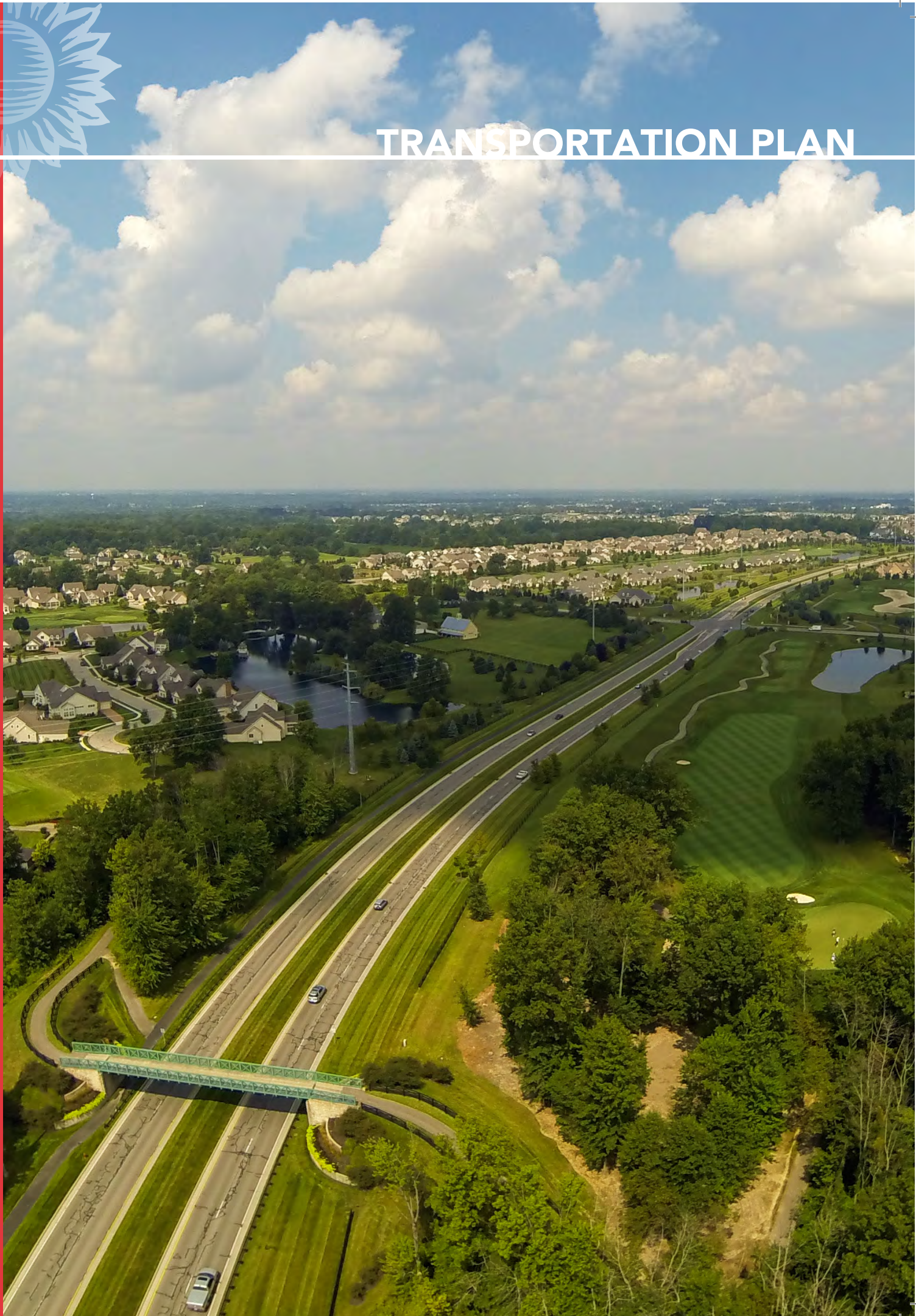




# TRANSPORTATION PLAN







# TRANSPORTATION PLAN

## Introduction

This section of the plan provides recommendations for transportation policy and related infrastructure investments within the community. As with the Land Use Plan, the Transportation Plan guides decision-making regarding the appropriateness of development proposals and infrastructure improvements necessary to support future development.

The Thoroughfare Plan is the primary reference tool that addresses roadway system needs, while the Land Use Plan is the primary planning instrument that suggests how the area may be developed or redeveloped in the future. Both of these primary planning elements provide the foundation to guide decision-making regarding the appropriateness of development proposals and infrastructure improvements necessary to support future development.

## Regional Roadway System

The supporting regional roadway system is illustrated in Exhibit 3.1. SR 750 is a major east-west arterial running directly through Powell, crossing the Scioto River to the west and the Olentangy River to the east. The next major east-west connectors are found at Home Road to the north and Interstate 270 to the south. In the north-south direction, Liberty Road is a minor arterial running through the center of Powell (referred to as Liberty Street within Downtown Powell). Sawmill Parkway to the west and SR 315 to the east are major arterials with access to I-270.

## Thoroughfare Plan Structure

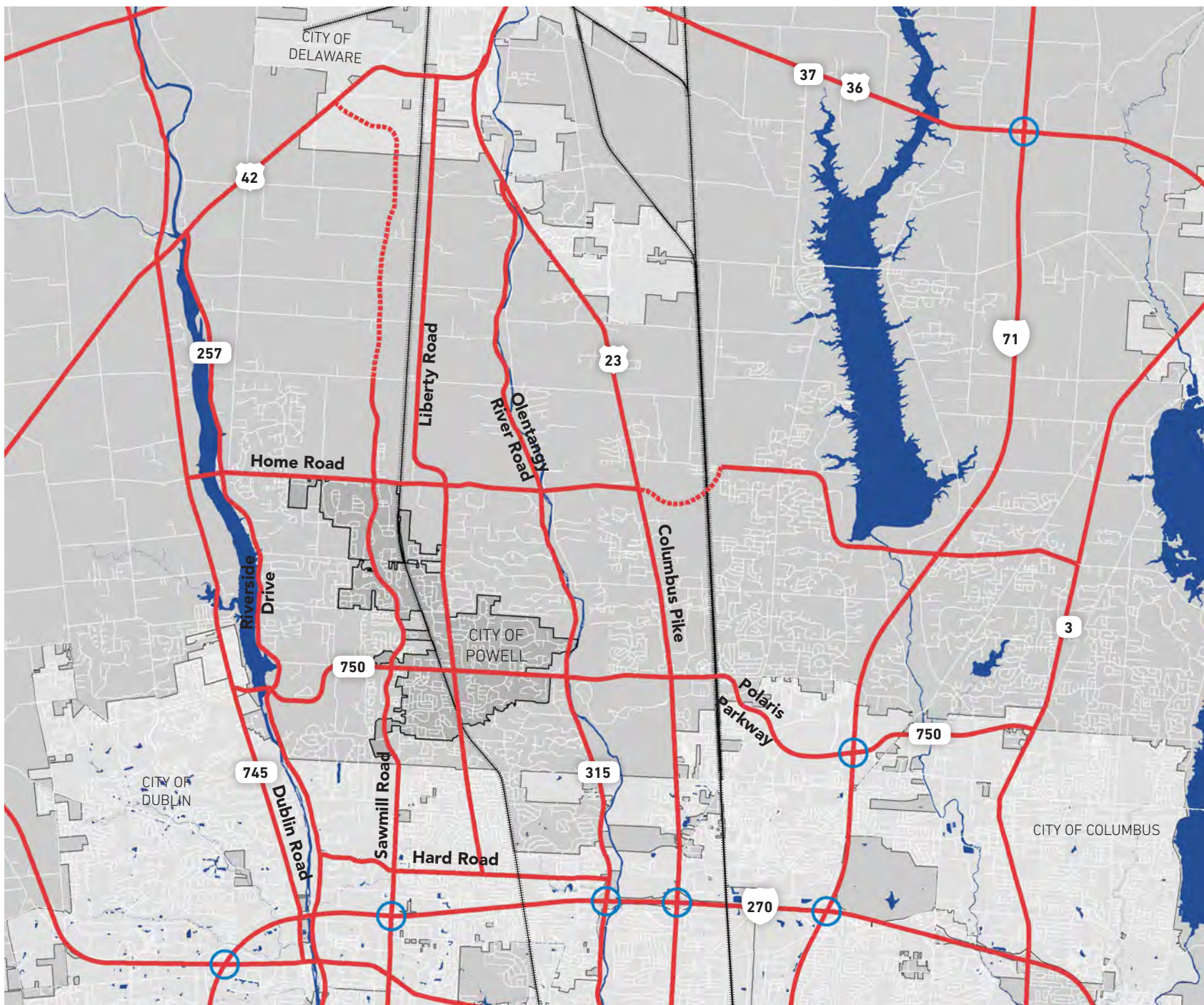
The basic structure of a thoroughfare plan is a functional classification system of roadways that designates the role of each major route within the local and regional transportation network. These functional classifications are combined with recommendations for future new roads and improvements/modifications to the existing system to meet projected transportation needs.

A thoroughfare plan identifies a hierarchy of streets and highways to serve long-term needs of the community. The plan consists of a map of existing and planned highways, streets, interchanges, and grade separations. Existing roads are classified by usage (i.e. arterial, collector, and local) and carrying capacity. Once the current conditions are fully understood, projected development is assessed

according to the land use component of the community's comprehensive plan. Roadway system enhancements are planned accordingly to properly accommodate projected travel demands. When the land use and transportation components of the comprehensive plan are developed concurrently, transportation system constraints can be acknowledged and thus influence land use plan decisions.

The transportation plan should respect the area's needs and establish a solution to provide safe and efficient travel of vehicles into, out of, and within the community for the next 20 to 25 years.

It is important to note that road locations and layouts are not completely established in a thoroughfare plan. Proposed upgrades, new roads, and additional services are recommendations for local officials and transportation departments to follow as development occurs. As the need for roadway upgrades and additions arise, additional site-specific planning will be necessary.



**Exhibit 3.1: Regional Roadway System**

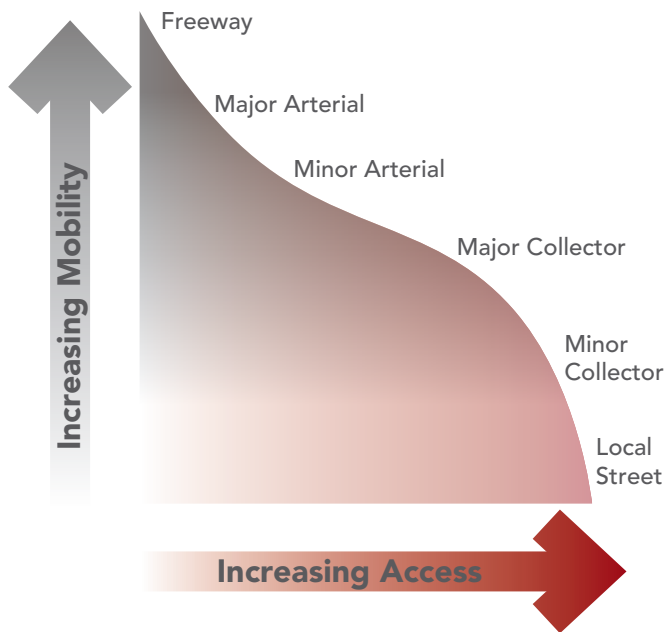
- City Boundary
- Major Roadway
- Interchange

↑ NORTH

0 800' 1,600'

# TRANSPORTATION PLAN

**Exhibit 3.2: Relationship of Traffic Mobility and Land Access by Functional Classification**



## Functional Classification System

The functional classification of a road typically guides decisions including potential lane requirements, appropriate design standards, cross-section elements, right-of-way requirements, and access management components. Functional classifications are defined in the context of the overall roadway network to provide a balanced system that meets both travel and access needs. Failure to provide a well-planned network of streets in a variety of functional classifications can result in congested streets, cut-through traffic on neighborhood streets, high crash rates, and other operational problems.

Four typical classifications are used in thoroughfare plans: freeways, arterials, collectors, and local streets. With the exception of fully-controlled access freeway facilities, all roadways serve some combination of through travel and access to property. The general relationship between land access and traffic mobility for each functional classification is illustrated in Exhibit 3.2. Roadways that are primarily intended for traffic service (typically for longer trips) are referred to as arterials. Collector roadways make a link between arterials and local streets. Local streets are those intended primarily for access to abutting land parcels. In many ways, the functional classification system

for a network of roadways is analogous to a tree – with the arterials serving as the trunk, the collectors serving as the branches, the local streets serving as the twigs that tie directly with the leaves (representing individual land parcels).

