

# butler county connect

A MULTIMODAL RURAL COMMUNITY CONNECTION PLAN

U4 Health Loop  
Western Campus

BUILD DISCRETIONARY GRANT APPLICATION  
BUTLER COUNTY, OHIO





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BUTLER COUNTY REGIONAL TRANSIT AUTHORITY  
MIAMI UNIVERSITY | CITY OF OXFORD | TALAWANDA SCHOOL DISTRICT

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## TITLE PAGE

**Project Title:** Butler County Connect:  
A Multi-Modal Rural Community Connection Plan

**Project Location:** Oxford, Ohio

**Type of Application:** Rural Capital Project

**Applicant Organization Name:** Butler County Regional Transit Authority

**Type of Eligible Applicant:** Special District Government - Public Transit Agency

**Amount of BUILD funding requested:** \$4,500,000





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## EXECUTIVE SUMMARY

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Butler County Connect is a multimodal, regional transportation investment designed to address a significant lack of public transit infrastructure and amenities in Butler County, Ohio. This infrastructure is needed to support regional job- and education-seekers, transit-dependent families, local residents, and visitors. The proposed project is located in Oxford, Ohio, a densely populated and thriving university community surrounded by farmland and small rural communities.

The Butler County Regional Transit Authority (BCRTA) and its project partners, Miami University, the City of Oxford and the Talawanda School District, propose to create a new facility: The Chestnut Street Shared Services Facility and Multimodal Station. This facility will promote the use of public transit and alternative modes of travel, while also enabling the back-of-house operations necessary to maintain the transit system and amenities in a state of good repair. Additionally, these improvements will enhance safety, relieve traffic congestion, and increase environmental sustainability in the most densely populated part of western Butler County.

The project will also significantly improve links between nearby urban, economically distressed areas, including eastern Butler County and Cincinnati, and jobs and other opportunities available in rural western Butler County. The loss of manufacturing jobs in the urban centers of Cincinnati, Hamilton, and Middletown has left many unemployed, while in western Butler County jobs on the main campus of Miami University go unfilled because of insufficient labor supply. The jobs available at Miami University require a high school diploma or less, pay living wages and carry a transformative package of benefits, including medical, dental, and retirement benefits, free public transportation, and tuition waivers for employees and their immediate family members.

Without significant prospects for a return of manufacturing jobs to Cincinnati or Butler County, it is essential that residents have access to good paying jobs with meaningful benefits in order to develop new skills and climb the ladders of opportunity. Further developing Butler County's transit system will create such opportunities and provide an affordable and convenient option to increase the mobility of those seeking jobs and educational opportunities.

Butler County Connect builds upon years of work to further develop a thriving university community, while also building strong links to surrounding areas. In 2013, Miami University and BCRTA partnered to operate and oversee all campus transit services, forming a fully open, public transit system that had not previously existed. As part of this partnership, free rides are now available to Miami University students and employees on any route throughout BCRTA's service area.

To maximize this system's ability to connect disadvantaged communities with good jobs and educational opportunities, major infrastructure components are now required in the western portion of Butler County. This infrastructure will also enable community members and visitors to easily access and navigate BCRTA buses and other transportation options that are safer and more efficient than single-occupancy vehicles.

The following application will demonstrate that the project is a transformational, funded, and shovel-ready project.

## 01. PROJECT DESCRIPTION

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Butler County Connect consists of the following elements:

- Construction of the Chestnut Street Shared Services Facility and Multimodal Station to support Butler County Transit Authority's (BCRTA's) increased presence in western Butler County;
- Enhanced bus routes connecting:
  - ➔ The rural western part of Butler County to the urban eastern part;
  - ➔ Butler County to Cincinnati;
  - ➔ Eastern Butler County and Cincinnati to economic and educational opportunities in western Butler County;

This project aligns with DOT and BUILD goals by:

- **Improving safety** for buses, single-occupancy vehicles, pedestrians, and bicyclists in western Butler County, through the mitigation of traffic congestion;
- **Contributing to the good repair** of existing facilities and systems by introducing infrastructure improvements that enhance transportation network efficiency, address current network vulnerabilities, and provide opportunities for future network expansion;
- **Enhancing the economic competitiveness of the U.S.** by offering free rides to Miami University employees and students on the only public transportation system that links economically disadvantaged and racially diverse areas of Butler County and the Cincinnati area to important employment and education opportunities in western Butler County;
- **Improving quality of life** through use of

transit-oriented design that enhances the area's only public transportation system;

- **Increasing environmental sustainability** by funding needed infrastructure improvements, minimizing the number of single-occupancy vehicles on the road, and maximizing the use of what limited space is available on already-developed lands;
- **Knocking down barriers and building ladders of opportunity** by providing reliable, safe, and affordable transportation alternatives and by connecting residents of economically distressed Cincinnati, Hamilton, and Middletown to economic and educational opportunities in western Butler County.

### Expected Users of the Project

Users of the project include residents of the following communities:

- Western Butler County;
- The economically distressed cities of Hamilton and Middletown, in eastern Butler County;
- Cincinnati, in adjacent Hamilton County.

Residents in western Butler County will have increased access to a reliable, safe, and affordable transportation alternative to the single-occupancy vehicle. Residents of Cincinnati, Hamilton, and Middletown, will have access to employment and education opportunities available in western Butler County.

In addition, bus wash, storage, and maintenance facilities and fuel pumps located at the Chestnut Street Shared Services Facility and Multimodal Station will be used by all project



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partners — BCRTA, Miami University, the City of Oxford, and the Talawanda School District — to maintain a state of good repair of their fleets, to improve efficiency, to reduce operating costs, and to pave the way for future public transit growth in western Butler County.

### Transportation Challenges

Butler County Connect builds ladders of opportunity by eliminating two core transportation barriers: (1) a lack of reliable, safe, affordable transportation alternatives in a densely populated area, and (2) a lack of transportation options connecting urban eastern Butler County and Cincinnati to employment and educational opportunities in western Butler County.

#### *Challenge 1: Lack of Reliable, Safe, Affordable Transportation Alternatives in a Densely Populated Area*

A conflict between a rural culture that promotes over-reliance on the single-occupancy vehicle and urban population density creates an unsafe environment in western Butler County.

Western Butler County has no commuter trains, no Amtrak, very limited Uber/Lyft, and no affordable taxi service. BCRTA bus service is currently the only transportation alternative to the single-occupancy vehicle in western Butler County.

The City of Oxford, located in western Butler County, is one of the most densely populated communities in Ohio, with 3,150 persons per square mile. The reason for this density is that Oxford encompasses the campus of Miami University.

Unlike the rest of western Butler County, which is geographically, demographically, and culturally rural, Oxford faces transportation challenges more often associated with urban

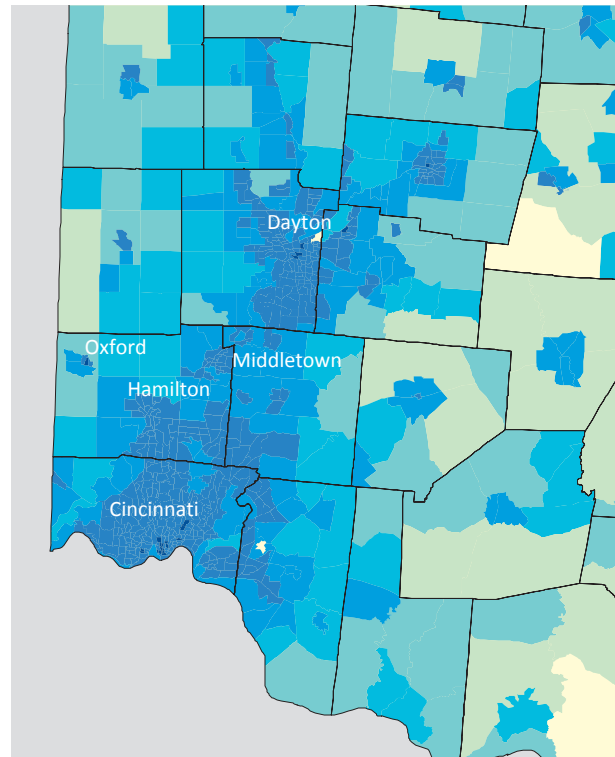


Figure 1: Population density of western Butler County and surrounding areas

areas. Miami University's core campus area houses thousands of students in residence halls and serves 24,000 customers in dining facilities daily. During hourly class changes, those thousands of pedestrians, cyclists, bus riders, and single-occupancy vehicle drivers flood the streets, sidewalks, and bike paths. In addition, a daily influx of 4,700 regular commuters and 300,000 visitors annually concentrate into this small area. As a result, the threat of intermodal conflict is constant and the potential for injury is great.

The project partners have taken steps to improve safety and reduce reliance on the single-occupancy vehicle for local travel. This includes implementation of fixed route public bus service provided by BCRTA.

Although this service is very affordable —

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thanks in part to subsidies provided by Miami University — a lack of infrastructure to facilitate ideal bus pulsing and to support local BCRTA operations means it is not as safe or reliable as it could be.

## ***Challenge 2: Lack of Connections***

A mismatch between the demand for and supply of labor in Butler County and Cincinnati could be mitigated by enabling more people to travel from urban areas to an important employment and education center located in an otherwise rural area. Yet, little infrastructure in western Butler County exists to support this commute.

