A BUS RIDE. THE JOURNEY BEGINS WHEN WE BOARD THE BUS. WE MEET PEOPLE ALONG OUR WAY, OF WHICH SOME ARE STRANGERS, SOME FRIENDS, AND SOME STRANGERS YET TO BE FRIENDS.""

-Chirag Tulsiani









LINKUS BUS RAPID TRANSIT

Bus Rapid Transit (BRT) is an advanced high-quality transit system that delivers fast and efficient service that may include dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations. The LinkUS Northwest Corridor links Dublin with Downtown Columbus and points of interest in between. Phase 1 of the Northwest Corridor extends from downtown Columbus to Bethel Road. Phase 2 extends the corridor north on Sawmill Road and west on S.R. 161 to Bridge Park, and Phase 3 reaches to the Ohio University Branch Campus in the West Innovation District, with the possibility of extending to the future passenger rail site.

While COTA as an agency is responsible for implementing BRT corridors in greater Columbus, Dublin has the ability to enhance the experience for riders and residents along the corridor in Dublin. This includes intentionally planning for transit-supportive density, scale, and last-mile connectivity along the Northwest Corridor in Dublin.

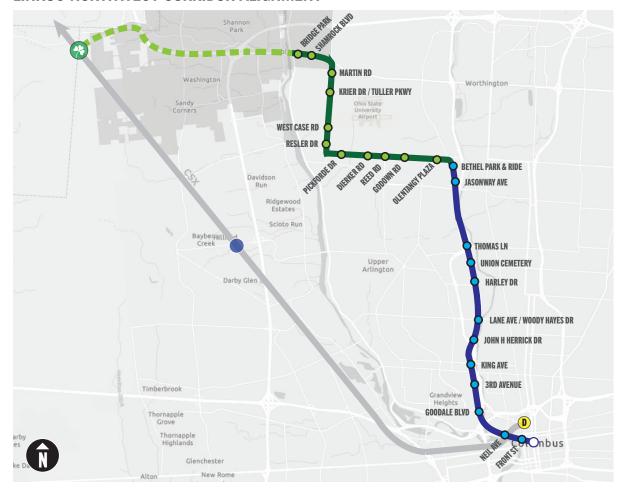
Connecting transit stops with existing bicycle and pedestrian facilities helps create a more vibrant, sustainable mode share and reduces car dependency. First and last mile investments help get people to and from transit stops safely. Sidewalk and pedestrian investments within one-half mile of transit corridors will enhance accessibility, convenience, and comfort. Additionally, signs, maps, and other wayfinding methods will encourage more people to access transit via a variety of modes, create a more safe and efficient system, as well as provide more travel options for the community.

Conclusions and Recommendations

- Continue to partner with COTA, MORPC, City of Columbus and Franklin County to promote and implement the Northwest Corridor BRT through Dublin.
- Enhance rider and resident experience of BRT in Dublin through safe and convenient stops and technologically connected stations.
- Intentionally plan for transit-supportive density, scale, and last-mile connectivity along the Northwest Corridor in Dublin.
- Connect transit stops with existing bicycle and pedestrian facilities to create more vibrant, sustainable mode share and reduce car dependency.
 - Leverage LinkUS Transit Supportive Infrastructure (TSI) funds to promote the use of transit on the Northwest Corridor BRT route and other existing and planned transit routes.
 - Continue to develop and implement the secondary wayfinding system to inform riders/walkers how to use the bike/pedestrian system to access other parts of the community.



LINKUS NORTHWEST CORRIDOR ALIGNMENT



Rail line

Proposed Dublin Rail Station

Proposed Columbus Rail
Station - Downtown

Proposed Hilliard Rail Station

PHASE 1 - DOWNTOWN COLUMBUS TO BETHEL ROAD

Phase 1

Phase 1 Stations

PHASE 2 - BETHEL ROAD TO BRIDGE PARK

Phase 2

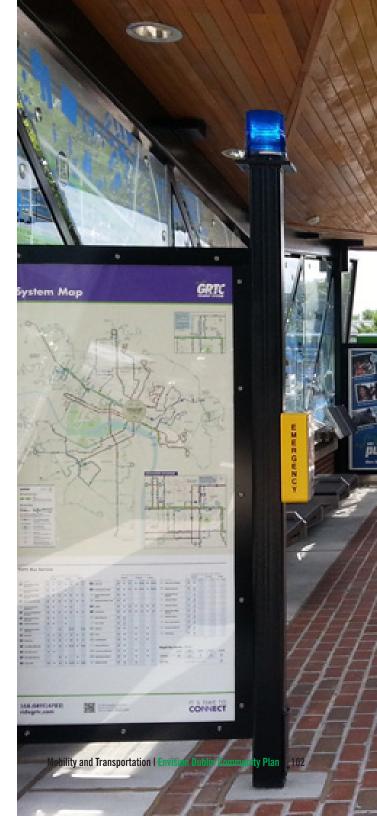
Phase 2 Stations

PHASE 3 - BRIDGE PARK TO DUBLIN RAIL STATION

Phase 3

Further analysis is needed to identify potential LinkUS stations between Bridge Park and the proposed passenger rail station in Dublin, which would serve as the terminus of the LinkUS Northwest Corridor.