All roadways within the Powell study area were mapped and identified. The future study area road network includes the planned extensions of Home Road from US 23 to Lewis Center Road and Sawmill Parkway from Hyatts Road to US 42. Based upon the following descriptions, each roadway was assigned a functional classification.

- **Major Arterial** (e.g. Sawmill Parkway): Roadways that serve the major activity centers, the highest traffic volume corridors, and the longest trips. Service to abutting land should be subordinate to travel service. This system carries the major portion of trips entering and leaving an urban area – as well as the majority of through movements desiring to bypass the area. Major arterials range from interstates/freeways to principal streets and highways.
- **Minor Arterial** (e.g. Liberty Road): Streets and highways interconnecting with and augmenting the major arterial system – and providing service to trips of moderate length at a somewhat lower level of travel mobility. This system places more emphasis on land access and distributes travel to geographic areas smaller than those identified with the higher system.
- **Major/Minor Collector** (e.g. Murphy and Bennett Parkways): Streets running through development sub-areas and neighborhoods, collecting traffic from local streets, and channeling it into the arterial systems. A minor amount of through traffic may be carried on collector streets, but the system primarily provides land access service and carries local traffic movements within residential, commercial, and industrial areas. Major collectors typically favor mobility, whereas minor collectors offer more access. While the distinctions between the two are subtle, major collectors may have longer routes, higher speed limits, higher average annual traffic volumes, more travel lanes, and lower driveway densities than minor collectors.
- **Local Street** (e.g. Hall Street): Streets not classified in a higher system, primarily providing direct access to abutting land and access to the higher systems.



They offer the lowest level of mobility, and service to through traffic should be deliberately discouraged.

The framework of the Powell Thoroughfare Plan (refer to pages 60-61) is composed of major arterials, minor arterials, major collectors and minor collectors. The Thoroughfare Plan-Downtown Powell Detail (refer to pages 70-71) also includes local streets.

### Traffic Volume Projections

In transportation planning, models are commonly used to imitate the travel patterns of people. Commonly called *travel demand models*, these tools are based upon the practical relationships between socioeconomic characteristics, land uses, and travel patterns. By approximating future travel patterns, models make it possible to assess the implications of growth, to compare alternative transportation solutions, and to provide a testing ground for changes in transportation and land use policies.

The roadway network, as described in the preceding section, is critical for travel modeling within the designated area. The other critical component is the traffic analysis zone structure. A Traffic Analysis Zone (TAZ) is the unit of geography most commonly used in conventional transportation planning models. The size of a zone varies, ranging from very large (in the external and fringe areas of the modeled area) to small (in major activity areas). Land use and socioeconomic data are entered into the model at the TAZ level.

Traditional travel demand modeling uses a four-step process. The steps are:

1. Trip Generation: Estimating the number of trips produced by and attracted to the land uses within each TAZ in the planning area.
2. Trip Distribution: Determining the origin of each trip destination within the planning area, and vice versa.
3. Mode Split: Splitting the trips by available transportation modes between each origin and destination.
4. Traffic Assignment: Selecting paths from origins to destinations and loading trips onto the corresponding selected paths on the transportation network; vehicle-trips are loaded onto the transportation network using route choice principles.

A travel demand model was tested by the Mid-Ohio Regional Planning Agency (MORPC) for the Powell planning area to produce traffic volume projections on a typical weekday. Land use data was developed by TAZ for two scenarios: current conditions and projected conditions in 2035. Model validation was accomplished by comparing the trip assignments related to current (occupied) land uses with counted traffic volumes on existing roadway links and at existing intersections. Modeling was then performed to define roadway system needs for the planning horizon based upon anticipated land use development levels in 2035. The 2035 condition was based on detailed projections for commercial and residential growth using assumptions for land use types, development densities, and potential locations for development based on the final proposed Land Use Plan (refer to page 29). A summary of development assumptions is located in the Appendix. These projections were coordinated with the inputs for the Fiscal Analysis (Section 4).

### Roadway Characteristics

Each roadway within the Powell Regional Thoroughfare Plan was identified by functional classification (as previously discussed) – as well as by number of lanes, design designation, access control (where applicable), and right-of-way.

#### Travel Lanes on Roadway Segments

The following is a description of the number of lanes on roadway links of the Powell Regional Thoroughfare Plan:

- 2 L – Basic two-lane roadway with one travel lane in each direction.
- 2/3 L – Two-lane roadway (one through lane in each direction) with either a center left turn lane or separate left turn lanes at driveways and intersections.
- 4/5 L – Four-lane roadway (two through lanes in each direction) with either a center left turn lane or separate left turn lanes at driveways and intersections.
- 4/5 D – Four-lane roadway (two through lanes in each direction) with a barrier center median and with separate left turn lanes at driveways and intersections.

# TRANSPORTATION PLAN

## Design Descriptions

The purpose of defining a physical design characteristic for a street or roadway is to provide a set of standards for pavement widths and right-of-way requirements, in order to properly accommodate the number of needed travel lanes and desired streetside conditions beyond the travel way. These conditions can include open ditch versus curb and gutter drainage, median, on-street parking, sidewalks and bikeways, and tree lawns. The applicable right-of-way width must then accommodate the travel way and the desired adjacent conditions. Exhibit 3.3 lists typical pavement and right-of-way widths for roadways contained in the Thoroughfare Plan.

Exhibit 3.3 reflects typical minimum dimensions for each type of roadway. The City may adjust these dimensions, as needed, to best fit unique situations and conditions.

The right-of-way widths given in the exhibit are based on typical cross-section needs beyond the actual travel way. For "rural" design, about 18 feet is designated for drainage and other features on each side beyond the actual travel way. For "urban" design, about 15 feet is

designated on each side for amenities beyond the curb face. In general, this can include 7-foot tree lawns, 5-foot sidewalks, and 8-foot multi-use paths. The rights-of-way have been rounded to the nearest 10 feet.

## Access Management

Access management is the process of identifying the appropriate level of access that adjacent land uses should have to roadways, primarily based on their functional classification. Through access management, the City can provide access to land development in ways that preserve the capacity, safety, and flow of traffic on the roadway network. Access management can provide benefits, such as maintaining efficient movement of people and goods, reducing accidents, preserving public investment in the transportation infrastructure, reducing the need for more new roadways (or the need to widen existing roadways), protecting the value of private investment in the adjacent properties, and enhancing the environmental and economic vitality of the city.

**Exhibit 3.3: Typical Pavements and Right-of-Way Widths (Associated with Major Arterials, Minor Arterials, and Collectors)**

Travel Lanes	Description	Rural (a)		Urban (b)			
				Without Parking		With Parking (c)	
		Pavement Width (d)	R-O-W Width	Pavement Width (e)	R-O-W Width	Pavement Width (e)	R-O-W Width
2 L	One lane each direction	22 ft. to 24 ft.	60 ft.	22 ft. to 24 ft.	50 ft.	38 ft.	70 ft.
2/3 L	One lane each direction with left turn lanes	Base 24 ft.; 36 ft. @ intersections	70 ft.	38 ft.	70 ft.	52 ft.	80 ft.
4/5 L	Two lanes each direction with left turn lanes	60 ft.	100 ft.	64 ft.	90 ft.	78 ft.	110 ft.
4/5 D	Two lanes each direction with median and left turn lanes	68 ft.	100 ft.	71 ft.	100 ft.	85 ft.	115 ft.

- a. Open ditch drainage.
- b. Curb and gutter design.
- c. Parallel to curb.
- d. Outside edge of pavement to outside edge of pavement.
- e. Outside curb face to outside curb face.

Note: This table reflects typical minimum dimensions. Existing roadways may have unique conditions that do not conform to these standards but may be adequate given surrounding development context and character. The City may also adjust these dimensions to fit unique situations and conditions for new or improved roadways on a case by case basis.

The traveling public benefits from faster and safer travel. Businesses and property owners benefit through the avoidance of the congestion and resultant reduced accessibility that may otherwise result from uncontrolled and poorly planned access. Taxpayers benefit through more efficient use of existing roadways.

Access management is intended to reduce the conflict points between traffic traveling through an area and the traffic turning into or exiting from land developments. As such, it limits the number of conflict points at driveway locations, provides adequate separation between conflict areas, reduces the interference of turning traffic with through traffic, provides adequate circulation and storage for traffic on adjacent properties, and provides sufficient spacing between traffic signals. Access management techniques include consolidation of driveways, proper driveway design, provision of turn lanes, installation of medians, and use of frontage or backage roads (i.e. alleys or rear lanes).

When new roadways are constructed, or when tracts of land are developed (or redeveloped) along existing roadways, access management should be applied compatibly with the functional classification of the roadway as designated in the Thoroughfare Plan. (For roadways under the jurisdiction of the Delaware County Engineer, traffic impact studies associated with planned or proposed developments must comply with the standards and specifications contained in the ODOT State Highway Access Management Manual for state highways and in coordination with Access Management Standards set forth in the Delaware County Thoroughfare Plan).

### Resultant Thoroughfare Plan

The final Thoroughfare Plan was developed based upon a final Land Use Plan and the resultant average annual daily traffic volumes obtained from travel demand modeling. Future lane needs were first determined roughly according to the guidelines presented in Exhibit 3.4.

Exhibit 3.5 shows the resulting future lane needs throughout the Powell study area. Nonetheless, these results are solely based on the projected traffic volumes, and the final Thoroughfare Plan must take into account the practicality and efficiency of potential roadway improvements. For example, travel demand model results suggest that SR 315 should be widened to five lanes south of Carriage Road. This improvement is unlikely to occur due to environmental constraints and thus is not shown in

#### Exhibit 3.4: Planning Level ADT Thresholds by Facility Type

Type of Facility	Average Daily Traffic (ADT) Volume
2-lane road w/out left turn lanes	Less than 5,000
2-lane road with left turn lanes	5,000 to 20,000
4-lane road with left turn lanes	20,000 to 35,000
6-lane road with left turn lanes	35,000 to 45,000

the thoroughfare plan. Model results also indicate that a five-lane section is technically needed on SR 750 east of Liberty Street. While the Thoroughfare Plan does identify widening on SR 750 to the west of Sawmill Parkway and to the east of SR 315, it is suggested that this roadway be no more than two lanes wide with left turn lanes through the City of Powell in order to discourage through traffic from using this route.

The resultant Thoroughfare Plan (pages 60-61) combines the technical lane needs with practical expectations for future roadway improvements. The Thoroughfare Plan Roadway Elements Exhibit (pages 62-64) provides a summary of the Thoroughfare Plan by roadway link. This exhibit also defines the physical characteristics of a link in terms of basic design, functional classification, and desired minimum right-of-way width. It should be noted that additional right-of-way may be needed on certain links to accommodate certain roadside amenities or special design considerations. The Delaware County Engineer's Office provided the present right-of-way width on each road where such information was available.

Some of the identified improvements have already been planned by the Delaware County Engineer. The extension of Sawmill Parkway to US 42 is being designed and built as a major arterial. Additionally, the widening of SR 750 to the west of Sawmill Parkway, as well as the widening of Home Road throughout the study area, are improvements that were identified in the Delaware County Thoroughfare Plan. Beyond these, the Powell Thoroughfare Plan suggests widening to five lanes on US 42 west of South Section Line Road as well as on SR 257 north to Home Road. Seven lanes are called for on Sawmill Parkway south of Hyatts Road and on US 23 throughout the study area. While these capacity enhancements would best accommodate projected travel demands, the State and County do not have any current plans to undertake such modifications.



# TRANSPORTATION PLAN

The Thoroughfare Plan also calls for a railroad overpass on Seldom Seen Road. It would be desirable to also consider a railroad overpass on SR 750, as this railroad crossing is a major contributor to congestion in Downtown Powell. However, it is simply not physically practical to construct an overpass (or underpass) on SR 750. Using the existing overpass at Home Road as an example, grade separation would likely need to begin 800' or more from the center of the railroad tracks. A railroad overpass on SR 750 would therefore need to begin almost immediately west of the intersection of Olentangy and Liberty Streets, thereby denying direct access to SR 750 for all of the downtown businesses located west of Liberty Street. Similar conditions would result west of the railroad tracks. While an overpass is not suggested, a queue cutter is being installed to improve the safety of vehicles crossing at this location.

