OHIO PUBLIC WORKS FOR YOU

Public Works Commission

Application for Financial Assistance

IMPORTANT: Please consult "Instructions for Financial Assistance for Capital Infrastructure Projects" for guidance in completion of this form.

Applicant

Applicant: Montgomery County Subdivision Code: 113-00113

District Number: 4 County: Montgomery Date: 08/21/2023

Contact: Rick Splawinski Phone: 937-496-6510
(The individual who will be available during business hours and who can best answer or coordinate the response to questions)

Email: splawinskir@mcohio.org FAX:

Project

Project Name: Dayton Cincinnati Pike Roadway Realignment Zip Code: 45342

Subdivision Type

County

SFN

Project Type

(Select single largest component by $)

x 1. Road
2. Bridge/Culvert
3. Water Supply
4. Wastewater
5. Solid Waste
6. Stormwater

Funding Request Summary

(Automatically populates from page 2)

Total Project Cost:	1,300,000 .00
1. Grant:	325,000 .00
2. Loan:	175,000 .00
3. Loan Assistance/ Credit Enhancement:	0 .00
Funding Requested:	500,000 .00

District Recommendation (To be completed by the District Committee)

Funding Type Requested
(Select one)

- ☐ State Capital Improvement Program
- ☐ Local Transportation Improvement Program
- ☐ Revolving Loan Program
- ☐ Small Government Program

District SG Priority: _____

SCIP Loan - Rate: ____ % Term: ____ Yrs Amount: _____ .00

RLP Loan - Rate: ____ % Term: ____ Yrs Amount: _____ .00

Grant: Amount: _____ .00

LTIP: Amount: _____ .00

Loan Assistance / Credit Enhancement: Amount: _____ .00

For OPWC Use Only

STATUS

Project Number: _____

_____

Release Date: _____

OPWC Approval: _____

Grant Amount: _____ .00

Loan Amount: _____ .00

Total Funding: _____ .00

Local Participation: _____ %

OPWC Participation: _____ %

Loan Type: ☐ SCIP ☐ RLP

Date Construction End: _____

Date Maturity: _____

Rate: _____ %

Term: _____ Yrs

1.0 Project Financial Information (All Costs Rounded to Nearest Dollar)

1.1 Project Estimated Costs

SCIP Financials

Engineering Services

Preliminary / Final Design: 105,000 .00

Construction Administration: 0 .00

Total Engineering Services:	a.)	105,000 .00	10 %
Right of Way:	b.)	37,000 .00	
Construction:	c.)	1,053,000 .00	
Permits, Advertising, Legal:	e.)	0 .00	
Construction Contingencies:	f.)	105,000 .00	
Total Estimated Costs:	g.)	1,300,000 .00	

1.2 Project Financial Resources

Local Resources

Local In-Kind or Force Account:	a.)	0 .00	
Local Revenues:	b.)	800,000 .00	
Other Public Revenues:			
Local / ODOT - Let:	d.)	0 .00	
ODOT PID:			
OEPA / OWDA:	e.)	0 .00	
CDBG:	f.)	.00	
Other:	g.)	0 .00	
Subtotal Local Resources:	i.)	800,000 .00	61.5 %

OPWC Funds (Check all requested and enter Amount)

Grant: 65 % of OPWC Funds	j.)	325,000 .00	
Loan: 35 % of OPWC Funds	k.)	175,000 .00	10 yrs
Loan Assistance / Credit Enhancement:	l.)	0 .00	
Subtotal OPWC Funds:	m.)	500,000 .00	38.5 %
Total Financial Resources:	n.)	1,300,000 .00	100 %

OPWC Project Financial Information

Subdivision: Montgomery County

LTIP Financials

Project Name: Dayton Cincinnati Pike

Project Estimated Costs

(All Costs Rounded to Nearest Dollar)

Engineering Services

Estimated Engineering:	105,000 .00		
Construction Administration:	.00		
Total Engineering Services:		105,000 .00	10.0 %
Right of Way:		37,000 .00	
Construction:		1,053,000 .00	
Permits, Advertising, Legal:		.00	
Construction Contingencies:		105,000 .00	10.0 %
Total Estimated Costs:		1,300,000 .00	