Butler County's population is concentrated in the eastern part, especially in the county's two largest cities, Hamilton and Middletown, both of which are economically distressed. Meanwhile, the county's largest employer, Miami University, is located in the otherwise rural western part of the county.

Miami employs 9,800 faculty, staff, and student workers. Among the employment opportunities are 529 entry-level positions that require a high school diploma or less. As many as 120 of these positions need to be filled annually, but 60-65 of them routinely remain vacant due to the insufficient supply of labor in western Butler County. Current trends suggest that this number will continue to grow over the next two decades.

These jobs could easily be filled by un- or under-employed residents of Cincinnati, Hamilton, and Middletown. Yet, few un- or under-employed residents can afford the commute, which currently depends on the costly and inefficient single-occupancy vehicle. The distances are too great for walking, bicycling, or taking a cab or Uber/Lyft to be feasible. There is no commuter or other passenger rail service, and the growth, expansion, and efficiency of the public bus service provided by

project partner BCRTA is limited due to lack of infrastructure to support operations in western Butler County.

## **Solution: Improving Safety and Building Ladders of Opportunity**

Butler County Connect represents a long-overdue investment in transit infrastructure in western Butler County. This investment will result in a multimodal transit station located in the most densely populated part of western Butler County and a shared services facility to support the increased transit activity in western Butler County.

Butler County Connect improves safety by reducing the potential for intermodal conflict. Conveniently located at a current BCRTA bus staging site, the proposed Chestnut Street Shared Services Facility and Multimodal Station separates modes so that riders can enter and exit buses away from other traffic. Station entrances and exits are located so that buses avoid heavily traveled intersections, further improving safety and maximizing route efficiency.

The project also helps shift demand from the single-occupancy vehicle to public transit and other sustainable transportation options. The strategic location of the Chestnut Street Shared Services Facility and Multimodal Station provides a publicly visible interface for pedestrians and drivers of single-occupancy vehicles to connect with public transit and human-powered transportation.

Previous transportation investments in western Butler County have focused on meeting existing demand from Miami students for intra-campus transportation. Butler County Connect continues to address these needs, while also focusing on meeting growing demand for service from the broader community.



Specifically, Butler County Connect plays a critical role in connecting residents of the economically distressed and racially diverse cities of Cincinnati, Hamilton, and Middletown to job and educational opportunities in western Butler County.

Miami routinely has entry-level full-time positions available on the Oxford campus that go unfilled. The typical starting wage for these positions is \$10.16 an hour, significantly above the current \$7.25 federal minimum wage.

The economic benefit of these positions is increased by a transformative package of benefits, including health and dental insurance, state retirement, and tuition waivers for the employee and his/her spouse and dependents.

Further increasing the economic benefit of employment at Miami University, BCRTA provides free bus transportation for Miami employees and students to commute to and from work or school or to access medical care and other essential services. Residents of rural western Butler County can also rely on BCRTA for these same connections.

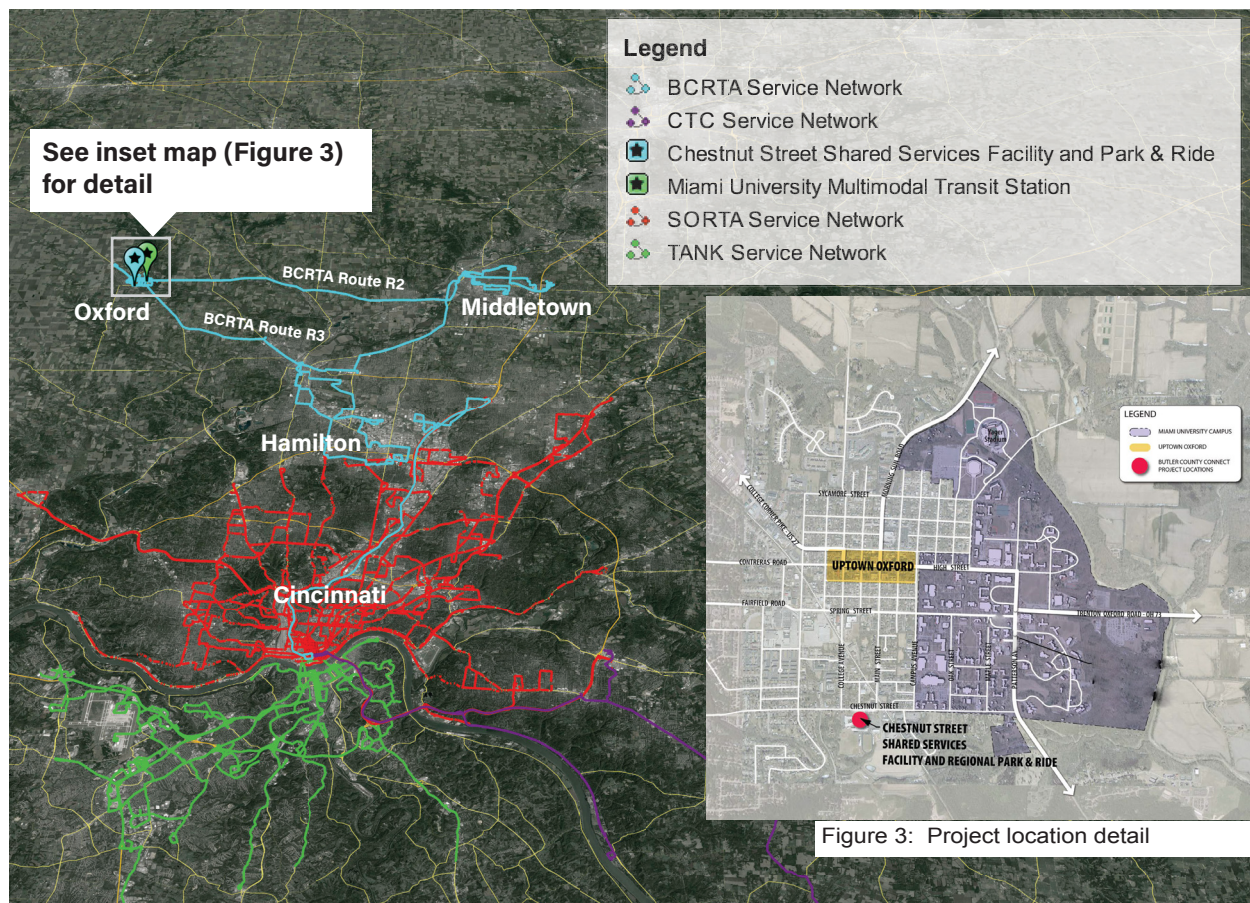


Figure 2: Project location and regional transportation connectivity

## 02. PROJECT LOCATION

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### **Detailed Description Proposed Project**

#### ***Existing Infrastructure***

Six local bus routes and two regional bus routes provided by BCRTA and one intercity route provided by Barons Bus Line travel through the proposed project area. Local and regional bus service is provided by BCRTA, which in 2013 partnered with Miami to replace the university's internal bus system with public transit. BCRTA currently provides bus service on the Oxford campus; between campus and key locations in the City of Oxford; and between Oxford and Miami's campuses in Hamilton and Middletown (Figures 2 and 3). More than 449,000 riders were served by these BCRTA routes in 2015 (Figure 5), and all local bus routes pass by Shriver Center, at the core of Miami's campus (Figure 4). As part of the agreement between BCRTA and Miami University, Miami students and employees ride BCRTA buses for free.

The most heavily traveled location in western Butler County is the core of Miami University's campus. This 14-by-7-block area includes 47 dormitories and 97 classroom and administrative buildings, in addition to retail and dining space. Each hour, when classes change, as many as 6,700 pedestrians, cyclists, bus riders, and car drivers flood the sidewalks, bike paths, and streets in this area.

Recent figures show that Shriver Center has more than 400,000 retail and banking customers and hosts 3,100 events with 125,000 attendees annually. Across the street is the Armstrong Student Center. This four-story building houses seven eateries that serve 6,525 people daily; a credit union; 94 offices for student groups and housing administration; a 500-seat theater; an 800-seat event space; and a patio with outdoor

seating. Armstrong is the most-visited building on campus, with daily traffic of 8,000 people. Within few blocks of the proposed transit station are 25 dormitories housing over 4,000 students, 22 dining venues serving 18,000 customers daily, and 18 academic buildings with daily traffic of over 21,000 persons. Excluding day-to-day classes and university business, this area hosts nearly 26,000 events with over 2.7 million attendees annually.

In addition to traditional buses and parking facilities, Oxford supports basic sustainable transportation options, including a shared-use path along Patterson Avenue, a shared-use roadway on Maple Street, and an on-street bike lane on both Spring Street and Chestnut Street.

#### ***Proposed Facilities***

Butler County Connect provides infrastructure necessary to integrate existing, fragmented facilities and services into a comprehensive multimodal system. The project creates, for the first time, a central hub of intermodal transportation to support spokes of bus and non-motorized transit throughout western Butler County.

Following a court case in which students successfully challenged Miami University's prohibition against student vehicles on campus, the university developed a circulation master plan that acknowledges a fundamental truth: the only way to reduce traffic on campus is to provide transportation alternatives that are more convenient than the single-occupancy vehicle.

Working from this master plan, the university reduced the number of parking spaces available on campus. Where feasible, the space freed up by eliminating parking was re-purposed to create bike lanes.