Although the Thoroughfare Plan suggests the widening of several major roadways surrounding existing Powell, it is important to note the lack of improvements suggested within Powell itself. No major widening has been suggested on SR 750 between Sawmill Parkway and SR 315, and this plan does not call for the construction of any new roads to funnel traffic away from SR 750 beyond what has already been planned. While a new east-west roadway would be desirable, a careful examination of the study area shows that development patterns have precluded any opportunity to create such a new roadway capable of carrying regional traffic.

Congestion in Downtown Powell (especially on SR 750) has been identified as one of the biggest concerns for residents. The situation will likely continue to deteriorate given that the population of Central Ohio is expected to increase by 500,000 people by the year 2050. Areas of severe congestion, which are now concentrated more closely to Downtown Columbus, will begin to spread further north if more people move to surrounding suburbs such as Powell, and continue to expand low-density, automobile-dependent development patterns. Regardless, widening SR 750 or adding new east-west links to the system are not the best solutions to congestion issues.

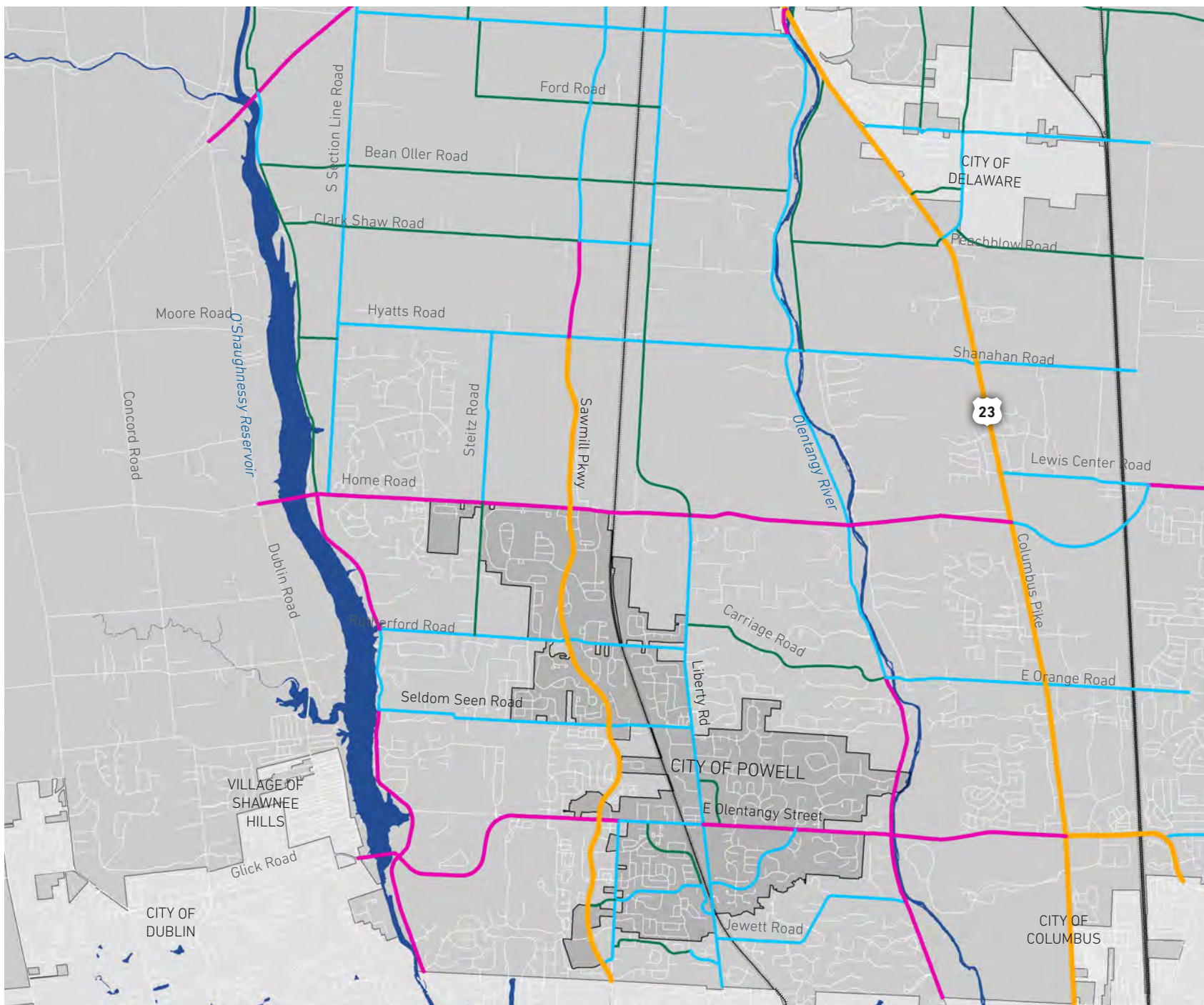
In the short-term, adding capacity to SR 750 or constructing new roads may ease congestion and shorten commute times. In the long-term, the increased system capacity would only encourage people to drive more, so

much so that nearly all of the additional capacity would be consumed. This phenomenon, called "induced traffic", has been well documented and is the reason that larger roads or new roads would do very little to reduce traffic congestion in Powell.

By restricting the capacity of SR 750 within Powell, "through" traffic is more likely to divert to other avenues. As an alternative to major roadway widening, congestion in and around Downtown Powell can be alleviated by supporting expanded use of mass transit and/or by practicing "smart development". This includes creating mixed-use centers, which promote walking and biking instead of driving, or providing employment nodes so that fewer residents are forced to commute to Downtown Columbus or other suburbs. The Land Use Plan (refer to Section 2) has been developed to achieve these objectives. Additionally, drivers traveling to and from the Columbus Zoo could be redirected to other routes by replacing existing signage, which currently instructs drivers to use SR 750. Drivers traveling to and from the north could instead be directed to Home Road, while drivers traveling to and from the south could follow the path of I-270 to Sawmill Road.

To improve access to local businesses and facilitate traffic flow, a more comprehensive network of local streets is being proposed in Downtown Powell. The primary objectives of the proposed secondary collector system are to provide access to land uses and parking areas – and to provide linkages that transfer short-distance in-town trips away from the arterial roadway system. In addition, if left turn movements are restricted at the intersection of Olentangy Street and Liberty Street, the proposed secondary collector system accommodates access to land uses within each downtown zone. This system of access and circulation routes should also integrate pedestrian and bicycle facilities in conjunction with the proposed linkages for these modes.





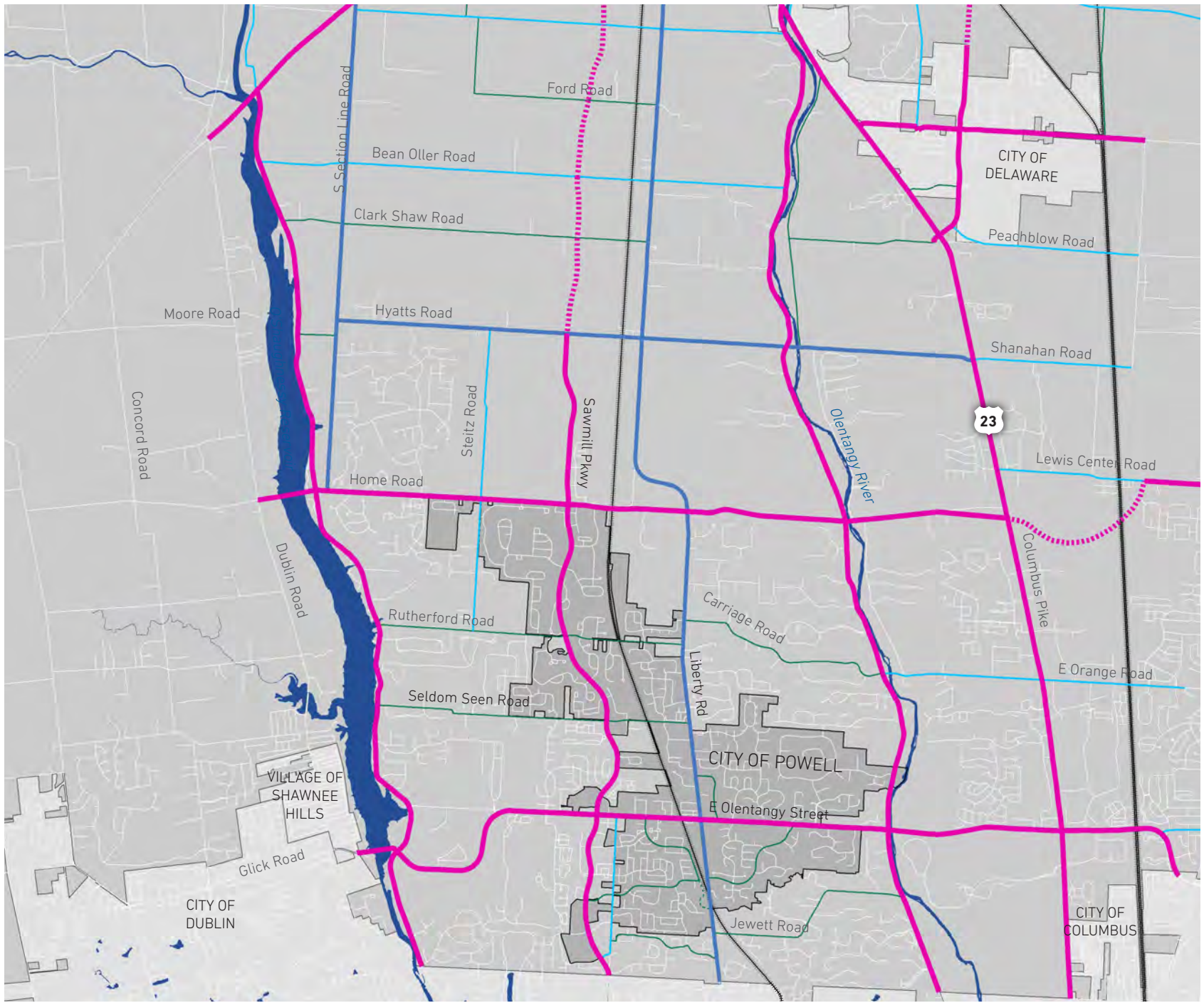
**Exhibit 3.5: Regional Roadway System Future Lane Needs**

- 6/7 Lane Road
- 4/5 Lane Road
- 2/3 Lane Road
- 2 Lane Road



↑ NORTH

0 1,000' 2,000'





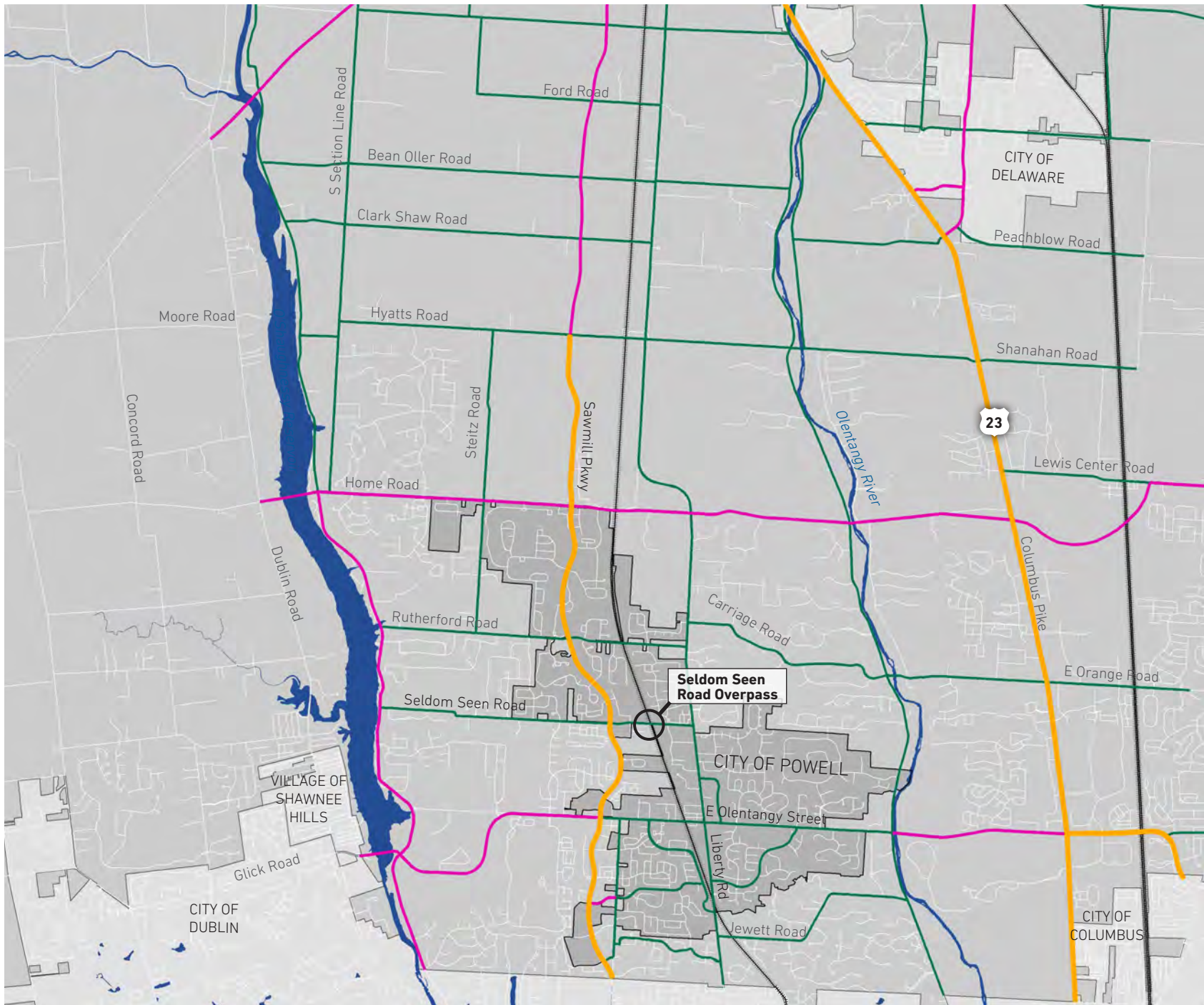
**Exhibit 3.6: Thoroughfare Plan - Functional Classification Of Roadways**