WORKING DRAFT FOR STAFF REVIEW ONLY





PASSENGER RAIL

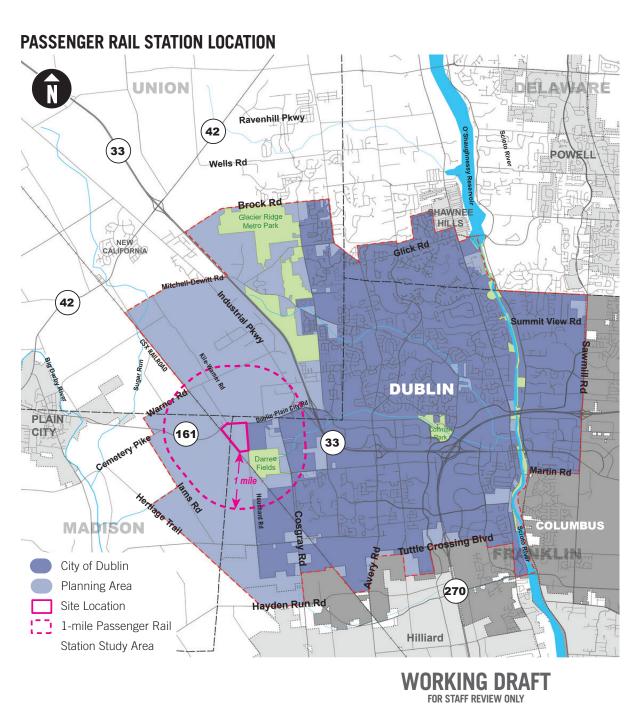
Intercity passenger rail represents a sustainable and resilient form of mass transit connecting people with jobs and opportunities, particularly when access to rail transit is supported by multimodal connectivity providing first mile and last mile connectivity. The Midwest Connect rail corridor represents a potential passenger rail route that is in the Federal Rail Administration (FRA) Corridor Identification Program. The Midwest Connect route extends from Chicago to Fort Wayne to Columbus to Pittsburgh, which then can take passengers further east to Philadelphia, Washington, D.C. and New York City.

Stops will be located in named cities along the Midwest Connect route, such as Chicago, Fort Wayne and Columbus. Since the route passes through Dublin on its way to Columbus, Dublin is positioning itself to be ready for a state-of-the-art, multimodal passenger rail station in northwest Dublin near S.R. 161 and Houchard Road.

Supporting land uses are included in the Future Land Use Plan and the West Innovation District Special Area Plan. Transportation and mobility connections are also included in the Active Transportation and Multimodal Thoroughfare Plans.

Conclusions and Recommendations

- Continue leading regional efforts in support of the Midwest Connect route with multimodal connectivity and supporting land uses.
- Lead strategic planning efforts to promote Dublin as the location of a vibrant state-of-the-art passenger rail station along S.R. 161 by advancing studies and other efforts to leverage investments to create a more sustainable and resilient mobility option for Dublin and the region.
- Include transit supportive land uses in the Future Land Use Plan and West Innovation District Special Area Plan to encourage the appropriate type of development near the rail station.
- Include needed transportation and mobility connections in the Active Transportation and Multimodal Thoroughfare Plans to support a passenger rail station in Dublin.

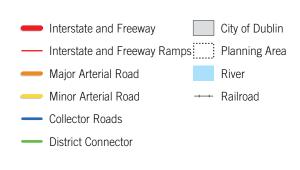




ROADWAY NETWORK

EXISTING ROADWAY NETWORK

The Existing Roadway Network has developed over time using the previous Community Plan as the guide for where and how to grow the network. The network has grown based on the Future Land Use Plan and the City has leveraged development opportunities to construct key improvements. This model has served Dublin well over time, resulting in very good traffic operations in most areas of Dublin, even when analyzing the proposed Future Land Use Plan on the existing network. Based on this work, key areas for needed improvements are the West Innovation District and the Southwest Area, which was expected as these areas include large tracts of open space and rural roads which will experience the most dramatic change.