The university entered into an agreement with BCRTA to begin fixed route bus service on campus, while also enacting new policies that





muters.

Features of the site include a BCRTA bus storage facility; a bus/truck wash unit, indoor vehicle maintenance bays, and office space to serve BCRTA and local school district buses, as well as various vehicles belonging to Miami University and the City of Oxford; and an area to store up to 40 school buses owned by the local school district contractor, Petermann Bus (not shown in Figure 10).

The site further includes a central, indoor transit center, which will be a major pick-up point for BCRTA buses to transport users of the facility. The site has direct access to bike lanes planned by the City of Oxford along Chestnut Street, so commuters can also use the racks installed at the transit shelter to store bikes for getting around town and campus. Passenger amenities at this site will also include an indoor waiting area and restrooms, as well as room to expand customer service and ticketing for regional service providers. These passenger amenities will be all the more valuable if independent efforts succeed to secure an Amtrak stop on land approximately 310 feet to the east of the Chestnut Street Shared Services Facility and Multimodal Station (see #9 in Figure 10).

Miami University spent \$2 million to build the first phase of the project, which included approximately 580 parking spaces on the site, as well as removal of the former Talawanda High School building and preparation of the site for future phases. Upon completion, the site will contain 827 parking spaces, all developed and exclusively funded by Miami University; no BUILD grant funds will be used to pay for these parking spaces.

### **Description of Area in Which Project is Located**

Butler County Connect is located in Butler

County, in southwest Ohio. In particular, it links the mostly rural western section of the county to the mostly urban eastern section.

Some 371,000 people live in Butler County. The county is 90% urban, with about 40% of the overall population living in its three largest cities, Hamilton (pop. 62,000), Middletown (pop. 49,000), and Fairfield (pop. 43,000). These cities, and most of the rest of the county's population, are located in the eastern half of the county, where Interstate 75 serves as a corridor connecting Dayton (pop. 143,000) to the north and Cincinnati (pop. 298,000) to the south.

Hamilton and Middletown are economically distressed, as is Cincinnati, located in adjacent Hamilton County.

The per capita income in both Hamilton (\$20,455) and Middletown (\$20,371) is about 38% of US per capita income (\$53,750). Fifty-six percent of Hamilton City School District's children and 59% of Middletown City School District's children qualify for the free and reduced priced lunch program.

In Cincinnati, per capita income is about 47% of US per capita income. Census Bureau survey data show that the median earnings of Cincinnatians commuting via public transportation are about 46% lower than the median earnings of the city's other commuters.

While the loss of manufacturing jobs has left many in Hamilton and Middletown unemployed, in western Butler County as many as 60-65 jobs on the main campus of Miami University go unfilled each year. This is because the labor pool in this rural section of the county is too small to provide an adequate number of workers. Miami's main campus is located in the City of Oxford. While Oxford has some 23,000 residents and — with a population



Figure 6: Looking southeast, rendering of Chestnut Street Multimodal Facility



Figure 7 (below): Looking northwest, rendering of Chestnut Street Multimodal Facility



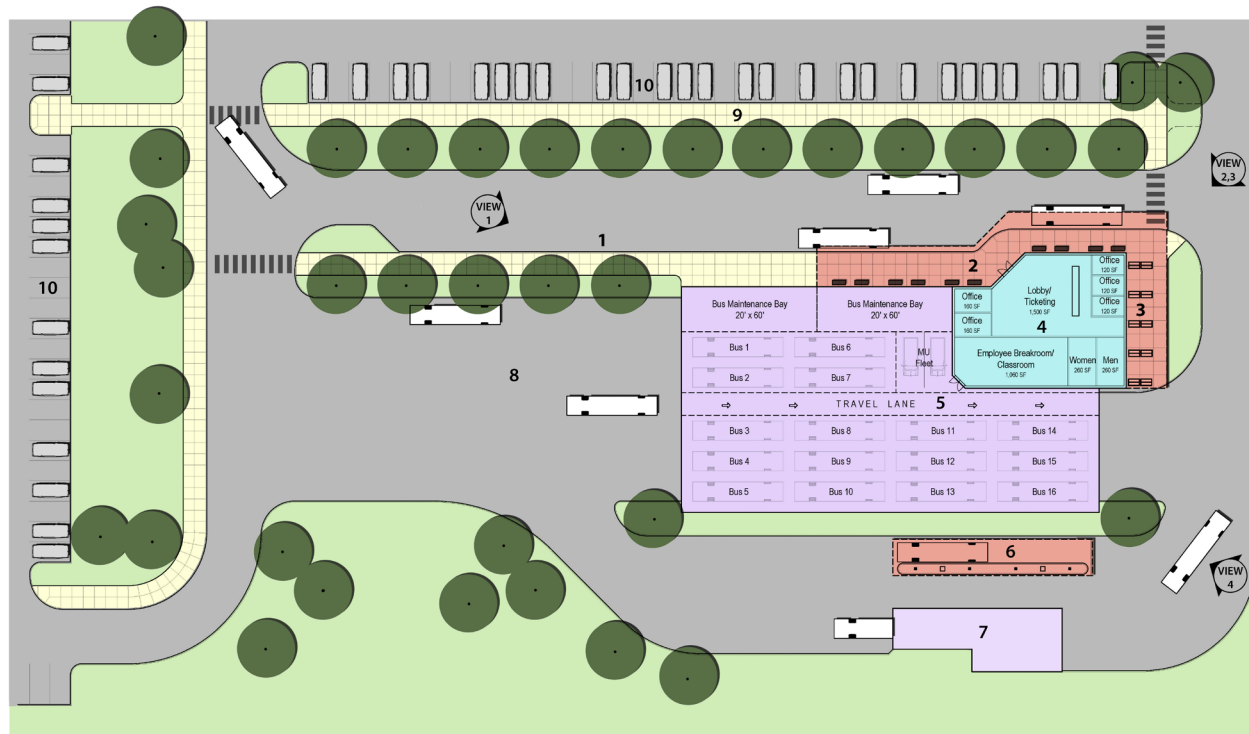
Figure 8: Looking southwest, rendering of Chestnut Street Multimodal Facility

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Figure 9: Looking west, rendering of Chestnut Street Multimodal Facility



Figure 10: Chestnut Street Shared Services Facility and Multimodal Station conceptual site plan



**Legend:**

- |                               |                             |                               |  |
|-------------------------------|-----------------------------|-------------------------------|--|
| 1 Bus Drop-Off/Pickup         | 4 Ticket Office (4000 s.f.) | 5 Bus Garage (15,660 s.f.)    | 7 Bus Wash   |
| 2 Canopy/Covered Waiting Area | • Ticketing/Wait Lobby      | • Indoor Parking for 16 Buses | 8 Bus Staging/Outdoor Storage                          |
| 3 Bike Parking                | • Offices (3 BCRTA, 3 TSD)  | • Bus Maintenance Bays (2)    | 9 Pedestrian Walk to Parking and Future Train Platform |
|                               | • Restrooms                 | • Parking for Miami fleet     | 10 Existing Park & Ride Lot                            |
|                               | • Employee Breakroom        | 6 Bus Fuel Pumps (2)          |  |



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density of 3,150 persons per square mile — shares many of the transit challenges faced by much larger urban areas, it is surrounded by a community that is geographically, demographically, and culturally rural.

### 03. PROJECT PARTIES

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Butler County Connect is supported by the Butler County Regional Transit Authority, Miami University, the City of Oxford, and the Tala-wanda School District (TSD). This team has a documented record of collaborating to leverage resources for the benefit of those they serve.

In 2013, BCRTA and Miami University executed an agreement establishing BCRTA fixed route public bus services on Miami University's campus and in the City of Oxford for a period of ten years (see supplemental material). This agreement also formalized the parties' cooperation in developing transit solutions and implementing changes in traffic flow, bus stop locations or amenities, and/or parking facilities. All elements of Butler County Connect are consistent with the existing agreement.

#### **Butler County Regional Transit Authority – [butlercountyrta.com](http://butlercountyrta.com)**

**Background** — Led by a board of trustees, BCRTA is committed to developing transportation options for Butler County citizens and visitors by identifying targeted needs and coordinating with other regional transportation providers through strategic partnerships.

**Assets & Capabilities** — BCRTA provided over 527,000 directly provided trips in 2015. An annual operating budget of approximately \$5 million supports a fleet of 50 buses and 100 employees. BCRTA is the Federal Transit Administration-designated recipient in Butler

County, Ohio.

BCRTA's rolling stock, with an average age of four years, is currently well-maintained in a state of good repair.

**Project Role** — As lead partner, BCRTA will manage the overall Butler County Connect project and administer awarded BUILD Discretionary Grant funds.

#### **Miami University – [MiamiOH.edu](http://MiamiOH.edu)**

**Background** — Miami University was founded in 1809 as a state university. Miami's main campus, located within the city limits of Oxford, serves 18,500 students. Miami directly employs 4,300 faculty and staff, as well as 5,500 part-time student workers on its Oxford campus. The university is an indirect source of many other jobs in the city.

**Assets & Capabilities** — Miami owns title to the land on which the proposed facilities will be built.

Miami University's Office of Planning, Architecture and Engineering completes an annual average of \$125 million in capital improvement projects per year, and currently has over \$350 million active in planning and construction projects, which it manages in compliance with Ohio Public Improvement Law. The Grants and Contracts Accounting Office has extensive experience conducting post-award administrative, business, and financial functions.