- |  |   |
|--|---|
|  Major Arterial       |  Major Collector       |
|  Major Arterial (New) |  Major Collector (New) |
|  Minor Arterial       |  Minor Collector       |
|  Minor Arterial (New) |  Minor Collector (New) |

↑ NORTH

0 1,000' 2,000'





**Exhibit 3.7: Thoroughfare Plan -  
Number Of Lanes**

- 6/7 Lanes
- 4/5 Lanes
- 2/3 Lanes

↑ NORTH

0 1,000' 2,000'

# TRANSPORTATION PLAN

**Exhibit 3.8: Thoroughfare Plan Roadway Elements**

Roadway	Limits	Current Jurisdiction	Present Condition			Thoroughfare Plan			
			Number of Lanes	Pavement Width (ft)	R-O-W (ft)	Functional Classification	Number of Vehicular Lanes		Minimum R-O-W (ft)
							Technically Needed	Per Plan	
Bean Oller Road	SR 257 to Township Limits	Concord Township	2	21	60	Major Collector	2	2/3	80
Bean Oller Road	Township Limits to SR 315	Liberty Township	2	21	60	Major Collector	2	2/3	80
Clark Shaw Road	SR 257 to Township Limits	Concord Township	2	20	60	Minor Collector	2	2/3	60-70
Clark Shaw Road	Township Limits to Sawmill Parkway	Liberty Township	2	20	60	Minor Collector	2	2/3	60-70
Clark Shaw Road	Sawmill Parkway to Liberty Road	Liberty Township	2	20	60	Minor Collector	2/3	2/3	60-70
Hyatts Road	S. Section Line Road to SR 315	Delaware County	2/3	22	40/60	Minor Arterial	2/3	2/3	80
Home Road	SR 257 to SR 315	Delaware County	2/3	24-36	60 (min)	Major Arterial	4/5	4/5	100
Carriage Road	Liberty Road to SR 315	Liberty Township	2	20	60	Minor Collector	2	2/3	60-70
Rutherford Road	SR 257 to Township Limits	Concord Township	2	18	40	Minor Collector	2/3	2/3	60-70
Rutherford Road	Township Limits to Sawmill Parkway	Liberty Township	2/3	18	40	Minor Collector	2/3	2/3	60-70
Rutherford Road	Sawmill Parkway to west of Flagg View Drive	City of Powell	2/3	18	40	Minor Collector	2/3	2/3	60-70
Rutherford Road	West of Flagg View Drive to Liberty Road	Liberty Township	2/3	18	40	Minor Collector	2/3	2/3	60-70
Seldom Seen Road	SR 257 to Sawmill Parkway	Liberty Township	2/3	22	40	Minor Collector	2/3	2/3	60-70
Seldom Seen Road	Sawmill Parkway to east of Railroad	Liberty Township	2/3	22	40	Minor Collector	2/3	2/3	60-70
Seldom Seen Road	East of Railroad to Liberty Road	City of Powell	2/3	22	40	Minor Collector	2/3	2/3	60-70
Murphy Parkway	SR 750 to Presidential Parkway	City of Powell	2/3	24-36	60 (min)	Minor Collector	2	2/3	75-80
Murphy Parkway	Presidential Parkway to Liberty Street	City of Powell	2/3	24-36	60 (min)	Minor Collector	2/3	2/3	75-80
S. Section Line Road	US 42 to Home Road	Delaware County	2	24	60	Minor Arterial	2/3	2/3	120



**Exhibit 3.8: Thoroughfare Plan Roadway Elements (continued)**

Roadway	Limits	Current Jurisdiction	Present Condition			Thoroughfare Plan			
			Number of Lanes	Pavement Width (ft)	R-O-W (ft)	Functional Classification	Number of Vehicular Lanes		Minimum R-O-W (ft)
							Technically Needed	Per Plan	
SR 750	SR 257 to east Gibson Drive	State	5	24	60	Major Arterial	4/5	4/5	100
SR 750	East of Gibson Drive to Sawmill Parkway	State	3	24	60	Major Arterial	4/5	4/5	100
SR 750	Sawmill Parkway to east of Sawmill Road	State	3	24	60	Major Arterial	4/5	2/3	80
SR 750	East of Sawmill Road to Liberty Street	City of Powell	2/3	24	60	Major Arterial	2/3	2/3	60 min. *Varies
SR 750	Liberty Street to East of Thornbury Lane	City of Powell	2/3	24	60	Major Arterial	4/5	2/3	80
SR 750	East of Thornbury Lane to SR 315	State	2/3	24	60	Major Arterial	4/5	2/3	80
Bennett Parkway	Liberty Street to SR 750	City of Powell	2/3	24-36	75-80	Minor Collector	2/3	2/3	75-80
Presidential Parkway	Sawmill Parkway to Sawmill Road	Liberty Township	4	48	80	Minor Collector	2	4/5	80
Presidential Parkway	Sawmill Road to Murphy Parkway	City of Powell	2	24	50-80	Minor Collector	2/3	2/3	80
Jewett Road	Liberty Street to SR 315	Liberty Township	2	20	50	Minor Collector	2/3	2/3	60-70
SR 257	US 42 to Bean Oller Road	State	2	24	60	Major Arterial	2/3	2/3	70
SR 257	Bean Oller Road to Home Road	State	2	24	60	Major Arterial	2	2/3	70
SR 257	Home Road to Rutherford Road	State	2/3	24	60	Major Arterial	4/5	4/5	100
SR 257	Rutherford Road to Seldom Seen Road	State	2/3	24	60	Major Arterial	2/3	4/5	100
SR 257	Seldom Seen Road to north of Jerry Borin Trace	State	2/3	24	60	Major Arterial	4/5	4/5	100
SR 257	North of Jerry Borin Trace to County Limits	State	4/5	24	60	Major Arterial	4/5	4/5	100



# TRANSPORTATION PLAN

**Exhibit 3.8: Thoroughfare Plan Roadway Elements (continued)**

Roadway	Limits	Current Jurisdiction	Present Condition			Thoroughfare Plan			
			Number of Lanes	Pavement Width (ft)	R-O-W (ft)	Functional Classification	Number of Vehicular Lanes		Desired R-O-W (ft)
							Technically Needed	Per Plan	
Steitz Road	Hyatts Road to Home Road	Delaware County	2	18	No Record	Major Collector	2/3	2/3	60-70
Steitz Road	Home Road to Rutherford Road	Liberty Township	2	18	No Record	Major Collector	2	2/3	60-70
Sawmill Parkway	US 42 to Clark Shaw Road	Delaware County	-	48	120 (min)	Major Arterial	2/3	4/5D	120
Sawmill Parkway	Clark Shaw Road to Hyatts	Delaware County	-	48	120 (min)	Major Arterial	4/5	4/5D	120
Sawmill Parkway	Hyatts Road to Home Road	Delaware County	4/5D	48	120 (min)	Major Arterial	6/7	6/7D	120
Sawmill Parkway	Home Road to Seldom Seen Road	City of Powell	4/5D	48	120 (min)	Major Arterial	6/7	6/7D	120
Sawmill Parkway	Seldom Seen Road to County Line	Delaware County	4/5D	48	120 (min)	Major Arterial	6/7	6/7D	120
Sawmill Road	SR 750 to Presidential Parkway	Liberty Township	2	21	40 (min)	Major Collector	2/3	2/3	70
Sawmill Road	Presidential Parkway to south of Bradford Court	Liberty Township	2	21	40 (min)	Major Collector	2/3	2/3	70
Liberty Road	Bunty Station Road to Clark Shaw Road	Delaware County	2/3	22	No Record/ 60	Minor Arterial	2/3	2/3	80
Liberty Road	Clark Shaw Road to Home Road	Delaware County	2/3	22	No Record/ 60	Minor Arterial	2	2/3	80
Liberty Road	Home Road to Ashmore Drive	Delaware County	2/3	22	No Record/ 60	Minor Arterial	2/3	2/3	80
Liberty Road	South of Railroad to County Limits	Delaware County	2/3	22	No Record/ 60	Minor Arterial	2/3	2/3	80
Liberty Street	Ashmore Drive to south of Railroad	City of Powell	2	22	No Record/ 60	Minor Arterial	2/3	2/3	50-70 *Varies
SR 315	US 23 to Bunty Station Road	State	2/3	24	60	Major Arterial	4/5	2/3	60-70
SR 315	Bunty Station Road to Carriage Road	State	2/3	24	60	Major Arterial	2/3	2/3	60-70
SR 315	Carriage Road to County Limits	State	2/3	24	60	Major Arterial	4/5	2/3	60-70



## Downtown Powell

The “Four Corners” intersection (i.e., the intersection of Liberty Street with Olentangy Street in Downtown Powell) has been identified by residents as the primary source of congestion in Downtown Powell. As a subset of the thoroughfare planning process, a detailed study was undertaken to highlight key factors that contribute to congestion throughout Downtown Powell, and subsequently determine possible short-term and long-term mitigation strategies.

### Contributing Factors

As shown in the Regional Roadway System Exhibit (refer to page 53), Olentangy Street, or State Route 750, is the first major east-west arterial located north of I-270, and is one of the few roads to cross both the Olentangy River to the east and the Scioto River to the west. As a result, east-west through volumes traveling in Downtown Powell are higher than desired. Furthermore, there are several factors that significantly hinder the progression of through traffic, and result in congestion both in the east-west and north-south directions on Olentangy and Liberty Streets.

Both Olentangy Street and Liberty Street are only two lanes wide through Downtown Powell, with no center turn lanes. Left turn blocking is thus a major issue not only at the Four Corners signal, but also at driveways and other intersecting streets. With the two-lane cross sections of Olentangy and Liberty Streets, there is not enough space for through vehicles to proceed past those waiting to turn left. Left turn blocking is a recognized issue, and the City has attempted to improve conditions by prohibiting left turn movements at the traffic signal from 4:00 – 7:00 PM on the eastbound and westbound approaches. Nonetheless, there are other contributing factors at play.

At the location of the at-grade railroad crossing on Olentangy Street to the west of Liberty Street, the tracks are slightly elevated compared to the surface of the road, resulting in a large bump that forces drivers to significantly reduce their speed as they cross the tracks. Train crossings at this location are also relatively frequent (about 15 per day), and can completely stop traffic on SR 750 for 5-10 minutes at a time. Also, the more urban and walkable development character of Downtown Powell, particularly at the Four Corners, creates a condition that encourages drivers to slow down, perhaps more than they are used to at other intersections in the City. All of these

factors result in the overall sluggish operation of traffic in the downtown area, effectively reducing the throughput operations of the traffic signal and causing delays.