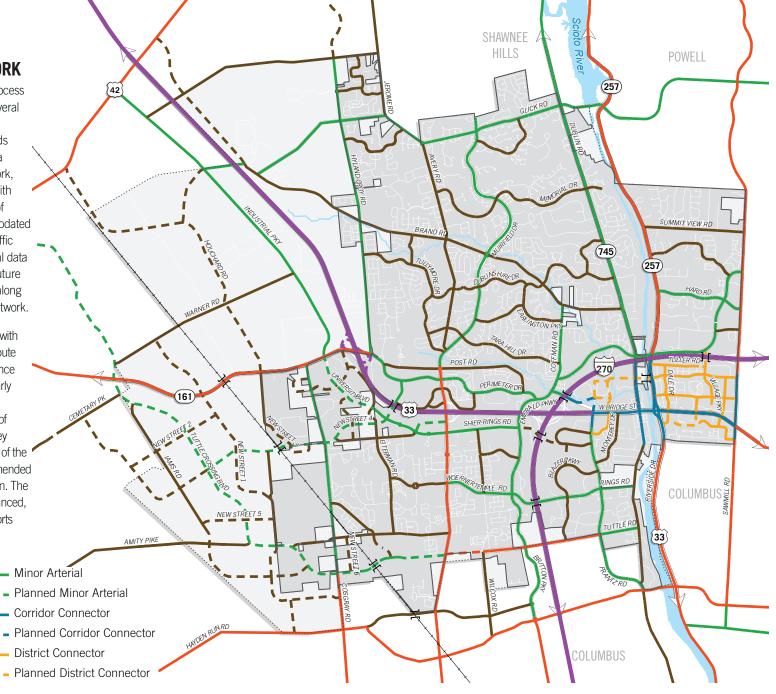




FUTURE ROADWAY NETWORK

The travel demand modeling (TDM) process projects future traffic volumes using several data sets and represents an important tool in planning for future roadway needs and network improvements. These data sets include the existing roadway network, programmed roadway improvements with associated attributes such as number of lanes, speed limit, etc. and has been updated for the Dublin TDM to project future traffic volumes. This is consistent with regional data and modeling efforts. This analysis of future traffic volumes exposed stressed links along the existing and committed roadway network.

The roadway network has been updated with new roadway connections to better distribute future traffic and provide better performance and demand-to-capacity ratios (d/c). Nearly every roadway is projected to function at less than its capacity. With the exception of the corridors that will provide access to key innovation areas from the freeways, most of the proposed roadway segments are recommended to be two lanes or two lanes with a median. The future roadway network represents a balanced, connected multimodal system that supports walking, biking, transit, and autos.



Planned Freeway

Major Arterial

Freeway

MULTIMODAL STREET CLASSIFICATIONS

Street classifications are essential components as they provide a systematic way to organize and manage the transportation network in Dublin. By categorizing corridors based on their function, resources can be allocated, infrastructure investments can be prioritized, and a well-balanced transportation network results.

With the shift in transportation priorities, there is also an opportunity for a new system of functional classification more inclusive of all modes, namely the Arterial, Commuter Boulevard, Connector Boulevard, Neighborhood Boulevard, and Shared Street. With the exception of the Arterial, the new lexicon is more reflective of the shift to prioritizing the safety of VRUs more than vehicle level of service. The new system reflects a more holistic and integrated multimodal use of the rights-of-way in Dublin.

Conclusions and Recommendations

Establish a new system of multimodal street classifications to include Arterials. Commuter Boulevards. Connector Boulevards, Neighborhood Boulevards, and Shared Streets. Definitions of these proposed facilities and design considerations detailed below and followed by representative illustrations of typical sections.

- Arterial—combines the traditional major arterial with separated bicycle/pedestrian facilities on both sides. Arterials serve to move vehicular traffic to and from freeways, such as I-270 and US 33 in Dublin, Arterials represent the one street classification where efficient vehicle travel remains prioritized, recognizing that the private automobile continues to be a key component of travel in and around Dublin. Separated bicycle and pedestrian facilities support VRUs, and to keep reasonable crossing lengths, arterials are recommended be a maximum of four lanes wide, with turn lanes as needed.
- Commuter Boulevard—combines the traditional minor arterial with commuter bike routes. Commuter boulevards accommodate trips of moderate length with a focus on user safety regardless of mode. Compared to an arterial, there is typically less vehicle traffic and more potential for pedestrian and bicycle traffic. Active transportation facilities can be shared use path (SUP) on both sides or protected bike lanes (PBL) and sidewalk (SW) on new or retrofitted facilities. Commuter Boulevards are normally two to four lane facilities and provide more access points to destinations than Arterials. These facilities provide a link between Arterials and Connector Boulevards.

- Connector Boulevard—combines the traditional minor arterial with connector routes. Connector Boulevards provide connectivity between the more heavily traveled Commuter Boulevards and smaller streets associated with more residential areas. Active transportation facilities on Connector Boulevards are typically characterized by an SUP on both sides of the roadway though some areas may use one SUP and one SW. The number of vehicle lanes vary from two to four and vehicle parking may be provided on Connector Boulevards in an urban context.
- Neighborhood Boulevard—combines traditional collector streets with SUP and SW. Neighborhood Boulevards are located within residential areas and collect and distribute traffic to and from the residential streets (Shared Streets). The Neighborhood Boulevard functions as a neighborhood thoroughfare for all modes and typically includes one SUP and one SW depending on Corridor Character. These streets are characterized by two vehicle lanes, on-street parking, stop controlled intersections, and may or may not have residential driveways.
- Shared Street—allows for a mix of modes within a traditional local street environment. Shared Streets mainly occur in residential neighborhoods and connect directly to Neighborhood Boulevards or other Shared Streets. Shared Streets are typically lined with single-family homes, residential driveways, on-street parking, and sidewalks on both sides of the street. Vehicles and bicyclists share the street given the low traffic volumes and vehicle speeds. Due to their nature. Shared Streets are not individually designated on the Multimodal Thoroughfare Plan, but they exist throughout the network.



MULTIMODAL STREET TYPOLOGIES

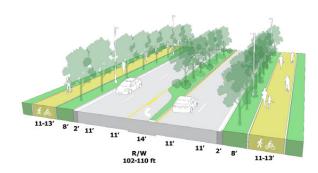
Dublin's system of streets and dedication to high design standards have made possible not only the accommodation of growth but the safe use of streets by pedestrians, bicyclists, automobiles, and trucks. These street typologies are intended to refresh the inventory of street sections most likely to be referenced in the upgrading of existing corridors as development and budgets permit. The street sections organize the existing and future transportation network into an integrated, multimodal system, detailing how to use the space within rights-of-way for all users. While the previous section explains the context and functional classification of multimodal streets, the definitions of these typologies are proposed below. These definitions serve to provide guidance on design criteria while allowing flexibility given the network is composed of existing and future infrastructure, available rights-of-way, and rural versus urban contexts.