**Project Role** — Miami will provide the land on which Butler County Connect facilities will be built, as well as more than \$1.6 million in cash for construction costs. Planning, Architecture, and Engineering will oversee construction activities and the Grants and Contracts Accounting Office will support BCRTA's administration of grant funds.

## City of Oxford – [CityofOxford.org](http://CityofOxford.org)

**Background** — Oxford was organized as a municipality in 1830 as a direct result of the growing prominence of Miami University. It is located southwest of Dayton and north of Cincinnati in a rural area in the Miami Valley Region of Southwestern Ohio. The city lies approximately six miles east of the Indiana state line in the northwest corner of Butler County. The city covers 7.24 square miles and has a population of approximately 23,000.

**Assets & Capabilities** — The city provides many services, including police, fire, and emergency services protection; the construction and maintenance of highways and streets; parks and recreational programs; and water, sewer, storm water management, and refuse services.

City officials served on a steering committee responsible for developing a Circulation Master Plan that has guided nearly \$50 million in transportation improvement investments made by the City of Oxford and Miami University since 2011.

**Project Role** — Drawing on its community planning expertise, Oxford provides strategic vision for Butler County Connect. Oxford’s involvement helps ensure the project is consistent with previous municipal investments, and that it delivers benefits to city residents beyond the confines of Miami’s campus.

## Talawanda School District – [talawanda.org](http://talawanda.org)

**Background** — TSD comprises 145 square miles in southwest Ohio, with 99% of its territory located in Butler County and 1% in Preble County. TSD serves the following political subdivisions: the City of Oxford, the Village of Somerville, a part of the City of Hamilton, Reilly Township, and parts of Oxford, Milford, Hanover, Somers, and Israel Townships.

PARTNER		Project Role
Butler County Regional Transit Authority		Transportation expertise, financial administration
Miami University		Landowner, cash match, construction management, financial administration support
City of Oxford		Community planning expertise
Talawanda School District		Operator of shared fuel facility

Figure 11: Partnership roles

**Assets & Capabilities** — TSD has three elementary schools, one middle school, and one high school. TSD enrolls approximately 3,100 students and employs 361 certified personnel and non-instructional staff. Through a contract with Petermann Bus, TSD provides transportation for 1,968 public school students and 119 non-public school students. TSD owns the existing fuel pumps that are the subject of a shared services agreement between the project partners.

**Project Role** — TSD operates the existing fuel pumps that will be incorporated into the Chestnut Street Shared Services Facility and Multimodal Station, according to the terms of a shared services agreement.

## Other Support

Butler County Connect is supported by both United States Senators from Ohio; the Ohio, Kentucky, Indiana Regional Council of Governments (OKI); JobsOhio; Butler County’s State Senator three of its Representatives, and its Board of Commissioners, Transportation



Improvement District, Visitors Bureau, and Board of Developmental Disabilities; the City of Oxford's Chamber of Commerce, Visitors Bureau, and Community Improvement Corporation; the Cincinnati USA Regional Chamber and REDI Cincinnati; Supports to Encourage Low-Income Families (in the City of Hamilton); the Cities of Middletown and Trenton; and Miami University's Regional Campuses (located in the Cities of Hamilton and Middletown). Formal letters of support are included in the supplementary material.

#### 04. GRANT FUNDS & SOURCES/USES OF PROJECT FUNDS

Butler County Regional Transit Authority seeks a BUILD Discretionary Grant in the amount of \$4,500,000. The total cost of the Butler County Connect project is \$9,000,000. BCRTA has secured a commitment from Miami University for \$1,600,000 in matching funds, or 17.7% of the total project cost. In addition, BCRTA has committed \$200,000 and has also received a Section 5339 Bus and Bus Facilities Discretionary Grant in the amount of \$2,668,750. The BUILD funds will be used for engineering, inspection, and construction of the proposed facilities (no BUILD grant funds will be used to fund parking spaces). Virtually all pre-construction activities, including engineering and design studies and development of design criteria and concept-level cost estimates, have been completed for all proposed facilities. BCRTA expects to secure all environmental reviews, approvals, and permits no later than October 2019. The properties in question already belong to project partner Miami University. Therefore BCRTA anticipates being able to negotiate a final grant agreement immediately following

	Funding
PARTNER	
Butler County Regional Transit Authority	\$231,250*
Miami University	\$1,600,000
Section 5339 Bus and Bus Facilities Grant	\$2,668,750
Proposed BUILD Funding	\$4,500,000
Total Project Funding	\$9,000,000
*Contains non-material adjustment	

Figure 12: Funding Breakdown

notification of award.

Extensive prior planning and coordination among the project partners ensures that BCRTA will be able to begin construction immediately following execution of the final grant agreement, steadily and expeditiously using funds, with full expenditure to be complete by September 2021, well in advance of the deadline.

#### 05. SELECTION CRITERIA

##### A. Primary Selection Criteria

i. **State of Good Repair** — Butler County Connect is *consistent with relevant plans to maintain transportation facilities or systems in a state of good repair*.

Butler County Connect advances BCRTA's technical capacity, facilitating the expansion

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and enhancement of service, as well as continued maintenance of a state of good repair in its revenue fleet, which has an average age of four years.

Miami University and the City of Oxford undertook many of the safety improvements listed in Figures 13 and 14 (#7, #10, #20 and #21) in response to the NBTs, and also collaborated to make improvements to US 27, a major artery connecting western Butler County to Cincinnati (see #1, #2, #8, #13, and #17 in Figures 13 and 14). Butler County Connect builds on and extends the value of these prior investments in intermodal transit (Figures 13 and 14, #4, #18 and #19) by tying them together into a meaningful system with a central and highly visible hub of operations at the Chestnut Street Shared Services Facility and Multimodal Station.

In addition, the proposed facilities will help **address current vulnerabilities**. By encouraging the use of public and non-motorized transit, Butler County Connect will reduce wear and tear on streets maintained by the City of Oxford, lessening the need for repaving. By providing a bus wash station, the Chestnut Street Shared Services Facility and Multimodal Station will help the project partners keep buses and other vehicles free of abrasive dirt, road salt, and other substances that contribute to corrosion. The bus storage provided at this location will further protect BCRTA and local school district buses from extreme weather conditions and from mischief-makers, while also allowing for vehicle maintenance.

**Without the proposed facilities**, Butler County's **transportation network efficiency and economic growth are threatened**.

BCRTA currently lacks an adequate transfer point in western Butler County at the most heavily traveled location, the core of Miami's Campus. Existing bus layovers and dwelling areas create traffic and pedestrian hazards that

limit the number of buses that can dwell at one time and make it difficult for casual riders and visitors to identify buses. These inefficiencies not only inconvenience current riders, but they also prohibit the expansion of service to new riders. Located adjacent to the campus core and intentionally designed as a transportation facility, the Chestnut Street Shared Services Facility and Multimodal Station resolves these problems, contributing to greater efficiency and providing opportunities for future growth.

BCRTA bus service is the only affordable transportation link connecting Butler County's rural western section to its urban eastern section and to Cincinnati. BCRTA provides reliable, safe, and affordable ways to reach jobs, education, and other essential services in these areas.

Those left unemployed in the wake of several manufacturing plant closures need access to educational opportunities. These displaced workers need education to better position themselves for living-wage jobs. Miami University's campuses in Hamilton and Middletown offer such programs for anyone with a high school diploma or GED.

Because the non-Federal match portion of Butler County Connect is self-financed and one of the project partners already holds title to the land to be developed, the project is **appropriately capitalized and there is no need to optimize long-term cost structure**.

Parking fees collected will provide a **sustainable source of revenue for operations and maintenance of the project**.

Based on these projections, the revenue generated by parking fees at the Chestnut Street Shared Services Facility and Multimodal Station should easily sustain operation and maintenance. A 2007 report completed by



## Recently Completed Projects

	Project Name	Year Completed	Cost	Project Leader
1	US-27 North safety improvements	2012	\$5,612,000	City of Oxford
2	US-27 reconstruction in the Uptown District	2015	\$2,100,000	City of Oxford
3	College Avenue historic street reconstruction/safety improvements	2013	\$600,000	City of Oxford
4	Spring Street pedestrian and bicycle corridor safety improvements	2014	\$250,000	City of Oxford
5	CAB site improvements	2012	\$30,000	Miami University
6	Campus Avenue parking garage	2000	\$10,300,000	Miami University
7	US-27 South safety improvements	2014-2016	\$11,125,000	City of Oxford
8	Patterson Avenue bike lane	2015	\$135,000	Miami University
9	Western Walk	2014	\$10,000,000	Miami University
10	Patterson Avenue and Spring Street intersection improvements	2014	\$900,000	Miami University
11	Irvin Drive re-location	2014	\$200,000	Miami University
12	Campus hardscape improvements	2013	\$1,200,000	Miami University
13	Tallawanda Road and High Street intersection improvements	2003	\$360,000	Miami University
14	North campus parking garage	2006	\$5,200,000	Miami University
15	Miami Inn site improvements	2012	\$50,000	Miami University
16	North Patterson Avenue site improvements	2013	\$92,000	Miami University
17	High Street and Patterson Avenue intersection improvements	2009	\$1,971,000	Miami University
18	Route 73 walkway and pedestrian crossing	2005	\$153,000	Miami University
19	Ditmer park-and-ride lot	1998	\$1,680,000	Miami University
20	SR 73 and SR177 intersection safety improvements	2011	\$3,600,000	City of Oxford
21	SR 73 and US-127 intersection safety improvements	2014	\$3,700,000	City of Oxford
22	Chestnut Street Shared Services Facility and Multimodal Station Phase 1	2015	\$2,000,000	Miami University