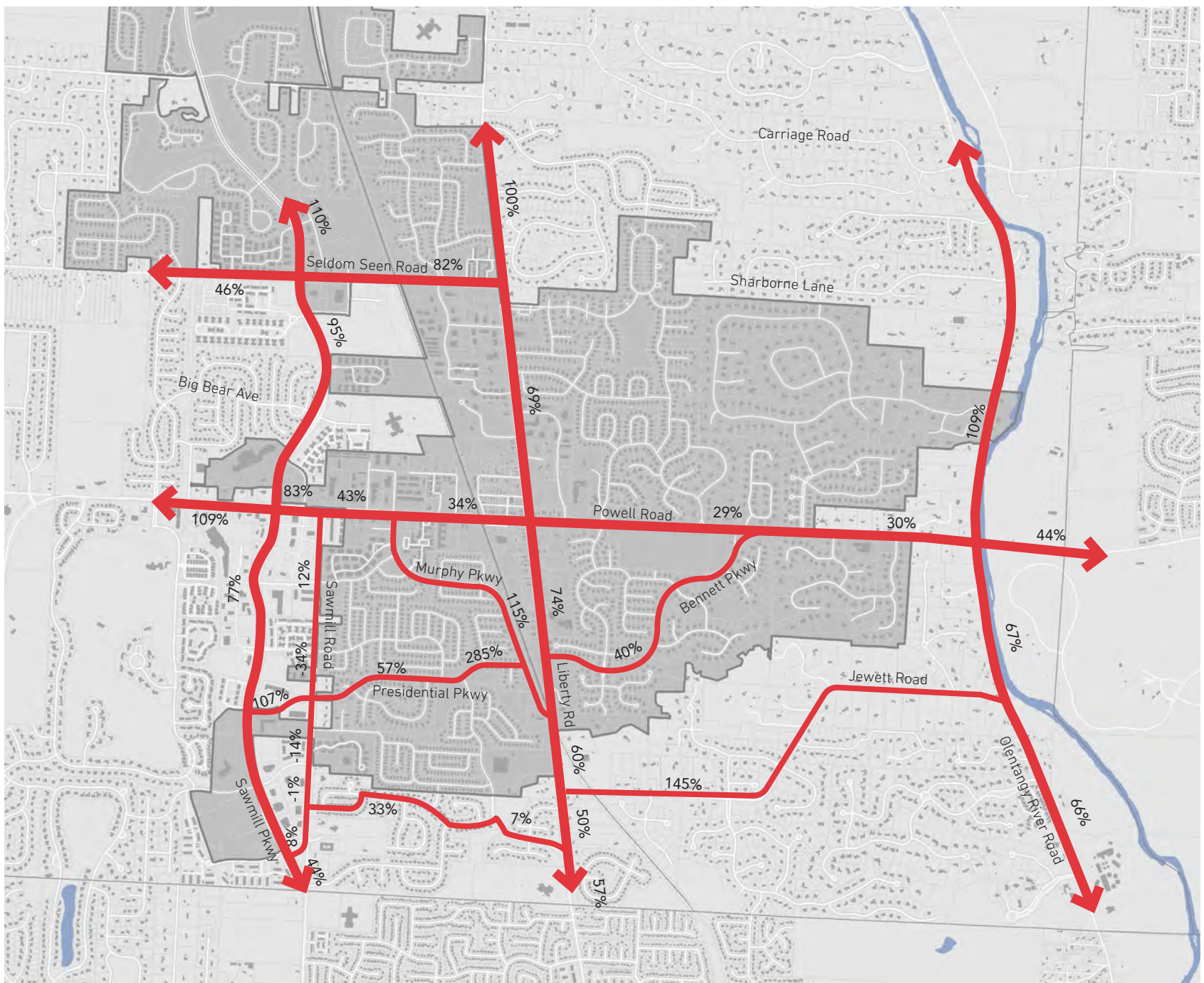
Downtown Powell - Liberty Street Looking South.

### Future Traffic Demands

The Mid-Ohio Regional Planning Commission (MORPC) was consulted for the purpose of establishing potential future traffic demands in Powell and the surrounding areas. MORPC’s regional travel demand model accounts for probable future land use changes as well as planned road network modifications, and the model uses this information to distribute future traffic demands throughout the region.

As a first step, recently collected traffic count data in and around Powell was provided to MORPC for the purpose of verifying current (2015) travel demand model results. Then, travel demand model results were provided for future (2035) conditions taking into account the land use adjustments proposed as part of this plan as well as planned road network additions, including the Murphy Parkway extension to Liberty Road.

Comparing current and future travel demand model results, growth rates were established on road links throughout downtown Powell. It is expected that between 2015 and 2035, the volume of daily traffic traveling through downtown Powell on Olentangy Street will increase by roughly 30%. On Liberty Street, the volume through Downtown Powell may increase by almost 75% on a daily basis.

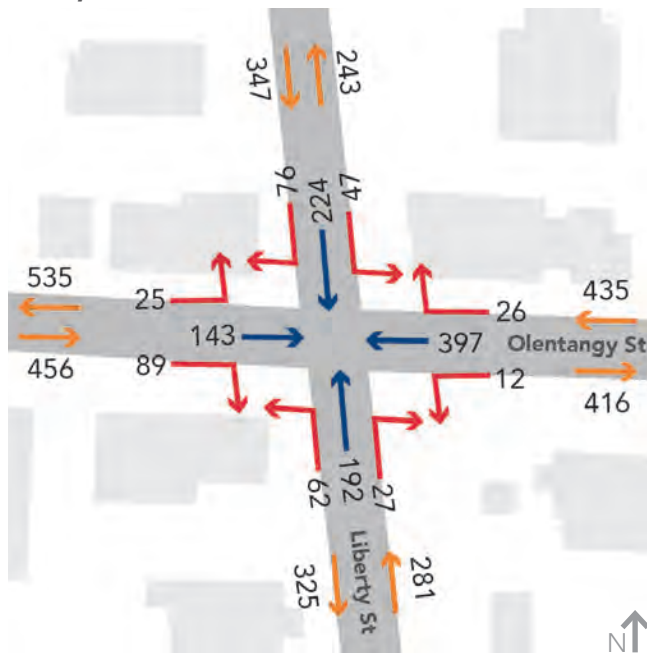


**Exhibit 3.9: Potential Traffic Growth 2015 to 2035**

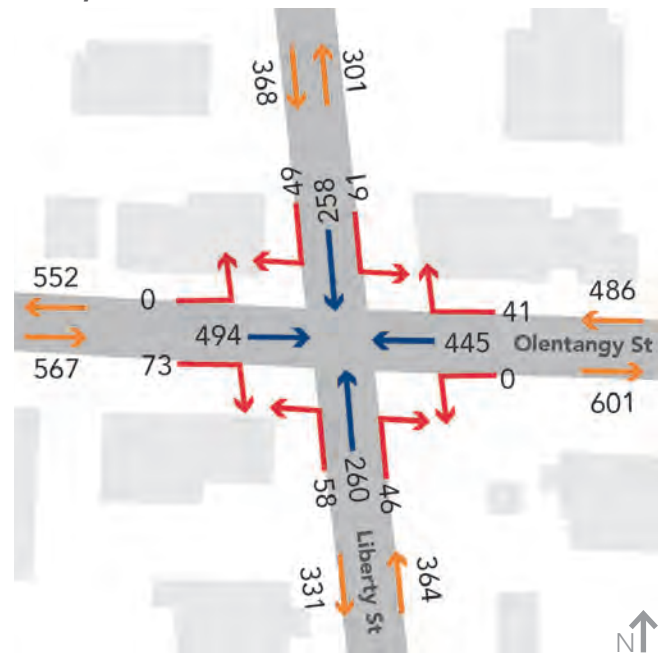


Exhibit 3.10: Four Corners Intersection Volumes, Existing Left Turn Restrictions

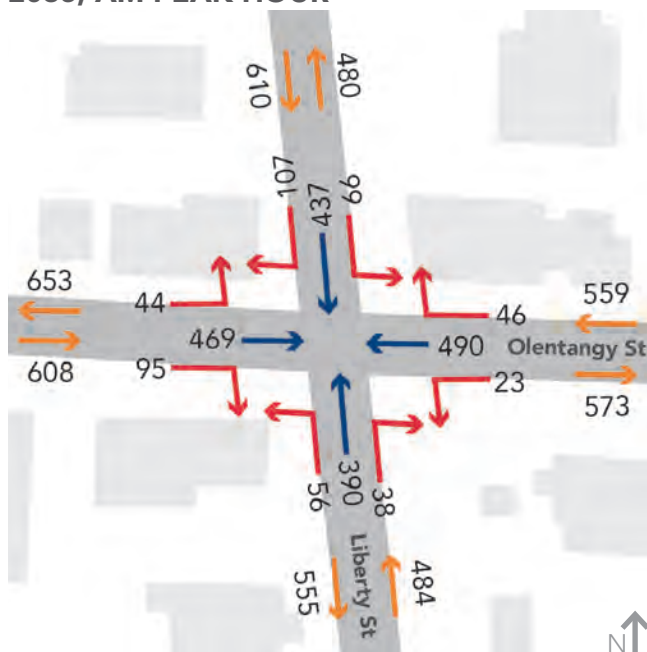
2015, AM PEAK HOUR



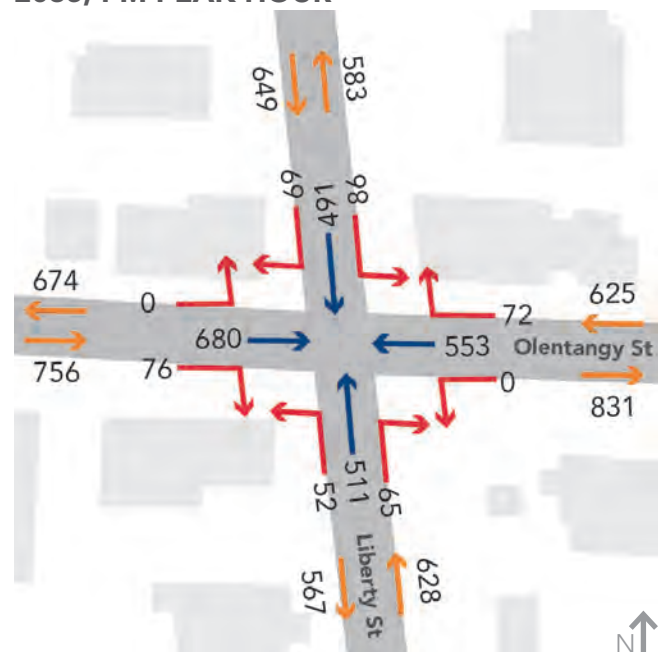
2015, PM PEAK HOUR



2035, AM PEAK HOUR



2035, PM PEAK HOUR





The regional travel demand model provided two-way, 24-hour traffic volumes on each link in the network. However, AM and PM peak hour turning movement volumes were needed in order to perform capacity analyses and simulation. Turning movement volumes were estimated by adjusting current traffic count data for the Murphy Parkway extension and applying the link growth rates, see Exhibit 3.9, over a 20 year horizon. Current and future turning movement volumes at the Four Corners intersection are illustrated in Exhibit 3.10. These volumes represent currently implemented restrictions at the intersection; there are no left turn restrictions in the AM, but eastbound and westbound left turns are currently prohibited from 4:00 – 7:00 PM, weekdays. At all times, right turns on red are prohibited on both Liberty and Olentangy Streets.

### Alternative Conditions

Given that left turn blocking and slow turn speeds have been identified as major contributors to congestion in Downtown Powell, future conditions were tested under the scenario that (1) left turns are completely prohibited at the signal during the AM and PM peak commuter hours, and (2) both left and right turns are completely prohibited at the signal during weekday peak hours. Turning volumes were reassigned to the road network based on trip origins and destinations, as well as the availability of alternate routes. For trips with origins/destinations outside of Downtown Powell, Murphy Parkway would serve as a

bypass in the southwest quadrant while Bennett Parkway serves the southeast. Grace Drive would be a bypass for trips in both the northeast and northwest quadrants.

Conditions at the intersection were analyzed for each of these alternatives to identify their effectiveness in reducing congestion. One of the measures used in comparing alternatives was the Intersection Capacity Utilization (ICU) Ratio. This value is reported as a percentage and provides an indication of how much congestion may be expected at the intersection, as summarized in Exhibit 3.11.