In order to use these sections to the best extent possible, flexibility is recommended for certain street categories to provide variability in how the rights-of-way are used and/ or how much right-of-way is required. The sections below are descriptions, illustrations, and guidance on the new multimodal street classifications.

Conclusion and Recommendations

Use the following sections to provide guidance on design criteria while allowing for flexibility given the network is composed of existing and future streets, available rightof-way, and rural versus urban contexts.

Four-Lane Divided (4D) Arterial. Commuter Boulevard, Connector Boulevard

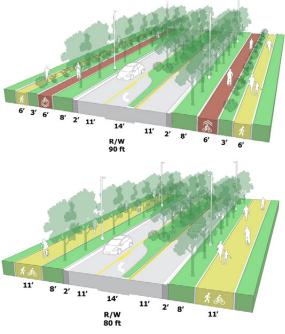


See the Streetscape Facilities Table for details on facility standards.

Streetscape Standards

Active Transportation	SUP: 11-13 feet Transit stops
Tree Lawn	8-feet min
Number of Lanes	4/5
Lane Width	11-feet
Median/Turn Lane	10-11 feet
Speed Limit (mph)	35-50
Total R/W	102-110 feet

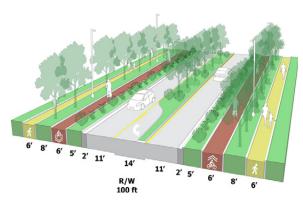
Two-Lane Divided (2D) Commuter **Boulevard And Connector Boulevard**



Active Transportation	SW: 6-feet min SUP: 12-feet min PBL: 6-feet min
Tree Lawn/Bike Lane Buffer	8-foot min
Number of Lanes	2/3
Lane Width	Min 10-11 feet
Speed Limit (mph)	35-40
Total R/W	80-90 feet



Two-Lane (2D) Commuter Boulevard Or Connector Boulevard Retrofit From A Four-Lane Divided (4D)

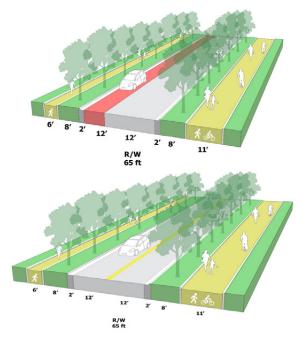


See the Streetscape Facilities Table for details on facility standards.

Streetscape Standards

Otrectsoape otaniaaras		
Active Transportation	SW: 6-feet min	
ii alispui tatiuli	PBL: 6-feet	
Bike Lane Buffer	5-foot min	
Tree Lawn	8-foot min	
Number of Lanes	2/3	
Lane Width	Min 10-11 feet	
Speed Limit (mph)	35-40	
Total R/W	100 feet	

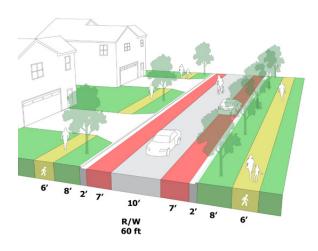
Neighborhood Boulevard



Streetscape Standards

Active Transportation	SUP: 11-foot min SW: 6-foot min
Tree Lawn	8-foot min
Number of Lanes	2
Lane Width	12 feet
On Street Parking	Likely
Speed Limit (mph)	25-35
Total R/W	65 feet

Shared Street

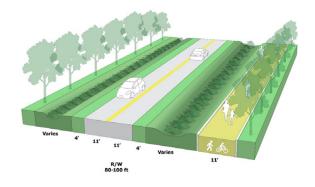


Streetscape Standards

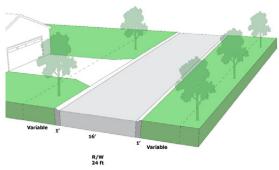
Active Transportation	SW: 6-foot min
Tree Lawn	8-foot min
Number of Lanes	1 to 2
Lane Width	12 feet
On Street Parking	One or Both Sides
Speed Limit (mph)	25
Total R/W	50-60 feet



Two-Lane Rural Commuter Boulevard or Connector Boulevard



Public Service Street



See the Streetscape Facilities Table for details on facility standards.

See the Streetscape Facilities Table for details on facility standards.

Streetscape Standards

Streetscape Standards		
Active Transportation	SUP: 11-foot min	
Shoulder	4-foot unpaved	
Number of Lanes	2	
Lane Widths	11 feet	
Open Drainage (Ditch)	Variable	
Speed Limit (mph)	24-45	
Total R/W	80-100 feet	

Streetscape Standards

Active Transportation	Shared Space	
On Street Parking	Not Required	
Number of Lanes	No Markings	
Lane Widths	N/A	
Utility Easement	Variable	
Speed Limit (mph)	15	
Total R/W	24 feet	



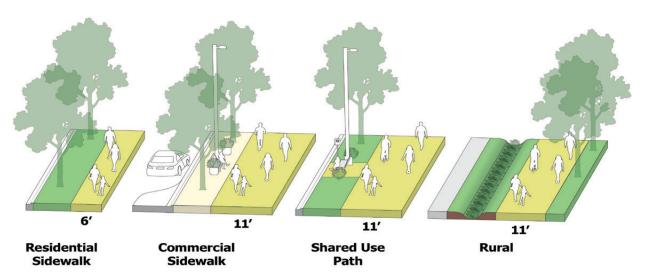


Streetscape Facilities

Streetscape Facilities are summarized below except for streets in the OU Framework Plan, Historic District Design Guidelines, Bridge Street District Streetscape Character Guidelines, or the future Metro Place Revitalization guidelines.