Figure 13: Recently completed projects table

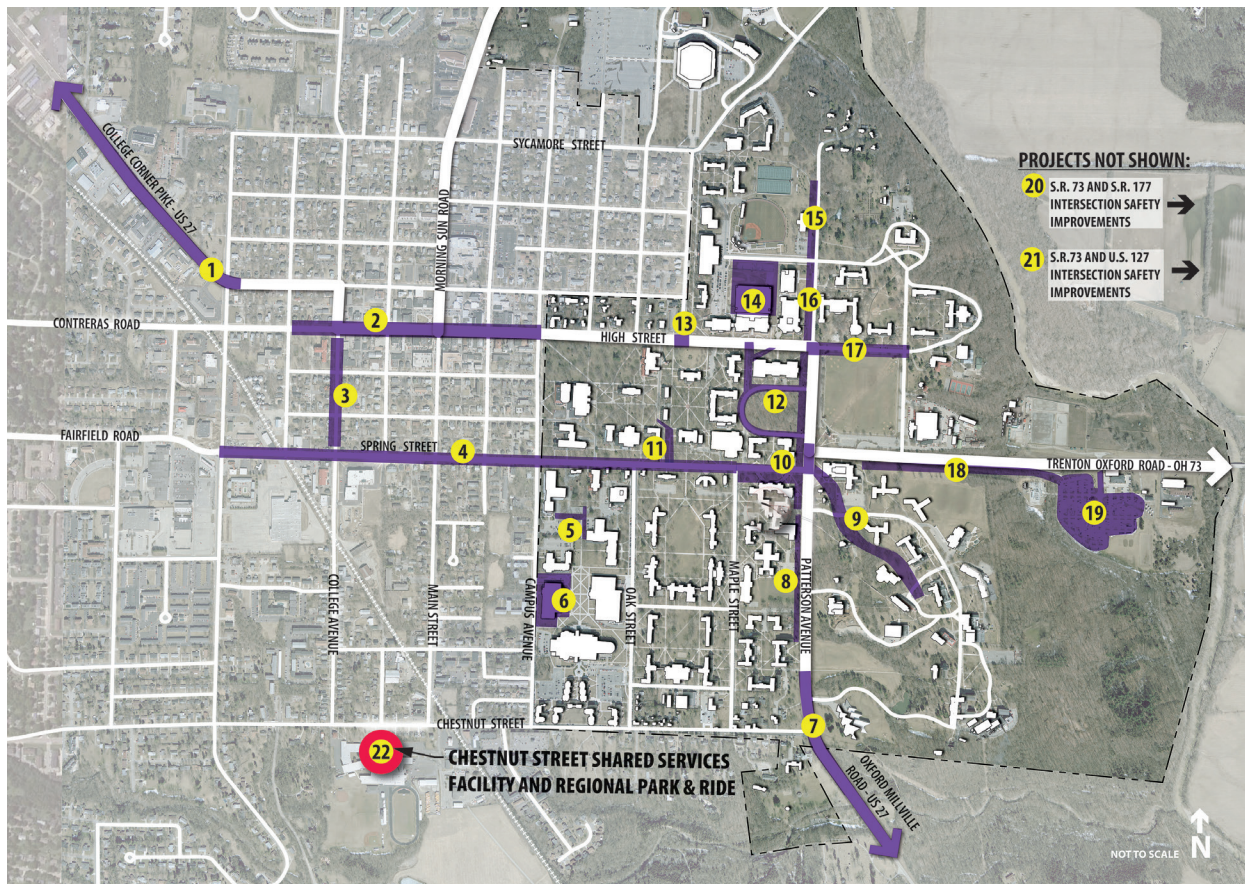


Figure 14: Recently completed projects map

Walker Parking Consultants for Miami University found that the cost of operating a parking facility, such as the one proposed at this location, is approximately \$400 per space per year. Revenue from Miami's existing parking structures is approximately \$520 per space per year, exceeding costs by 30%.

**ii. Economic Competitiveness** — Butler County Connect contributes to the economic competitiveness of the United States by establishing infrastructure that helps ensure the reliability of affordable BCRTA service linking disadvantaged areas in eastern Butler County to an employment and education center in western Butler County.

Butler County Connect *decreases transportation costs and improves access for Americans with transportation disadvantages through reliable and timely access to employment centers, education and training opportunities, and other essential services.*

In the absence of reliable public transit, the only option for travel from western Butler County to eastern Butler County is the single-occupancy vehicle. Butler County Connect also provides affordable, reliable transportation for residents of economically distressed areas in Cincinnati, Hamilton, and Middletown to reach quality jobs on Miami's Oxford campus.

The economic woes of already distressed Hamilton were exacerbated by the departure of its last paper mill in 2012. Equally struggling Middletown has been affected by repeated scalebacks at its sole remaining steel mill. It's clear that if economic recovery is to be achieved in these areas, the manufacturing sector will not be the driving force.

The jobs available at Miami University require a high school diploma or less, pay living wages,

and carry a transformative package of benefits. Despite the opportunity these jobs represent, however, the economic situation of many prospective employees limits their access to the work location. In the absence of public transit, even prospective employees who already have access to a single-occupancy vehicle would likely find the operating and maintenance costs prohibitive.

According to the American Automobile Association (AAA) in 2015, the average sedan costs 57.1¢ per mile to operate. At that rate, a 40-mile commute costs \$22.84. Repeated five times over the course of a standard work-week, expenses total \$114.20, or 28% of the weekly gross income of a full-time food service or building and grounds assistant at Miami making a starting wage of \$10.16 per hour. For reference, that amount is essentially equal to what most experts would say such a worker should spend on housing.

In contrast, as shown in Figure 15, bus transit provided by BCRTA is more economical, especially for Miami University employees, who ride BCRTA routes free of charge. Butler County Connect's proposed facilities help ensure the reliability and safety of existing BCRTA service and provide the infrastructure necessary for expansion of service.

BCRTA's affordable connections to employment and education and training centers in the region further benefit residents of Cincinnati, Hamilton, Middletown, and western Butler County.

Butler County Connect *improves the long-term efficiency and reliability in the movement of workers* by providing much-needed infrastructure to support BCRTA operations in western Butler County.

BCRTA currently lacks an adequate transfer



point at the core of activity in the western part of the county, which is traveled by over 2.5 million people annually. Existing bus layovers and dwelling areas create traffic and pedestrian hazards that limit the number of buses that can dwell at one time and make it difficult for experienced riders — let alone casual riders and visitors — to identify buses. Further, the current space is insufficient for pulsing of inbound/outbound routes, which results in inefficient routes that must be looped through congested areas. With implementation of the Butler County Connect facilities, many less ideal “loop” style routes will be converted to “inbound/outbound” routes that are more efficient and convenient for more passengers. BCRTA estimates that per-trip mileage of some existing routes could be reduced by as much

as 15%. This reduction in per-trip vehicle miles traveled (VMT) will allow BCRTA to: 1) provide faster service that is more efficient and convenient and 2) expand service offerings with nominal increases in operating funds and emissions.

Additionally, because the current area is not designed for transit station purposes, bus waiting areas are not prominently identified and way-finding resources are lacking, making bus ridership intimidating for new or casual users.

As the first dedicated bus facility in northwest Butler County, the Chestnut Street Shared Services Facility and Multimodal Station will provide better visibility for BCRTA operations and improve efficiency. It will also improve the efficiency and safety of bus loading and