Four Corners ICU results for existing turn restrictions and alternative conditions (with 2035 projected traffic volumes) are found in Exhibit 3.12. Completely prohibiting left turns at the signal provides the largest improvement, decreasing ICU by over 30% in the morning and almost 25% in the afternoon/evening. Prohibiting right turns as well further improves the ICU, though the impact is not as substantial.

As another measure of effectiveness, the intersection level of service was considered. The level of service value is based on the procedure defined in the Highway Capacity Manual (HCM) and the associated Highway Capacity Software (HCS) (developed by the Transportation Research Board). This is a qualitative assessment of factors such as speed, volume, geometry, delays, and ease of maneuvering. Capacity analyses specify the quality of operations as a letter with respect to the average amount of delay experienced by drivers at the intersection, and the resulting level of service criteria are shown in Exhibit 3.13.

Exhibit 3.11: Intersection Capacity Utilization (ICU) Criteria	
ICU Ranges	Intersection Operation
< 55%	Intersection has no congestion
>55% but <64%	Intersection has very little congestion
>64% but <73%	Intersection has no major congestion
>73% but <82%	Intersection normally has no congestion
>82% but <91%	Intersection is on the verge of congested conditions
>91% but <100%	Intersection is over capacity and likely experiences congestion periods of 15 to 60 consecutive minutes
>100% but <109%	Intersection is 9% over capacity and experiences congestion periods of 60 to 120 consecutive minutes
>109%	The intersection is 9% or greater over capacity and could experience congestion periods of over 120 minutes per day

The average delay per vehicle for each of the alternative conditions at the Four Corners intersection is shown in Exhibit 3.14. For future traffic conditions, the intersection will operate at a failing level of service in the AM and PM with existing turn restrictions. Again, prohibiting left turn movements on all approaches provides a significant reduction in intersection delay. The intersection would operate at a level of service of D in the AM (which is typical for peak hour operation), but would still operate at F in the PM. Prohibiting both left and right turns on all approaches allows the intersection to operate at a level of service of C in the AM and D in the PM.

As a final measure, the traffic conditions in Downtown Powell were simulated for existing turn restrictions and the condition that all turns are prohibited at the intersection. If existing turn restrictions are maintained, queues on the eastbound approach could extend nearly to Murphy Parkway during both the AM and PM peak hours. Restricting all turns at the signal has the potential

to reduce this eastbound queue by 57% in the AM and 44% in the PM, with average queues reaching just beyond the railroad crossing. Refer to the Four Corners Intersection Queue Length exhibit (Appendix, page A10) for an illustration of projected 2035 conditions.

**Exhibit 3.13: Level of Service Criteria for Signalized Intersections**

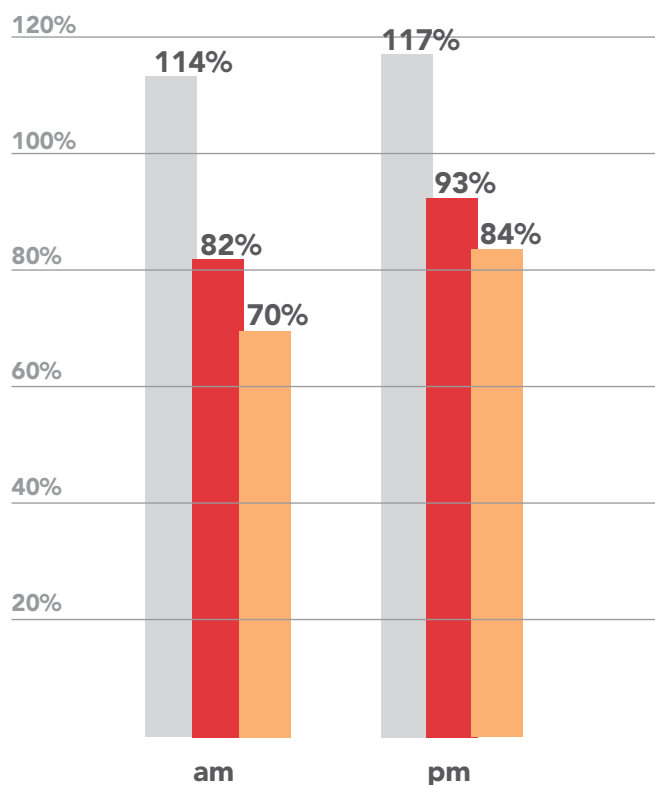
Level of Service	Average Delay (sec/veh)
A	< 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

**Exhibit 3.12: Four Corners Intersection Capacity Utilization, Alternative Conditions, 2035 Volumes**

Existing Restrictions

No Left Turns from SR 750 & Liberty

No Turns from SR 750 & Liberty

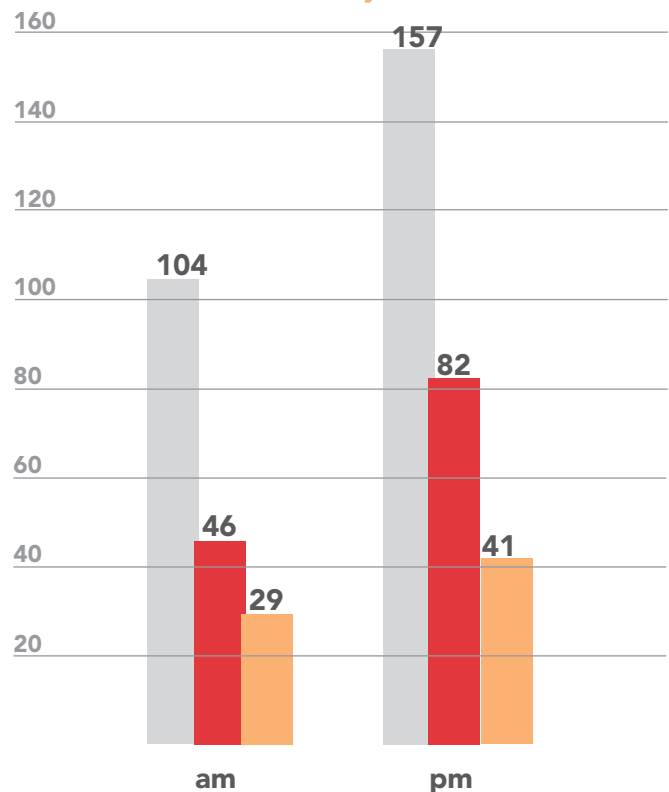


**Exhibit 3.14: Four Corners Intersection Delay, (Seconds per Vehicle) HCM 2010, 2035 Volumes**

Existing Restrictions

No Left Turns from SR 750 & Liberty

No Turns from SR 750 & Liberty



# TRANSPORTATION PLAN

On the westbound approach, the AM peak hour could see queues extending well beyond Bartholomew Boulevard and nearly to Bennett Parkway without any turn restrictions in place. PM peak hour queues on the westbound approach could extend to just past Bartholomew Boulevard under existing turn restrictions (no left turns). Restricting all turns at the Four Corners intersection reduces the average queue to just east of Grace Drive during both peak hours.

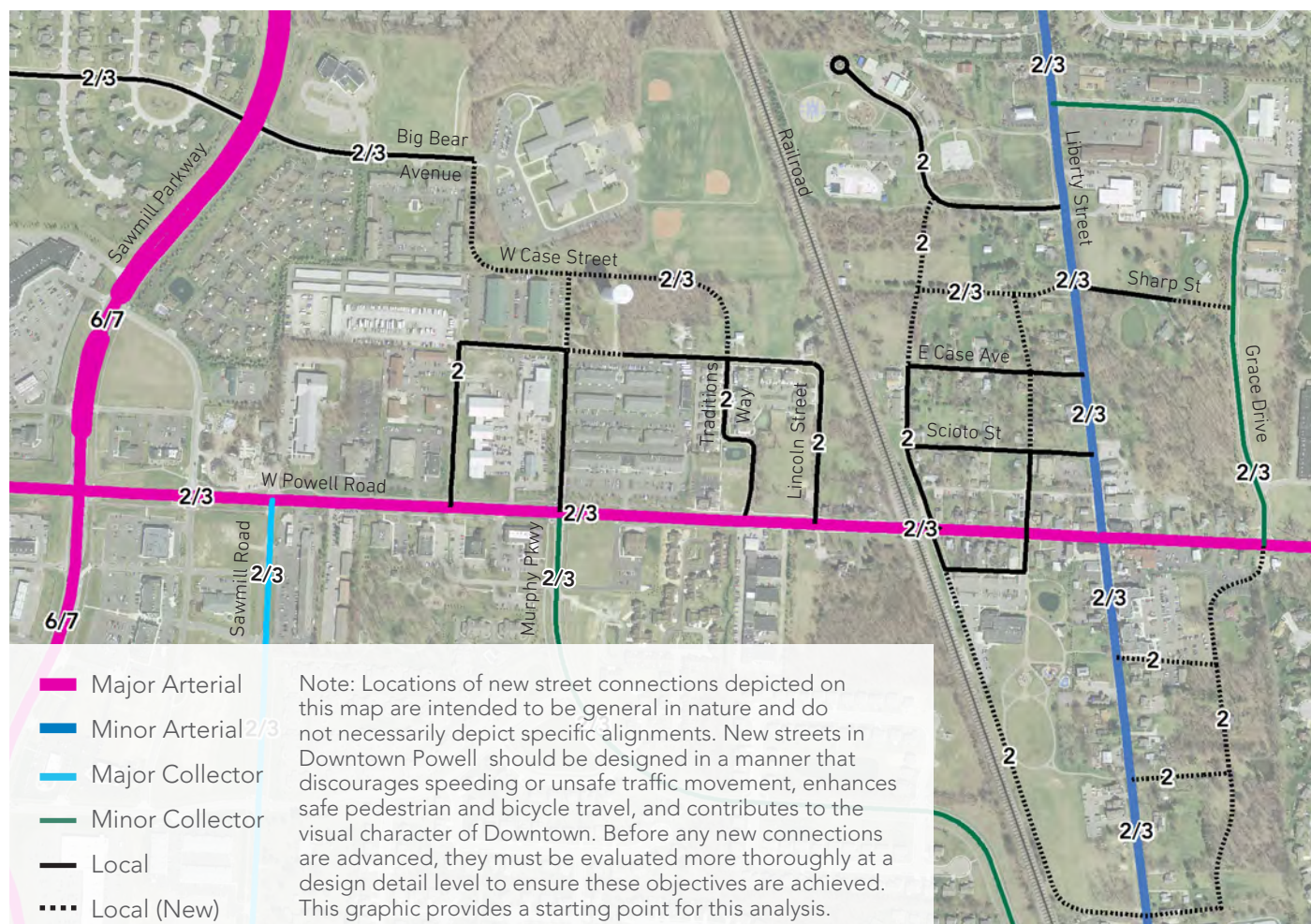
## Downtown Powell Road Network

While it has been shown that restricting turns on all approaches of the Four Corners intersection could greatly reduce congestion in Downtown Powell during the peak hours, it is important to note how this might affect access to local businesses. Turn restrictions on all approaches would make it much more difficult for customers to get

to and from businesses and other establishments and facilities in the downtown area, and may deter people from visiting these locations. It is thus imperative that a comprehensive street network be provided in the downtown area to provide access to parking and alternate routes for customers, visitors, and employees.