STREET TYPES	ACTIVE TRANSPORTATION	TREE LAWN	STREET TREES	ON-STREET PARKING	# OF LANES	LANE WIDTH (FT)	MEDIAN /TURN LANE	RIGHT-OF- Way (FT)
Arterial	Shared use path: 11' to 13'	Required, 8'	Required with 8' tree lawn; low vegetative buffer with narrow tree lawn	Not required, 9-feet min where used	4-5	11-12	Median width can vary when used; turn lane width: 10-11 feet	102-110
Commuter Boulevard	Bike facilities on both sides. Two 11' to 13' shared use paths or 6' protected bike lanes with 6' sidewalks, if protected bike lanes are acceptable	Required, 8'	Required with 8' tree lawn; low vegetative buffer with narrow tree lawn	Not required, 9' min where used	2 to 4/5	10-11	Medians not required, but width can vary; turn lane width: 10-11 feet	80-100
Connector Boulevard	Bike facilities on both sides. Two 11' to 13' shared use paths or 6' protected bike lanes with 6' sidewalks, if protected bike lanes are acceptable	Required, 8'	Required with 8' tree lawn; low vegetative buffer with narrow tree lawn	Not required, 9' min where used	2 to 4/5	10-11	Medians not required, but width can vary; turn lane width: 10-11 feet	80-100
Neighborhood Boulevard	Bike facility on minimum one side. Shared use paths 11' and sidewalks 6' wide	Required, 8'	Required with 8' tree lawn; low vegetative buffer with narrow tree lawn	Not required, 9' min where used	2	10-12	N/A	65
Shared Streets	Maximum vehicle speeds 25 mph. Bikes share the street. Sidewalks 6' on both side of the street	Required, 8'	Required with 8' tree lawn; low vegetative buffer with narrow tree lawn	One side min, 9' min where used	No markings	N/A	N/A	60

Off-Street Facilities





CORRIDOR CHARACTER

One of the distinguishing qualities of Dublin is the visual experience created by physical elements that establish or reinforce the character of the surrounding environment. Previous transportation plans defined four Roadway Characters for major thoroughfares throughout Dublin. As the term Roadway Character evokes the auto-centric paradigm of the past, the term has been changed to Corridor Character to better represent the holistic view inherent in the new transportation paradigm. The four Corridor Character categories are: Rural Character, River Character, Urban/Village Character, and Traditional Dublin Character. These are defined below.

Corridor Character is defined by the overall visual experience created by physical elements adjacent to the roadway. Character types vary greatly and can evoke a variety of responses that create an immediate psychological effect on motorists. These effects can persist to create long-lasting impressions for residents and visitors about the City and Dublin's community values. Components that contribute to the definition of roadway character include: road design and construction standards; setbacks and buffering between adjacent uses; building types and architectural styles; landscaping within the right-of-way and adjacent areas, and the basic underlying geographic qualities of the area.

As a development tool, the Community Plan identifies the desired roadway character of major thoroughfares throughout Dublin and the surrounding planning area. These designations assist in the preservation of existing character and guide future development and the long-term improvement of Dublin's roadways. Some road corridors are particularly scenic and should be protected during zoning and development requests, while others should be targeted for enhancement as growth occurs.

Preserving and creating road character begins by defining a vision for how a particular road should look and feel and continues by determining what elements are needed to carry out the vision. Dublin's major thoroughfares generally include visual quality that falls within four major categories: Rural Character, River Character, Urban/Village Character and Traditional Dublin Character. Each category includes a description of the elements commonly present that contribute to specific roadway character type.

Conclusions and Recommendations

- Consider visual impacts to the area as part of the design process. Corridor design should be sensitive to surrounding character and environment and should balance both community character and mobility.
- Allow lower travel efficiency to create a balance between many competing needs by recognizing that community character, sense of place, surrounding land uses, as well as the efficient movement of traffic are all important elements. This may result in slightly lower levels of service on certain roadways during peak periods but upholds the community value of

preserving visual character.

- Consider alternative roadway design for unique site constraints. Wherever possible and practical, retain wooded areas in or near roadways and design roadways to fit the surrounding topography.
- Assess and mitigate potential impacts of future transportation improvements and/or new construction on historic and environmentally-sensitive areas, as well as the visual appearance of the corridor.
- Provide adequate buffering and setbacks between improvements and historic or environmental areas to maintain their visual and physical integrity.
- Provide adequate landscaping such as planting areas, mounding, wall treatments or other design techniques to integrate transportation improvements into sensitive areas.
- Sensitively integrate stormwater management from transportation improvements and consider alternative techniques, where possible, to ensure the integrity of historic sites and environmentally sensitive areas are not compromised.
- Establish the Rural, River, Urban/Village, Traditional Dublin and Signature Corridor Character types with the definitions and design considerations detailed below.