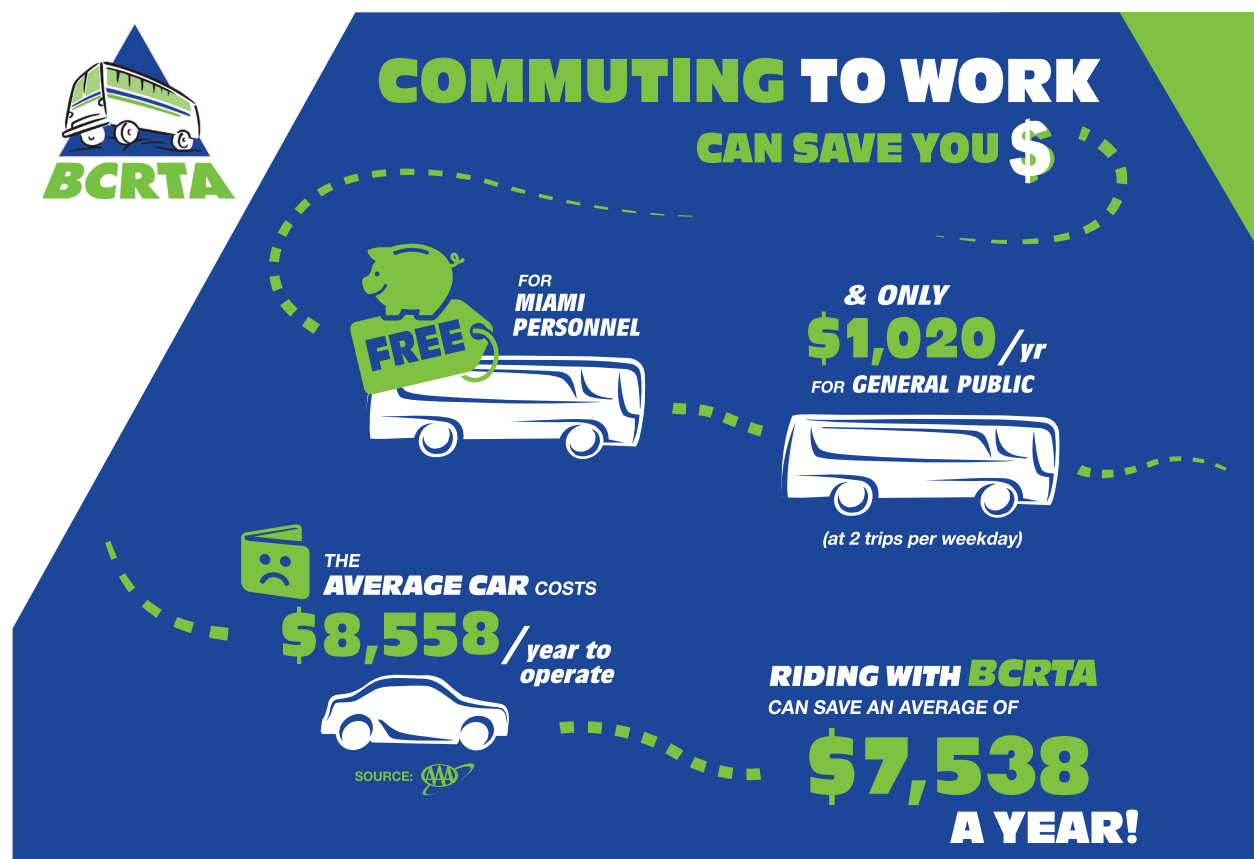


Figure 15: Cost of commuting on BCRTA compared to single-occupancy vehicle

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unloading and provide adequate space for route reversal in ideal locations.

By providing residents of Cincinnati, Hamilton, and Middletown with access to jobs on Miami's Oxford campus, Butler County Connect also ***increases the economic productivity of labor in specific locations*** in eastern Butler County and Cincinnati.

Most of the entry-level positions available at Miami are full-time, pay a living wage, and carry a transformative package of benefits. For example, two of the most commonly available positions at Miami's Oxford campus – food service assistant and building and grounds assistant – fall in an established pay zone that ranges from a minimum of \$10.16 an hour to a maximum of \$15.20 an hour. Even at the low end of the scale, then, wages for these positions are significantly above Ohio's minimum wage of \$8.30 an hour and the federal minimum wage of \$7.25 an hour.

Even more significantly, \$10.16 an hour is a living wage. According to the MIT Living Wage Calculator (<http://livingwage.mit.edu/counties/39017>), the minimum a full-time worker living in Butler County needs to support him- or herself is \$9.28 an hour, or nearly 10% *less* than the starting wage for a food service or building and grounds assistant on Miami's Oxford campus. If a worker making \$10.16 an hour shared a household with another adult earning the same wage, they would be making nearly 25% *more* than the minimum living wage each would need to earn to support their household (\$7.72). Once both workers reached the high end of the pay zone for these positions (\$15.20) they would be earning 11% *more* than the minimum living wage needed to support two children in dual-income household (\$13.46).

A transformative benefits package – including

health and dental insurance, state retirement, a formal job enrichment program, tuition fee waiver, and free public transportation – also contributes to the economic productivity of Miami's full-time employees.

According to data from the Bureau of Labor Statistics for the most recent period available (Quarter 4 of 2015), on average, total benefits for civilian workers in all occupations comprise 31.3% of total compensation. In contrast, Miami's staff benefit rate for full-time employees in FY2016 (July 1, 2015-June 30, 2016) was 37.47%. That raises the effective pay rate for a food service or building and grounds assistant earning \$10.16 per hour to \$13.97 per hour, 63¢ more than the average effective hourly pay rate (\$13.34) for a position with the same base salary. This extra compensation translates directly into greater disposable income for these workers. Disposable income is increased by an extra \$7,538 per year when workers commute by BCRTA bus instead of by car (Figure 15).

An added benefit is that Butler County Connect increases opportunities for minorities. The racial makeup of eastern Butler County and Cincinnati is significantly more diverse than that of western Butler County. Census data from 2010 show that in nearly every neighborhood in Cincinnati, Middletown, and Hamilton, at least 10-25% of residents are Black, and in some neighborhoods, 50-100% of residents are Black. Likewise, all three cities have more significant Hispanic populations than Oxford. The economic productivity of minorities in eastern Butler County and Cincinnati may be increased by Butler County Connect because it provides access to transportation to the location of quality jobs at Miami University.

Finally, Butler County Connect supports ***long-term job creation and other economic opportunities***. Together, Miami University employ-



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ees, students, and visitors spent approximately \$1 billion per year in the local area. Effectively meeting the transportation needs of student residents, permanent residents, and visitors is crucial to sustaining and building on this economic success and creating new jobs. Happy, relaxed consumers spend more and visit again, while irritated, stressed out consumers spend less and avoid coming back. By providing convenient access to intermodal connections, Butler County Connect eases irritating traffic congestion and ensures easy, stress-free transit between local destinations, all of which benefits local businesses.

**iii. Quality of Life** — Butler County Connect has been developed with a consideration of the six livability principles identified by the US Department of Transportation in conjunction with the Department of Housing and Urban Development and the Environmental Protection Agency in their joint interagency Partnership for Sustainable Communities. These principles focus on helping communities improve access to affordable housing, expand transportation options and lower transportation costs while protecting the environment.

Butler County Connect provides increased access to the regional bus system and bicycle connections, eliminating barriers of access to jobs, education, and other essential services.

The Chestnut Street Shared Services Facility and Multimodal Station is designed to make it easier to access and use BCRTA transit. This is accomplished by improving traffic flow for buses, pedestrians, and cyclists; by improving signage and way-finding; and by providing parking that is strategically linked to bus, bicycle, and pedestrian circulation systems.

Butler County Connect aligns with the six livability principles by:

1. *Providing the only transportation alter-*

*native to the single-occupancy vehicle in western Butler County.* By providing affordable bus service and connecting to a bicycle network, Butler County Connect decreases household transportation costs, reduces dependence on foreign oil, improves air quality, reduces greenhouse gas (GHG) emissions, and promotes public health. Because of increased connections, these transportation modes will become even more convenient as an alternative to single-occupancy vehicles.

2. *Promoting access to equitable, affordable housing* by providing affordable transportation to residents from economically disadvantaged areas. These residents can apply the money they save on transportation to access affordable housing.

3. *Enhancing economic competitiveness* through reliable transportation options with access to employment centers and educational opportunities. Western Butler County is home to a regional center of employment and education that can better serve the surrounding communities through the Intermodal connections facilitated by Butler County Connect.

4. *Supporting existing communities* by encouraging transit-oriented design, mixed-use development, and land recycling to increase community revitalization. This project supports existing communities in two ways: 1) by providing communities that have lost jobs with transportation connections to alternative jobs and 2) driving the demand for greater development density at new intermodal transit hubs, thereby discouraging low-density sprawl development and helping to preserve valuable rural landscapes from development.

5. *Coordinating and leveraging federal pol-*

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*icies and investment* to support future growth. The proposed project grows out of past collaborations between the project partners and builds on previous federal investments to provide infrastructure that supports future collaborations likely to contribute to the health and safety, economic fitness, and sustainability of the western Butler County region.

The contributions to public transit that Miami University makes under the terms of its agreement with BCRTA subsidize BCRTA's operations county-wide. Without Miami's contribution, many Butler County residents — even those with no ties to the university — would be without access to any public transit system. Likewise, as the economic powerhouse of western Butler County, Miami University is the only viable source of cash match for the Butler County Connect project. By committing a \$1.6 million match to this project, the university continues to invest in the future of Butler County and southwest Ohio.

6. **Valuing communities and neighborhoods** by enhancing unique community characteristics through investment in multi-modal connectivity and access to economic opportunities. Providing access to affordable transportation allows people to stay in their current communities, yet still have access to the educational and economic opportunities at Miami University. Improving economic opportunities for residents increases their ability to reinvest in their own communities and neighborhoods.

**iv. Environmental Sustainability** — Butler County Connect *reduces energy use and air and water pollution*. Energy use is reduced by encouraging the use of public transit, which is more fuel-efficient than transporting the same number of people using single-occupancy vehicles. Public transit also reduces emissions by:

- Moving more people with fewer vehicles.
- Reducing congestion in densely populated





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areas, so that even those who do choose to use single-occupancy vehicles spend less time idling in traffic and less time cruising in search of a parking spot.

Butler County Connect further reduces emissions by significantly reducing the length of dead-head trips. Instead of having to make a 16.4-mile dead-head run to Hamilton, BCRTA buses operating in the western part of the county can dead-head in Oxford, nearly eliminating emissions from dead-heading.

The project *avoids adverse environmental impacts to air or water quality, wetlands, and endangered species* by re-purposing already-developed lands.