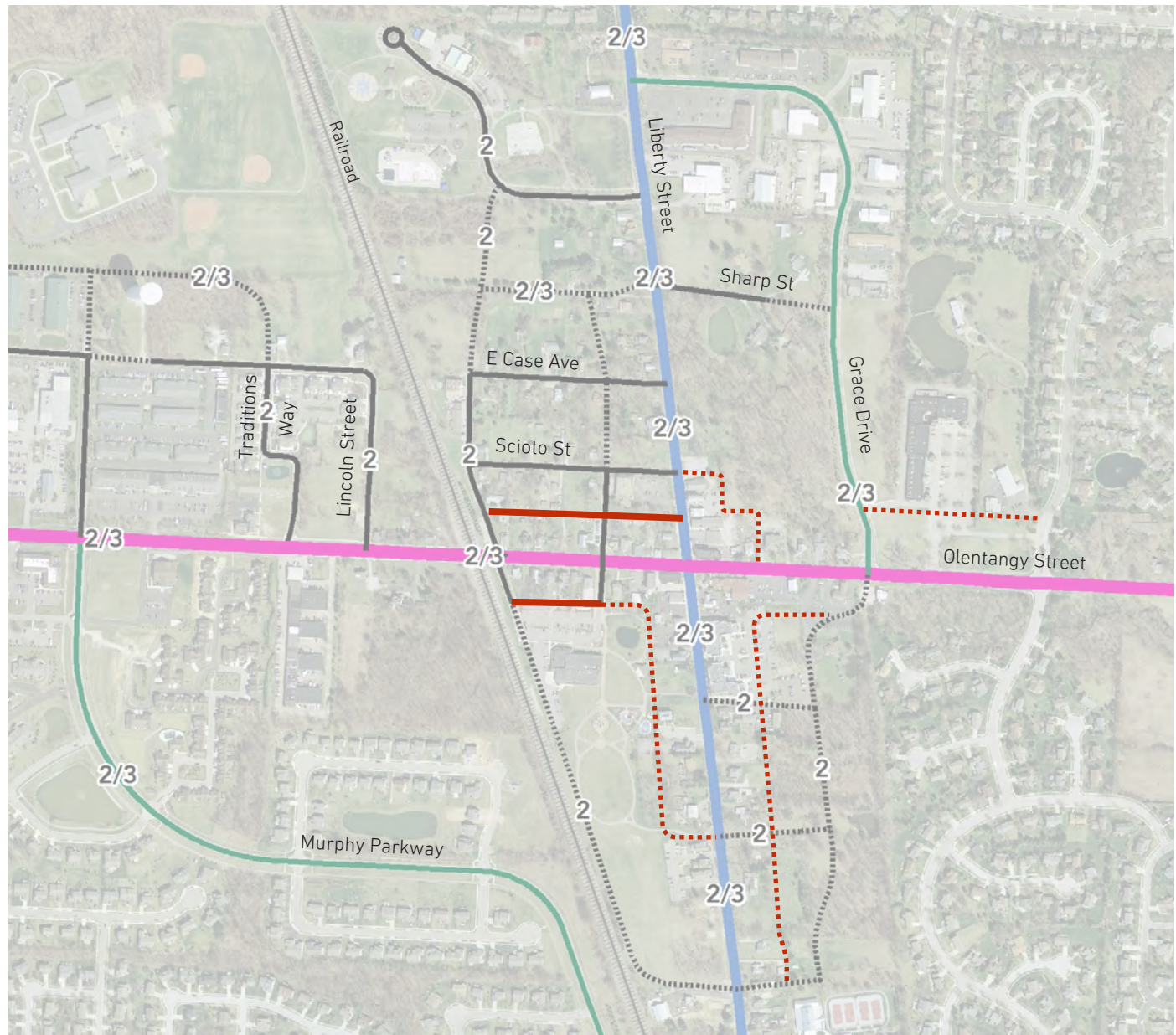
A concept street network has been created in order to address this issue and create a more robust downtown area. This concept includes additional public streets for better circulation around Downtown and is depicted in Exhibit 3.15. A more complete picture of the concept street network in the immediate vicinity of Downtown Powell is pictured in Exhibit 3.16. In addition to new public streets, this diagram shows a general concept for creating smaller access drives or alleys that may be provided for interconnected parking areas. Opportunities to create shared parking arrangements and/or new public parking areas should also be explored.

## Exhibit 3.15: Thoroughfare Plan - Downtown Powell Detail





## Exhibit 3.16: Thoroughfare Plan - Downtown Powell Alley System



- |   |   |
|---|---|
| <span style="color: magenta;">—</span> Major Arterial | <span style="color: red;">—</span> Alley (Existing) |
| <span style="color: blue;">—</span> Minor Arterial    | <span style="color: red;">- - -</span> Alley (New)  |
| <span style="color: cyan;">—</span> Major Collector   |   |
| <span style="color: green;">—</span> Minor Collector  |   |
| <span style="color: black;">—</span> Local            |   |
| <span style="color: black;">- - -</span> Local (New)  |   |

Note: Locations of new alley and parking lot connections depicted on this map are intended to be general in nature and do not necessarily depict specific alignments. Before any new connections are advanced, they must be evaluated more thoroughly at a design detail level to ensure objectives for enhanced circulation and access management are achieved. Cross access easements may be necessary for some connections, and will require thorough study and coordination with affected property owners. This graphic provides a starting point for this analysis.



# TRANSPORTATION PLAN

## Widening Concepts

Even as a more extensive road network is developed in Downtown Powell, left turn blocking will continue to be an issue if improvements are not made to the Olentangy Street or Liberty Street corridors. Consideration could be given to widening both arterials to three lanes in order to provide center turn lanes into driveways and other intersecting streets. However, it is not recommended that left turn lanes be added at the Four Corners signalized intersection. One option would be to add landscaped

medians near the intersection to maintain a consistent three lane section (refer to Appendix). Olentangy Street would be widened to the south, removing the existing on-street parking on this side only.

However, in order to preserve sidewalk space and minimize pedestrian crossing distance at the Four Corners intersection, another design scenario may also be considered. This scenario involves widening Olentangy Street west of Liberty Street to provide left turn lanes at Hall (and a continuous three-lane section moving westward), but maintaining a two-lane section through the signalized intersection. No widening would be done to the east on Olentangy Street or on Liberty Street. This alternative condition is illustrated below.

## Olentangy Street Existing Conditions



## Conclusion

Several factors contributing to congestion in downtown Powell have been identified. With projected traffic growth, conditions will continue to deteriorate if action is not taken. Some turn restrictions are currently implemented at the Four Corners signal in the PM peak hour. However, this is not enough to handle traffic demands over a 20 year horizon. Analysis of alternate conditions shows that consideration should be given to restricting at least left turn movements, and possibly all turns, from all approaches at the intersection.

With this recommendation, it is imperative that the Downtown Powell road network also be expanded to provide alternate routes and access to local businesses. Additionally, consideration could be given to widening Olentangy Street and possibly Liberty Street to three lanes. This would prevent left turn blocking of through movements at driveways and other intersecting streets in Downtown Powell. However, left turn lanes should not be provided at the Four Corners intersection itself. For this reason, alternative urban design concepts should be implemented. While a landscaped median could be provided near the intersection to maintain a consistent curb line with a three-lane section to the east and west, this would involve further impacts on the pedestrian

realm. Alternatively, the suggested three-lane section of Liberty and Olentangy Streets could be tapered back to the existing two-lane sections near the Four Corners intersection to maintain the pedestrian-oriented village character of the City's most prominent intersection.

Given the importance of Downtown Powell as the center of community identity and as a destination along a major regional traffic route, the complex interplay between transportation improvements and urban design considerations must be weighed together. As the City seeks to relieve traffic congestion at the Four Corners, the impacts on community character, pedestrian safety and mobility, and the success of downtown commerce should be carefully considered. As such, the City should undertake a more detailed and comprehensive design plan to determine the most appropriate configuration of travel lanes and the adjacent streetscape, as well as preferred access points for new streets and alleys.



Downtown Powell - The impacts on the pedestrian realm from potential widening of Olentangy and Liberty Streets should be carefully considered.



# TRANSPORTATION PLAN

## Bikeway Plan

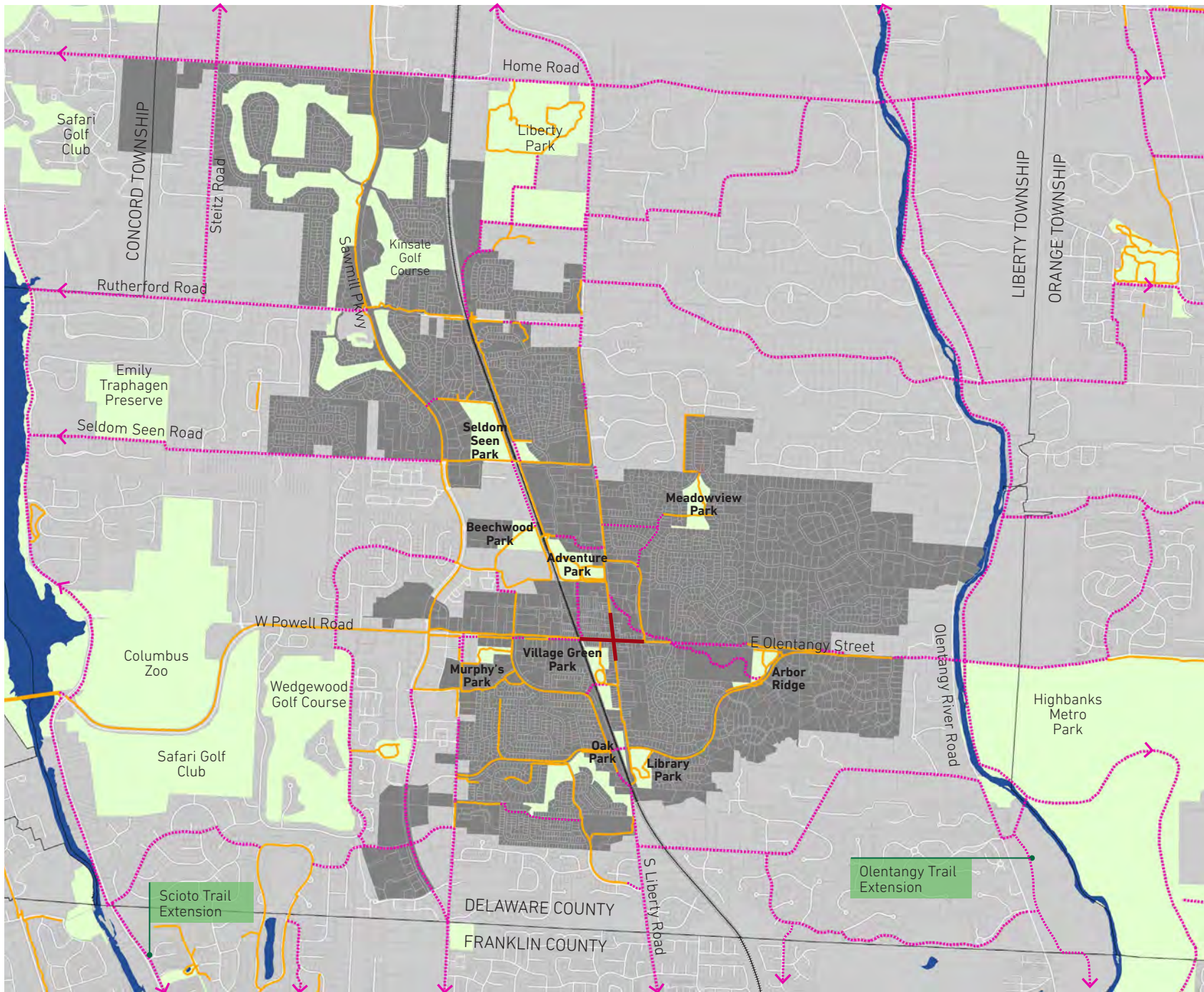
Bicycle travel, both for recreational purposes and for access to destinations such as shops, schools, and places of employment, is a critical part of a well-balanced, multi-modal transportation system. For suburban communities such as Powell, with lower-density development that results in longer travel distances, biking offers a more practical option than walking for many residents who would like to travel by means other than an automobile, or who cannot drive at all. This is especially important for children, who may not live in walking distance of their school, but could bike to school if safe and convenient routes are provided. People of all ages may wish to bike to a public park or to downtown Powell, but many find it difficult due to significant gaps in the existing bike path system. The Mid-Ohio Regional Planning Commission's Metro Bike Map identifies most of Powell's major roadways as having poor to moderate levels of service for bicycle travel, largely due to the gaps in the roadside path system. Throughout the course of the Comprehensive Plan update, public comments emphasized a desire for improvements to Powell's bikeway network by connecting gaps and creating safe connections to major destinations, such as downtown Powell and Highbanks Metro Park.

## Bicycle Infrastructure

Today, Powell's bikeway system is comprised entirely of off-street paths that run alongside major roadways or through parks and open spaces. These paths are more accurately considered "multi-use paths" as they are not reserved exclusively for bicycle travel, but also may be used for walking, jogging, or other non-motorized transportation. While there may be opportunities for on-street bike lanes on some roadways, these facilities would primarily serve riders who are more confident riding with traffic. For this reason, expansion and connection of the off-street path system should be considered the highest priority to best serve the entire community, including families, children and recreational riders. In some cases, critical connections within the system may require on-road facilities if there is no space for a roadside path. However, this may not require significant infrastructure investments if bicycle routes are strategically located along low traffic residential streets that are signed and marked as designated bicycle routes (i.e. a "signed/shared roadway" or "bicycle boulevard").