Rural Character

This character results from the cultural and historic use of the region for agricultural purposes. The roadways are typical of unincorporated areas or old township roads and are informal, evoking a sense of the past prior to development and include the following:

- Application of generous setbacks ranging from 100 to 200 feet.
- Integration of open views and vistas into adjacent development perhaps greater than 200 feet in some areas to increase the sense of openness.
- Provision of informal landscaping that focuses on native plant species and naturalized forms (meadows, wildflowers, grasses, wetland areas etc.).
- Use of trees, fencerows and woodland plantings to provide additional screening and sense of enclosure.
- Preservation of historic farmsteads, barns or outbuildings that emphasize the agrarian history of the area.
- Design of naturalized ponds with aquatic plants and informal edges.
- Integration of "rural" road design that may include berms, swales and/or variable medians.
- Provision of shared entrances to minimize curb cuts and maintain openness.

River Character

This character is primarily the result of natural processes on the land over the course of many years. The river corridor possesses dramatic topographical changes, is heavily wooded and includes the Scioto River and its tributaries.

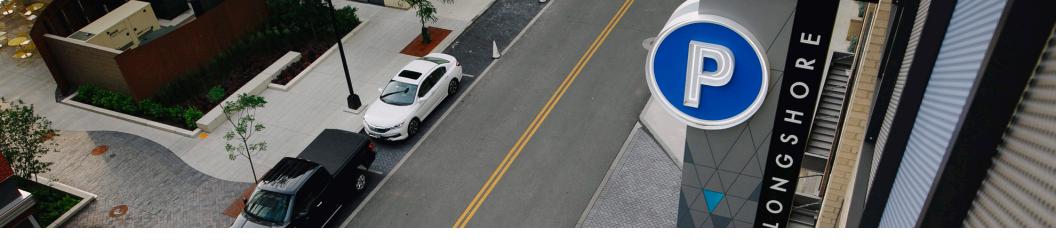
- Use of modest setbacks ranging from 60 to 100 feet.
- Creation of roadway width and alignment to follow stream corridors or respond to existing natural features.
- Use of woodland plantings and incorporation of landforms to create topographic change and shape views.
- Integration of stone walls and stone outcrops to provide ties to surrounding topography
- Use of stone walls and split rail fences that are traditionally used in the countryside.
- Design of informal water features to blend with the surrounding character of the river corridor.
- Use of swales and berms instead of constructed curb and gutter for informal feel.
- Installation of informal landscape designs to enhance the natural appearance along the river corridor.
- Designs should be consistent with the Rapid 5 regional planning initiative.

Traditional Dublin Character

This character exemplifies the high-quality standards by which Dublin's primary roadways have been designed, built and landscaped over the past several decades to provide a very formalized and maintained roadway.

- Use of 100-foot setbacks or equivalent to blend with surrounding developments.
- Design of curvilinear roads with landscaped medians and bike paths.
- Installation of formal, maintained landscape treatments.
- Focus on ponds and water features with maintained and/or hardscaped edges.
- Use of variable mounding with landscaping to screen uses along roadways.
- Primarily curb and gutter design but may include swales and berms.





Urban/Village Character

Streets are a community's "front porch." They are the city's most common form of open space, providing important opportunities for entertainment, recreation, and gathering. In Historic Dublin, the Bridge Street District, and more densely developed areas, streets serve as public gathering places and venues for commercial activity. Streets characterized as urban safely accommodate bicyclists and pedestrians to encourage non-motorized forms of travel; the scale is highly pedestrian with cars and people sharing limited space. The urban street character is based on traditional village and modern mixed use development patterns that include grid street networks with regularly spaced blocks framed by richly detailed architecture.

- Apply street designs that are sensitive to the surrounding land uses and development context.
- Creation of grid-like street pattern to enhance ability to walk to destinations using multiple routes.
- Include on-street parking to provide a physical and psychological buffer between travel lanes and sidewalks reducing the perceived travel lane widths for vehicles and making pedestrians feel safer on the sidewalks.
- Are designed with off-street parking to the side and rear of building.