In addition, these facilities *provide environmental benefits* as follows:

- Promotion of infiltration through underground storm water storage at the Chestnut Street Shared Services Facility and Multimodal Station;
- Capture of grey water for re-use in the bus wash;
- LED lighting with energy-limiting controls;
- Reductions in future sprawl by encouraging and supporting future growth to take place within existing boundaries of development.

**v. Safety** — Butler County Connect *reduces the number and rate and consequences of surface transportation-related accidents, serious injuries, and fatalities* among transportation users within western Butler County.

Two of Oxford's north-south through-routes and three of its east-west through-routes pass through Miami's Oxford campus. These routes see heavy multimodal traffic at each class change.

Eight pedestrians were struck by cars at the offset intersection of S.R. 73, East Spring Street, and Patterson Avenue/US 27 between 2010 and 2013. According to Oxford City Police and Miami University Police, there were another 55 accidents that did not involve pedestrians during this same period.

In 2011, a Miami student attempting to cross Patterson Avenue/US 27 just south of this site, at the intersection of Western College Drive, was struck by a car and sustained injuries serious enough to warrant her being airlifted to a hospital in Cincinnati.

Despite recent construction improvements (see Figures 13 and 14), it is clear that any meaningful plan for continued improvement must include a reduction in the volume of traffic at this intersection. The Chestnut Street Shared Services Facility and Multimodal Station contributes to this goal. The Chestnut Street facility, located on the southern edge of campus, will intercept commuter and visitor traffic from the south and west, keeping those single-occupancy vehicles out of the campus core.

By supporting and facilitating BCRTA service, Butler County Connect reduces the risks to these travelers, not only by taking cars off the road, but also by providing a safer alternative. BTS data show that 34% of people killed in transportation-related accidents in 2011 were occupants of passenger cars, while only 0.16% were occupants of buses.

Additionally, the shared fuel facility at the Chestnut Street Shared Services Facility and Multimodal Station helps *prevent unintended releases of hazardous materials* by minimizing the number of fueling and maintenance facilities in the region.

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## B. Secondary Selection Criteria

**i. Innovation** — An innovation of Butler County Connect is that it creates a ladder of opportunity by enabling a “reverse commute” that gives residents in economically distressed urban areas access to employment opportunities in a rural area. While the reverse commuting phenomenon – where employees live in high density areas and travel to lower density areas for work – has become increasingly common, it has also proven challenging for public transit systems to accommodate. Butler County Connect not only facilitates reverse commuting via public transit, but in fact embraces it as a solution for improving economic mobility.

The bus wash facility, gas pumps, and maintenance bay at the proposed Chestnut Street Shared Services Facility and Multimodal Station represents an innovation in shared services. These facilities will be used to maintain

BCRTA buses, as well as vehicles owned by the other project partners. Because no wash facilities are currently available in the western Butler County region, university- and city-owned maintenance trucks, snowplows, and other vehicles – along with buses – are vulnerable to corrosive agents, such as road salt. Altogether, the proposed wash facilities will contribute to the long-term operation of over 300 vehicles, including 50 BCRTA buses, 35 TSD buses owned by contractor Petermann Bus, 120 City of Oxford vehicles, and 143 Miami University vehicles.

Another innovation is the sites chosen for construction of the proposed facilities. In rural areas like western Butler County, where space is not generally a problem, attention is not always paid to avoiding sprawl that impinges on valuable natural areas and habitats. Yet, Butler County Connect’s proposed facilities avoid sprawl by being sited on already-developed





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land. The Chestnut Street Shared Services Facility and Multimodal Station re-uses land that formerly housed an abandoned high school.

Butler County Connect emphasizes bicycle transit. The project provides infrastructure to meet demand from Miami University's Associated Student Government (ASG), the Oxford Visitor's Bureau, and members of the western Butler County community for more bicycle amenities. The proposed Chestnut Street Shared Services Facility and Multimodal Station would provide lockable storage, bike-friendly elevators and space for a future bike share program advocated by Miami's ASG. It also provides direct access to the backbone of the region's bike lanes and could be key to tying together plans for other concepts, including a recreational bicycle trail, for which the City of Oxford recently received a \$500,000 award from the Ohio Department of Natural Resources (see Figure 16).

Many of Miami's students and faculty – particularly the 1,700 or so foreign nationals – come from major metropolitan areas with highly developed intermodal transportation systems. These members of the Oxford community are already accustomed to the convenience of using bus, bike, and foot travel to get around densely populated areas. As a result, we expect them to be among the earliest and most enthusiastic users of the comprehensive transportation system put in place by Butler County Connect.

We also expect these users to become *de facto* role models, making those native to the local area more willing to leave their cars at home. A recent survey conducted by Miami University suggests local natives are open to using convenient public transit. When asked whether they would consider commuting by bus if BCRTA were to begin servicing a park-and-ride lot

near their homes, 45% of Miami employees living outside BCRTA's current service area responded "yes" or "maybe." Seasoned users can help convert prospective users by implicitly and explicitly demonstrating the ease and convenience of bus travel.

A benefit of having Miami University as a partner on the project is the potential of its transient student and faculty population to spread the innovations of Butler County Connect to other communities throughout the country and the world. As students leave Miami to establish careers and lives outside of Oxford, these future leaders will take with them notions about how urban transit solutions can be applied to solve problems in rural communities.

**ii. Partnership** — There is a long history of cooperation between the project partners.

An agreement between Miami University and BCRTA was instrumental in facilitating BCRTA service in western Butler County. Through this agreement, Miami provided BCRTA with physical space necessary to implement and support bus service in Oxford, western Butler County's economic hub. At the same time, the contributions made by Miami to BCRTA in exchange for no-cost service to Miami's students and employees ensure the financial feasibility of providing service to others in Butler County, including residents of Hamilton, Middletown, and Oxford. This agreement also formalized the parties' cooperation in developing transit solutions and implementing changes in traffic flow, bus stop locations or amenities, and/or parking facilities. All elements of Butler County Connect are consistent with this existing agreement.

The City of Oxford and Miami University regularly collaborate on capital infrastructure projects that serve the city and Miami's Oxford campus, such as upgrades to the water distri-

bution system; and public works operational initiatives, such as mulch grinding, road salt procurement, and street repaving.

Another example of collaboration among the project partners was the development of a shared services agreement for fuel storage and pumps and bus storage at the site of the proposed Chestnut Street Shared Services Facility and Multimodal Station. Before the development of that agreement, BCRTA lacked access to a non-commercial source of fuel in western Butler County. The result was unnecessarily high operating costs and inefficient pump dispensing rates, both of which threatened BCRTA's ability to continue to provide service in this geographical area. Banding together, BCRTA, TSD, and Miami University upgraded the fueling facilities owned by TSD at the site of the proposed Chestnut Street Shared Services Facility and Multimodal Station. Now these project partners share those facilities as well as bus storage facilities that exist at the same site.

## 06. RESULTS OF BENEFIT-COST ANALYSIS

A 20-year benefit-cost analysis (BCA) was performed using the prescribed discount rate of 7%. The BCA includes all anticipated net costs and monetized project-inspired benefits for topics that could be modeled or calculated using available data, especially BCRTA's current ridership, fuel costs, bus costs, bus service life, and deadhead distances; and Miami's 2013 transportation survey results.

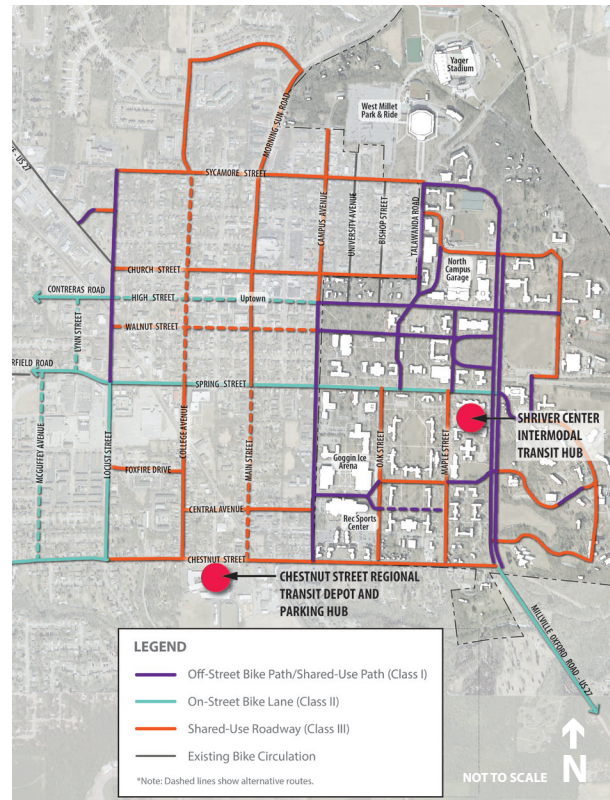


Figure 16: Bicycle route master plan connectivity

With respect to the buses, the premise is that routes would cover the same basic areas as current routes, but that their use would increase from today's one-third capacity use.

With appropriately-zoned land unavailable to park, fuel, and service the fleet of 18 buses needed to provide reliable and ADA-accessible service around Oxford and the regional population centers of Hamilton and Middletown, the only other option available is to deadhead from BCRTA's Hamilton facility, which would add 33 miles daily to each of the buses, and would necessitate purchase of fuel from a gas station at an 8% increase, as is shown in the details of the provided BCA workbook.