### Exhibit 3.17: Bikeway Plan

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| Railroad                         | Existing Multi-Use Path <sup>1</sup> |
| Parks, Open Space and Recreation | Proposed Bicycle Route <sup>2</sup>  |
|                                  | Downtown Sidewalks                   |

- Existing Paths indicate precise locations.
- Proposed routes do not necessarily indicate a preferred side of road or precise alignment. Routes may be comprised of on-street or off-street facilities

↑ NORTH



# TRANSPORTATION PLAN

## The Highbanks Connection

The Columbus and Franklin County Metro Parks system has undertaken a study to identify a future extension of the Olentangy Greenway Trail to Highbanks Metro Park. Three alternate routes are being considered, including a trail extension from its endpoint at the Olentangy Valley shopping center northward between the Olentangy River and Olentangy River Road (SR 315). A trail bridge would be constructed across the river to provide access to the park. This would provide an opportunity for Powell residents to access Highbanks via a route that would avoid the busy SR 750/SR 315 intersection. A route could be created by extending a multi-use path connection south on Liberty Road to Jewett Road, and along Jewett Road to Churchill Drive. From there, Churchill Drive, Loch Lomond Drive and Manning Parkway (through a future connection between Loch Lomond and Manning) could serve as a signed/shared roadway route to Olentangy River Road. Improvements would be necessary at the intersection of Manning Parkway and SR 315 to provide a safe crossing point for cyclists. Other potential routes include Jewett Road directly to Olentangy River Road, and Olentangy Street across the SR 750 bridge over the Olentangy River. All of these options should be explored in more detail and pursued as opportunities arise.

## Downtown/Four Corners Connection

Downtown Powell currently has a mixture of sidewalks and multi-use paths. There are a number of gaps in the system, both within Downtown and along the primary roadways that lead to Downtown. Gaps along SR 750 and Liberty Road should be prioritized, with an immediate goal of providing a continuous, connected multi-use path on at least one side of each road, and with safe crossing points where the path shifts sides. Ideally, continuous paths should be provided on both sides of these roadways. As these roads enter Downtown Powell, paths should transition to a more urban sidewalk with streetscape amenities. Due to right-of-way constraints at the Four Corners, it is not feasible to provide an on-street bike lane or a dedicated bicycle path separate from the sidewalk through Downtown. For this reason, roadway improvements should preserve as much sidewalk width as possible to allow safe use by both pedestrians and cyclists, but it will be necessary for cyclists to slow down considerably, or to dismount and walk along Olentangy and Liberty. However, additional street connections and nearby multi-use paths will provide alternative routes for cyclists that lead through Downtown while avoiding the Four Corners.





## Policy Recommendations

The Thoroughfare Plan serves as a guide for roadway infrastructure improvements necessary to accommodate anticipated growth and future traffic conditions over the next twenty years. The Thoroughfare Plan will be implemented over time, through a combination of proactive capital improvements and development-initiated construction. As with the Land Use Plan, the Thoroughfare Plan is intended to advance the Vision Statement and Guiding Principles outlined at the beginning of this document. The following series of policy recommendations provides a framework for implementing the Thoroughfare Plan and advancing related transportation and mobility goals.

### 1. Proactively address long-term transportation improvement needs

The City should begin to prioritize components of the Thoroughfare Plan for implementation. While some improvements may happen incrementally in conjunction with private development projects, others will require public commitments and action. The City should target land needed for new or expanded public rights-of-way and acquire property as needed to preserve space for future improvements.

Powell currently undertakes capital improvements planning as part of the annual budget process, including a five-year budget horizon, general phasing and identified funding sources. These are the essential elements of a Capital Improvements Program (CIP), and the City should continue to prioritize and fund infrastructure projects over a multi-year period. The City should also consider expanding the CIP into a stand-alone document that would provide greater detail for individual projects and priorities, and serve as a publicly accessible road map to infrastructure implementation. The CIP should continue to be assessed and updated on an annual basis in conjunction with the annual budget process.

### 2. Coordinate roadway improvements and maintenance with surrounding communities and jurisdictions

Powell's irregular municipal boundaries result in a number of roadways that periodically enter into and exit the City's jurisdiction, or which are bisected by the boundary of the City and Liberty Township. Powell



Transportation improvements in Downtown Powell must balance both vehicular and pedestrian mobility needs.

already has shared maintenance agreements with the township to address these circumstances and should continue such relationships to ensure consistent infrastructure conditions and provision of services such as snow removal. Some roadways also fall under State or County jurisdiction, which may provide additional funding sources for improvements, but also may create limitations on roadway design. The City should coordinate closely with ODOT and the Delaware County Engineer to ensure that improvements in and near Powell are appropriately prioritized and designed to meet the community's needs.

These needs may go beyond those of accommodating adequate traffic capacity, and also include aesthetic design elements, community gateway treatments and pedestrian/bicycle improvements. For instance, Sawmill Parkway, as Powell's major north-south arterial, establishes a visual image for the City that could be improved with enhanced roadside and median landscape treatments, which would require close coordination with the Delaware County Engineer.

### 3. Implement access management programs to reduce congestion and improve safety

A significant factor in roadway congestion is the location and frequency of vehicular curb cuts on arterial roadways and collector streets. Numerous, uncoordinated access points on busy thoroughfares can impact traffic movement, particularly where there are no turn lanes to provide space for drivers to wait for turns without stopping the flow of traffic. Numerous driveway curb cuts also interrupt sidewalks and bike paths and create potential conflict points for cars, pedestrians and bicyclists. This situation

# TRANSPORTATION PLAN



Transportation improvements should consider the character and context of surrounding development.

is best exemplified along Olentangy Street in Downtown Powell. As described earlier in this chapter, the City should implement an access management plan for Downtown Powell that will create consolidated, controlled access points to properties along Olentangy and Liberty Streets. Outside of Downtown, access management solutions should take into consideration the unique circumstances of different roadways and development conditions to appropriately balance traffic movement with access to adjacent properties.

## 4. Maximize roadway connectivity

New developments should be designed to extend public street systems. An interconnected roadway system provides more direct travel routes and increased travel options that help to disperse traffic and minimize congestion on arterial roadways. Isolated and gated developments should be discouraged. At the same time, care should be taken during the design process to ensure that roadway connections will appropriately serve area residents and businesses, and not induce outside “cut-through” traffic. In the case of private residential roadways and commercial drives, connections between adjacent developments and cross-access easements should be required during the development process. For new residential development, cul-de-sacs should be

discouraged in favor of loop streets and other layouts that increase route choices.

## 5. Promote multi-modal transportation options throughout the community

While Powell is a very automobile-oriented place, residents also enjoy walking and bicycling. Much of the public input generated during the comprehensive planning process identified a need to improve pedestrian and bicycle infrastructure. Powell currently has a disconnected system of sidewalks and bike paths. The City has already identified significant gaps in the system that should be completed, and should establish a long term implementation plan as part of the Capital Improvements Program.

Streets should be designed to function for all users, including pedestrians, cyclists, motorists, and in some cases, transit riders. Powell should adopt “complete streets” and “context-sensitive” design standards for new and improved roadways to ensure all users are accommodated in ways that are appropriate to the location and development context of various roadways. In addition, compact, walkable development patterns, as described in the Land Use Plan, should be emphasized to increase the ability of residents to travel by means other than the automobile.





**Sawmill Parkway caters primarily to the automobile today, but has the potential to serve as regional transit route in the future.**

Powell should strive to increase the efficiency of the transportation system by providing, supporting, and promoting programs and strategies that are aimed at reducing the number of car trips and miles driven (for work and non-work purposes). The City should promote and implement programs that encourage alternatives to driving alone by connecting people to transit. This requires policies and projects that address access to and from park-and-ride facilities, major transit hubs, and transit corridors. Transportation demand should also be managed by encouraging employer-based programs, or development-based programs, that offer incentives to ride transit. In addition, public education and marketing programs should be implemented to promote transit and other alternatives to driving.

Further, the City should work with MORPC, COTA, DATA, and surrounding jurisdictions to identify transit-emphasis corridors that connect designated compact and mixed-use centers with appropriate urban design and infrastructure standards to accommodate and enhance the operation of transit services. In particular, the Sawmill Parkway corridor has the potential to be a major regional transit route in the future, and could be prioritized for a Bus Rapid Transit (BRT) line.

Finally, Powell should support future opportunities to introduce commuter rail service to the existing CSX rail

corridor. While there are no immediate plans for such service, the existence of a major rail line running through the center of the City, while currently a barrier to traffic, could be part of a long-term solution to Powell's traffic congestion issues.

All modes of travel and types of facilities, from sidewalks and bikeways, to roadways, transit lines and transit stops and stations, should be linked together into a cohesive system that allows Powell residents to choose a convenient and preferred mode of travel and to switch between modes safely and efficiently.

## **6. Implement a signage program to direct drivers to alternate routes around Downtown Powell**

The City should work with County, State, and Township officials to develop a signage program that encourages drivers to travel on alternate routes instead of through Downtown Powell. This program should be implemented on both a regional scale and a local scale in order to optimize its efficiency in relieving congestion through Downtown Powell. On a regional basis, traffic traveling to and from the Columbus Zoo currently encumbers Downtown Powell, especially during the summer season. In lieu of existing signage which directs drivers to SR 750, new signage should be installed to make better use of Home Road, Sawmill Parkway, and Riverside Drive. This signage should begin directing drivers to a more appropriate route as far away as I-71 (to Home Road) and I-270 (to Sawmill Parkway) in order to capture these longer-distance, regional trips.

Signage should also be installed on a local scale to direct those drivers with destinations outside of Downtown Powell (not just Powell residents) to the available bypass routes along Bennett Parkway, Grace Drive, and Murphy Parkway (upon completion of its extension). Successful implementation of this program has the potential to significantly reduce congestion issues at the Four Corners intersection and throughout Downtown Powell.



# TRANSPORTATION PLAN



Powell should explore options to expand transit service to the community as part of a larger strategy to manage traffic.

## 7. Balance traffic capacity needs with community character impacts

Traffic congestion is widely recognized as one of the primary issues of concern among Powell residents. The most acute traffic problem is experienced within downtown Powell at the Four Corners intersection, but other congested intersections and roadways are also of concern. Providing adequate roadway width, travel lanes, and turn lanes is an important aspect of improving residents' quality of life and supporting local business activity. However, roadway design must also take into consideration the character of the surrounding area, and should not be solely focused on moving automobiles. Roadways are part of the public realm, and should contribute to a positive visual image of the community. The City should establish roadway character guidelines for priority corridors that establish design expectations for the public realm, to be coordinated with the context of surrounding development. As recommended in the Land Use Plan, targeted corridor studies should be considered that will establish a coordinated vision for both public and private improvements in priority areas.

## 8. Create a holistic design plan for the Four Corners intersection and associated downtown roadway improvements

As described in this section of the plan, a detailed analysis of existing and potential future conditions at the Four Corners suggests that the most appropriate solution to downtown traffic congestion involves eliminating all left turning movements at Olentangy and Liberty Streets, and

introducing left turn lanes elsewhere on these streets to disperse local traffic prior to reaching the intersection. A variety of design options have been explored, including widening Olentangy and Liberty Streets to three-lanes, introducing a median near the Four Corners, and alternating the roadway width from a three-lane to a two-lane section to preserve sidewalk width near the intersection. All of these options have costs and benefits in terms of traffic movement, parking impacts, pedestrian comfort and downtown character. The City should undertake a more detailed and comprehensive design plan to determine the most appropriate configuration of travel lanes and the adjacent streetscape. Design considerations should include an analysis of on-street parking impacts, roadside landscape treatments and street furnishings, stormwater drainage, sidewalk connectivity and consistency, pedestrian crossings, the potential for bicycle accommodations, and burial of overhead utilities, among other factors. This study should produce a comprehensive design plan for Olentangy and Liberty Streets and a clear strategy for implementation.

## 9. Use the Thoroughfare Plan as a guide in the development approvals process

Like the Land Use Plan, the Thoroughfare Plan should be consulted for all zoning and development decisions within the City to determine if development proposals are consistent with roadway improvement and right-of-way needs identified in the plan. For developments that include frontage on an existing arterial or collector roadway identified in the plan, development plans should be designed to accommodate the recommended public right-of-way width. Generally, rights-of-way should be dedicated to the City as part of the development process. Roadway infrastructure improvements, such as widening and pedestrian/bicycle path construction, should be constructed by the developer as part of the development process, or alternatively, a fee in lieu of construction should be paid to the City where piecemeal construction of improvements is not appropriate. In some cases, it may be appropriate for multiple developments to pay a fair share contribution to a major roadway project.