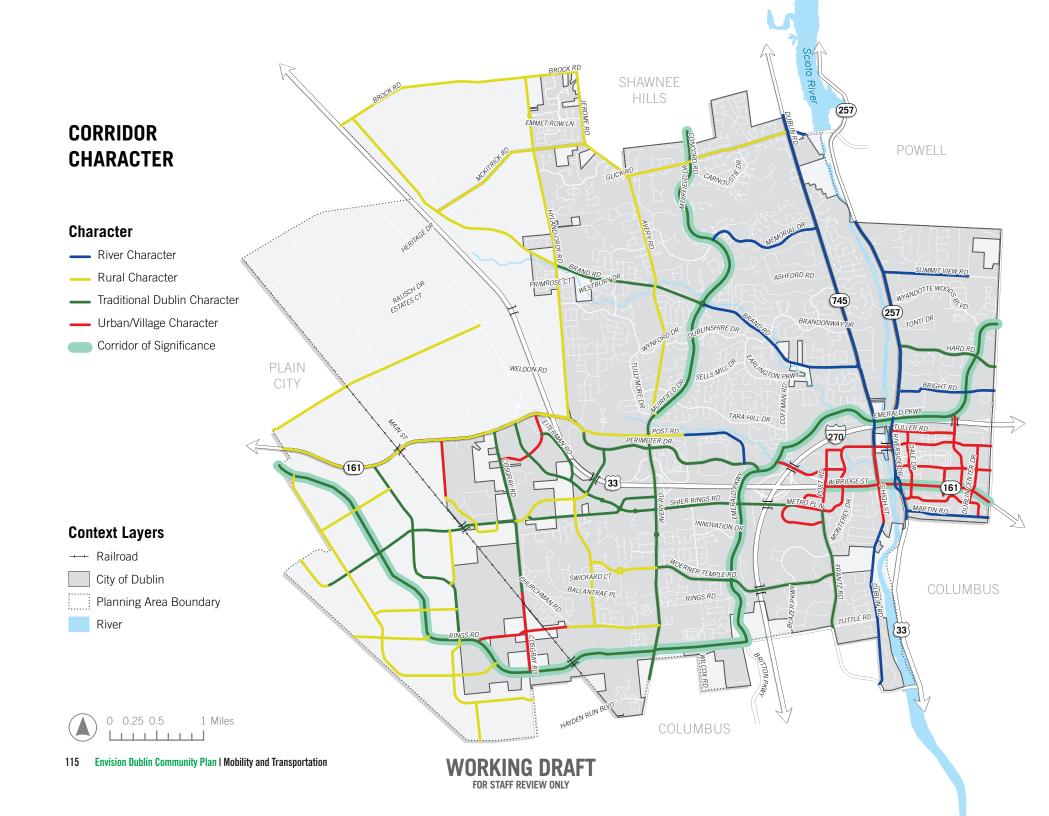
- Integration of service alleys and rear garage access to improve pedestrian character of streets.
- Provide transit facilities and sidewalk curb extensions at bus stops.
- Provide smaller building setbacks ranging from 0-25 feet to enhance the relationship between buildings and the streetscape; setback areas may be designed as an extension of the streetscape, landscape areas, or patios, as appropriate to the development.
- Are framed by buildings designed with ground story transparency (i.e., windows), main entrances connected to sidewalks, and a high degree of architectural detailing to create an inviting, pedestrian-friendly experience.
- Contain pedestrian-scaled street lighting in addition to roadway lighting.
- Includes street trees and planting zones to buffer pedestrians from traffic, provide shade and visually soften hardscape areas.
- Use small parks, plazas, patios, and public spaces to provide character along the streetscape and reinforce the street's role as a gathering space as well as a transportation route.

- Provide pedestrian amenities such as seating, news racks, recycling bins, water fountains, outdoor cafes, retail displays, appropriately scaled signs and public art.
- Integrate sustainable stormwater management within the streetscape using curb inlets, bioretention swales, tree and planter boxes, and permeable pavements, and
- Are framed by low masonry 'street walls,' wrought iron fences, hedges, picket fences and gates, arbors or similar elements as appropriate to the village or urban setting, to add detailing and to help define the street's public realm where buildings are not immediately adjacent to the sidewalk (such as along parking areas).

Signature Corridors

In addition to a primary character designations, select corridors are designated as Signature Corridors to accentuate the corridor's unique characteristics. The Signature Corridors are Commuter Boulevards and arterials, represented by certain visual enhancements, or other significant characteristics, to signify the corridor is unique amplifying the identified character to visitors and residents. The Corridor Character map identifies recommended Signature Corridors in Dublin.

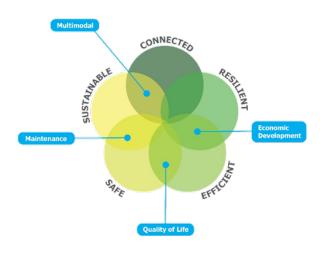




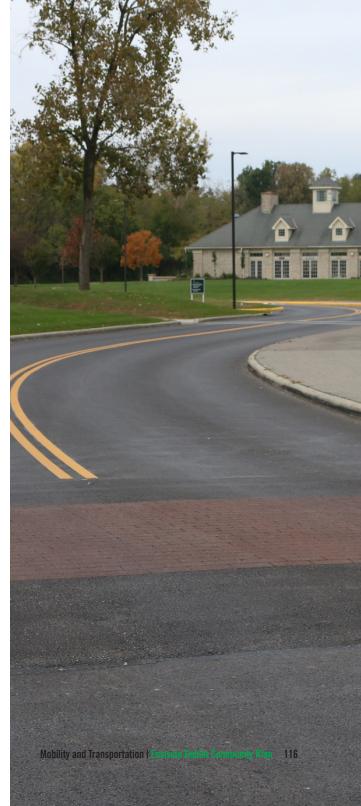
MULTIMODAL THOROUGHFARE PLAN

A multimodal thoroughfare plan is critical for a community as it ensures efficient and sustainable transportation options for its residents. By incorporating various modes of transportation such as walking, cycling, public transit, and private vehicles, this plan addresses the diverse needs of the community while reducing traffic congestion and environmental impacts. This includes proper maintenance and preservation of existing facilities to protect and promote Dublin's current transportation assets. Additionally, a well-designed multimodal plan promotes accessibility, safety, and equity by providing alternative routes and transportation choices for people of all ages and abilities. This approach not only enhances mobility but also fosters economic development by improving connectivity between residential areas, commercial centers, and recreational spaces, ultimately creating a more livable and vibrant community for everyone. These results are magnified when transportation choices connect with regional networks beyond Dublin's borders.