With deadheading in Hamilton the only available option, the BCA ratio is 1.42 at 7% . Ratios will increase with the following non-monetized

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benefits:

- Increased life of 40 buses owned by TSD school bus contractor Petermann Bus, due to the wash facility;
- Increased life of 120 City of Oxford and 143 Miami University vehicles, due to wash facility;
- Increased road life from traffic reduction;
- Increased value of property adjacent to Chestnut Street lot;
- Reduced vehicle miles from people riding Barons buses to connect with locations around the country (Barons is an approved Greyhound Interliner serving 3,800 locations in the US, Canada and Mexico);
- Reduced vehicle miles from facilitation of charter bus travel to airports enabled by the improved feasibility of luggage transfer, from cars in the parking garage to the bus transit center at Chestnut Street Shared Services Facility and Multimodal Station;
- Reduced vehicle miles from development of lifelong bike- and bus-riding habits developed by students while attending Miami University (approximately 4,000 students graduate annually; BCA assumes benefits accrue beginning the fifth year).

Details and assumptions for each of the shown line items and values are contained on separate tabs of the BCA workbook.

## 07. PROJECT READINESS

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### Technical Feasibility

Significant upfront investments have made Butler County Connect a shovel-ready project. BCRTA worked with Miami University's Of-

fice of Planning, Architecture, and Engineering to bring together an experienced design team, national campus and circulation planning firm and regional construction management leader. Together, this team has billions of dollars of relevant experience with work similar in type and scope to Butler County Connect.

The design team worked with project partners BCRTA, Miami University, and the City of Oxford, as well as with state, regional, and local government leaders to define the program requirements, conduct site analysis, and design and define the Butler County Connect project. The resultant detailed schematic design, supporting detailed plans, schedule, and cost estimates are in the supplementary material.

Upon award, the project partners will consult additional civil, geotechnical and third party special inspection specialists as additional layers of verification, design, and support to ensure a responsive and responsible design and positive project outcome.

The ***Chestnut Street Shared Services Facility and Multimodal Station*** completed Phase 1 of construction during summer of 2014 with the implementation of over 500 commuter parking spaces, an outdoor bus stop, and a staging area for buses. Phase 2 of the project will include:

- Construction of a new transit hub building to be shared by BCRTA, the local school district, and Miami University. Public areas in the new building will include a lobby/ticketing area, administrative offices, a multi-purpose room for employees, and public restrooms. The “garage” part of the building will accommodate indoor parking, bus maintenance bays, and parking for Miami University fleet vehicles.
- Automatic bus wash with recirculating water system.



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- Covered bus fuel pumps.
- Covered bike hub that includes bike lockers, bike racks, and a maintenance station.
- Underground storm water storage promoting on site infiltration.
- LED lighting with energy-limiting controls
- Preferred parking for low emission, fuel efficient vehicles, including electric vehicle charging stations.
- Addition of approximately 60 commuter parking spaces. (No BUILD grant funds will be used for these parking spaces.)

The transit hub is located directly adjacent to the commuter parking and approximately 310 feet from the site of a proposed Amtrak stop. It has a dedicated bus drop-off and pickup lane that separates bus and vehicular traffic. The transit and bike hubs are located close to planned bikeways along Chestnut Street, encouraging alternative modes of transportation.

**Schedule and Budget Risk-Mitigation Measures** — Developed by Miami University’s Office of Planning, Architecture, and Engineering and Messer Construction Company, the construction schedule for each project (Figure 18) includes two months’ “float” time to account for weather delays or other unforeseen conditions, to afford further protection and help mitigate risk. Concept plans for the the Chestnut Street Shared Services Facility and Multimodal Station have been prepared as documentation of the technical feasibility of the proposed improvements and are used as a basis for the detailed project budgets (see supplementary material).

The cost estimates account not only for consulting design fees and a design contingency to advance the project through design development and construction documents, but also for con-

Figure 17: Benefit-cost analysis summary  
(see supplemental material for details)

NPV 7% discount rate	
COSTS & BENEFITS	
<b>Costs</b>	
Capital improvements	(\$7,670,525)
Annual operation of new facilities	(\$1,278,148)
<b>Total</b>	<b>(\$8,948,674)</b>
<b>Remaining Benefit (based on 20-year life)</b>	
<b>Annual Benefits</b>	
Bus parking and fuel	\$1,657,984
Bus life extension	\$1,046,023
Increased productivity of transport-enabled hires	\$399,723
Campus park-and-rides	\$820,109
Regional bus rides	\$1,456,837
Bike rides	\$798,896
Accident reduction	\$7,334,372
<b>Total</b>	<b>\$12,693,835</b>
<b>TOTAL BENEFITS</b>	<b>\$12,693,835</b>
<b>TOTAL COSTS</b>	<b>(\$948,674)</b>
<b>NET BENEFIT</b>	<b>\$3,745,162</b>
<b>B/C RATIO</b>	<b>1.42</b>

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struction contingencies to protect against unforeseen conditions and to mitigate any possible risk.

### **Financial Feasibility**

**Financing Package** — The total cost of Butler County Connect is \$9,000,000. BCRTA seeks a BUILD Discretionary Grant in the amount of \$4,500,000 (50% of total project cost). BCRTA has secured a commitment from Miami University for \$1,600,000 in matching funds, or 17.7% of the total project cost. A letter from Miami University’s Senior Vice President for Finance and Business Services confirming this commitment is included in the supplementary material.

Miami’s contribution will be self-financed, using an existing renewal and replacement budget fund, which is fully controlled by Senior Vice President for Finance and Business Services, David Creamer. The funds will be made available to the project immediately upon execution of a final BUILD Discretionary Grant agreement. Miami’s financial commitment is backed by a balance sheet that shows a FY 2015 year-end total net position of \$951,360,845 and budget contingency reserves of nearly \$64.8 million.

**Grant Management Capability** — If awarded, BUILD funds for Butler County Connect will be managed by BCRTA, which maintains a strong balance sheet and operates within a balanced budget mandate to ensure long-term financial stability.

BCRTA’s finances are managed by Robert Ruzinsky, CPA, who has over 25 years’ experience with public transit system finances and over 20 years’ experience managing FTA grants. He has been with BCRTA since 2002.

In his role as the Chief Capital Officer for the Greater Dayton Regional Transit Authority (GDRTA), Mr. Ruzinsky manages GDRTA’s

capital program of over \$150 million, including all FTA grants and other projects similar in size and scope to the proposed project. Mr. Ruzinsky also provides grants management support services to six other public transit systems on a consultant basis. In total, he currently manages outright or helps manage over 30 active FTA grants. Mr. Ruzinsky is often asked to help other FTA and ODOT grantees train new staff members on the grants management process.

BCRTA will work closely with all project partners to supplement any project financial expertise needed to implement Butler County Connect, particularly Miami University, which will oversee construction of the proposed facilities. Miami’s Grants and Contracts Accounting Office has extensive experience conducting post-award administrative, business, and financial functions.

**Project Budget** — The costs outlined in the attached projection are based on estimates of construction costs prepared by architectural and engineering consultants engaged by the project partners, using the concept plans included in the supplementary material. Detailed cost estimates are also included in the supplementary material.

### **Project Schedule**

All property is owned by Miami University and no public right-of-way needs to be acquired. As Figure 18 shows, all necessary pre-construction activities will be complete by June 2019, allowing for negotiation of a final grant agreement by September 30, 2019. Both projects will be complete and funds will be expended no later than September 2021, well before the deadline.

### **Risks and Mitigation Strategies**

Risks for Butler County Connect are minimal. There should be no procurement delays as proj-

ect partner Miami University already owns the land on which the proposed facilities will be constructed and has the administrative resources necessary to execute the construction. In addition, Miami University has the \$1,600,000 cost share contribution available and ready to spend. All project partners – BCRTA, Miami University, the City of Oxford and Talawanda School District – have been included in review of proposed designs and are in agreement about the project details as laid out in this proposal. As described in the Project Schedule section, sufficient buffers have been built in to absorb delays in obligation and/or expenditure of funds. No environmental issues are anticipated, but appropriate time has been allotted in the project schedule to obtain necessary federal reviews and approvals.

### **NEPA and Other Approvals**

Butler County Regional Transit Authority has initiated NEPA consultation on the proposed project with Region V of the Federal Transit Administration. It is anticipated that this project will qualify for a Categorical Exclusion, under Section 771.118(c) CE(9) Assembly or Construction of Facilities. Proposed facilities are consistent with existing use of land at the project sites. The proposed use is governed by the same zoning requirements – including floodplain regulations – as existing use, and primarily involves land disturbed for transportation use. The proposed Chestnut Street Shared Services Facility and Multimodal Station will be located on a site that currently includes an indoor storage facility, surface parking areas, bus fuel pumps, and an outdoor bus storage area. It is anticipated that the proposed project will be documented and cleared by FTA Region V with a concurrence on a Categorical Exclusion obtained by October 2018, well in advance of the deadline for negotiation of a grant agreement.

## **08. FEDERAL WAGE RATE CERTIFICATION**

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The Butler County Regional Transit Authority certifies that it will comply with federal wage rate requirements, as determined by the Secretary of Labor in accordance with US Code Subchapter IV, Chapter 31, Title 40. The signed certification of compliance can be found in the attached Fed Cert document.