For thoroughfare planning and design purposes, roads are generally classified by function and have two purposes: to provide mobility and to provide access to property. Near I-270 and US 33, the context of the roadway is the efficient movement of vehicles to and from the freeway. In other areas of Dublin, however, flipping the paradigm means the number of vehicle lanes should be more influenced by the safety of VRUs and the context of the street, meaning adjacent land use and vehicle speed limits. In the Bridge Street District, a slightly different functional classification system has been defined, recognizing families of streets that share common characteristics versus mobility and access to properties. While the map below presents functional classifications for existing and proposed future multimodal corridors, a comprehensive table including attributes of every street in Dublin may be found in the Appendix along with cost estimates for future transportation improvements as outlined in this plan.







CONCLUSIONS AND RECOMMENDATIONS

- Prioritize the safety of Vulnerable Road Users (VRUs) using context sensitive design approach to improve how vehicles interact with all roadway users.
 - Minimize intersection widths to reduce crossing distances for VRUs. The preferred solution for intersection control on Commuter Boulevards, Connector Boulevards, and Neighborhood Boulevards is a single lane roundabout.
 - The maximum desirable roadway footprint for Dublin is a four/five lane divided roadway with smaller radius returns and shorter crossings at intersections to benefit safety of VRUs.
 - Minimize adverse roadway impacts in sensitive areas by balancing roadway design with community character, setting, and aesthetics.
 - Preserve existing facilities with proper maintenance and minor upgrades where appropriate, before building new facilities.
- Build upon the US 33 Smart Mobility Corridor by planning for additional innovative mobility options and transportation technologies.
 - Work cooperatively with surrounding jurisdictions to coordinate regional transportation planning and programming.
 - Continue modeling efforts into the future to monitor land use and transportation needs and evaluate the impact of potential changes to the adopted Future Land Use Map and Multimodal Thoroughfare Plan.
 - Coordinate with development to obtain transportation improvements that mitigate associated transportation and fiscal impacts through established funding methods in the capital budget process.

- Require multiple connection points within new developments and to the surrounding area by providing multiple links to adjacent roadways to establish greater travel options for residents.
- Require internal connections through cross-access easements between residential and non-residential developments to minimize traffic on adjacent corridors.
- Discourage cul-de-sacs when loop streets and other site layouts or configurations can be provided to enhance street connections and route choices to evenly disperse traffic on the transportation network.
- Extend existing street stubs in conjunction with adjacent development to benefit the larger transportation system by providing better access and walkability for residents within those neighborhoods.
- Address existing deficiencies and future needs and ensure that private developments address transportation impacts by contributing their fair share of transportation costs, according to the Multimodal Thoroughfare Plan, particularly for major transportation improvements such as bridges and underpasses. Proportional costs should be based on studies acceptable to the City.
- Consider City participation in transportation improvements when the project or development contributes to greater community-wide objectives across all modes.
- Require Traffic Impact Studies for all developments to identify the impacts and improvements associated with the proposed development relative to the Multimodal Thoroughfare Plan. Studies will align with the City's transportation priorities and determine the magnitude of transportation improvements required to accommodate the proposed development.
- Studies for proposed development will include an evaluation of connectivity for active and multimodal transportation and transit facilities, comparison of the planned development with the land-uses and trip generation included within the Dublin Travel Demand Model, as well as the portion of the Multimodal Thoroughfare Plan for which the proposed development is to be responsible, including, but not limited to adjacent corridor improvements, shared use path and sidewalk connections, transit amenities, turn lanes, driveway spacing and locations, etc. For vehicular traffic, a study will outline the number of hours per day that a demand to capacity ratio exceeds the roadway capacity (d/c > 1.0). Require Traffic Impact Studies for all developments to identify the impacts and improvements associated with the proposed development relative to the Multimodal Thoroughfare Plan. Studies will align with the City's transportation priorities and determine the magnitude of transportation improvements required to accommodate the proposed development. This will include an evaluation of connectivity for active and multimodal transportation and transit facilities, comparison of the planned development with the land uses and trip generation included within the Dublin Travel Demand Model, as well as the portion of the Multimodal Thoroughfare Plan for which the proposed development is to be responsible, including, but not limited to adjacent corridor improvements, turn lanes, driveway spacing and locations, etc. For vehicular traffic, a study will outline the number of hours per day that a d/c ratio exceeds the roadway capacity (d/c > 1.0).



MULTIMODAL THOROUGHFARE PLAN

Planned Signature Trail

Multimodal Street Classification

- Arterial
- Commuter Boulevard
- Planned Commuter Boulevard
- Connector Boulevard
- Planned Connector Boulevard
- Neighborhood Boulevard
- Planned Neighborhood Boulevard
- **Corridor Connector**
- Planned Corridor Connector
- District Connector
- Planned District Connector
- Shared Use Path (Wider)

100 = Planned Right-of-Way Width (feet)

Context Layers

- Heritage Rail Trail
- Railroad
- City of Dublin
- Planning Area Boundary