Project Financial Resources

Local Resources

Local In-Kind or Force Account:		.00	
Local Revenues:		900,000 .00	
Other Public Revenues:			
ODOT / FHWA PID:		.00	
OEPA / OWDA:		.00	
Other:		.00	
Subtotal Local Resources:		900,000 .00	69.2 %

OPWC Funds

Grant:	100 % of OPWC Funds	400,000 .00	
Loan:	0 % of OPWC Funds	.00	
Loan Assistance / Credit Enhancement:		0 .00	
Subtotal OPWC Funds:		400,000 .00	30.8 %
Total Financial Resources:		1,300,000 .00	100.0 %

1.3 Availability of Local Funds

Attach a statement signed by the Chief Financial Officer listed in section 5.2 certifying all local resources required for the project will be available on or before the earliest date listed in the Project Schedule section. The OPWC Agreement will not be released until the local resources are certified. Failure to meet local share may result in termination of the project. Applicant needs to provide written confirmation for funds coming from other funding sources.

2.0 Repair / Replacement or New / Expansion

2.1 Total Portion of Project New / Expansion: 0 .00

3.0 Project Schedule

3.1 Engineering / Design / Right of Way	Begin Date:	02/07/2023	End Date:	09/27/2024
3.2 Bid Advertisement and Award	Begin Date:	10/11/2024	End Date:	10/30/2024
3.3 Construction	Begin Date:	03/03/2025	End Date:	08/31/2025

Construction cannot begin prior to release of executed Project Agreement and issuance of Notice to Proceed.

Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be requested in writing by project official of record and approved by the Commission once the Project Agreement has been executed.

4.0 Project Information

If the project is multi-jurisdictional, information must be consolidated in this section.

4.1 Useful Life / Cost Estimate / Age of Infrastructure

Project Useful Life: 32 Years Age: 1900 (Year built or year of last major improvement)

Attach Registered Professional Engineer's statement, with seal or stamp and signature confirming the project's useful life indicated above and detailed cost estimate.

4.2 User Information

Road or Bridge: Current ADT 5061 Year 2023

Water / Wastewater: Based on monthly usage of 4,500 gallons per household; attach current ordinances.

Residential Water Rate	Current $ 0	Number of households served:	
Residential Wastewater Rate	Current $ 0	Number of households served:	

Stormwater: Number of households served:

4.3 Project Description

A: SPECIFIC LOCATION (Supply a written location description that includes the project termini; a map does not replace this requirement.) 2000 character limit.

The Dayton Cincinnati Pike straddles the county line between Montgomery and Warren Counties. The southern portion of the improvement is located in the City of Franklin (OPWC District 10) and the northern portion is located in Miami Township (OPWC District 4). Dayton Cincinnati Pike (known as North Dixie Highway in Warren County) is a two-lane principal arterial carrying an average daily traffic of over 5,000 vehicles per day across the county line.

.

B: IDENTIFY THE PROBLEM (Describe the issue to be addressed) 2000 character limit.

The existing retaining wall along Dayton Cincinnati Pike between the roadway and the Great Miami River is just under 800 feet long, has a maximum exposed height of approximately 15 feet, and is believed to have been constructed by an early interurban railroad company prior to 1900. The Cincinnati, Dayton, and Toledo (CD&T) Traction Company operated an interurban traction line at this location since its forming in 1902. The section between Hamilton, OH and Dayton, OH, however, was completed by a precursor to the CD&T and the route opened for passenger service in 1897.
The
existing retaining wall is in extremely poor condition, with severe scaling and deterioration from carbonation over most of the exposed surface. Large sections of the wall have spalled off and fallen onto the Great Miami River Recreation Trail below.
No record plans of the retaining wall
are known to exist. In February 2023, the Montgomery County Engineers Office (MCEO) performed exploratory excavations of the retaining wall to expose the wall components, identify the load-carrying systems, measure their geometry, and evaluate their condition. The exploratory excavations revealed that the existing retaining wall does not contain any lateral load-carrying elements such as deadman anchors or counterforts, and was not constructed as a reinforced concrete cantilever wall having a connected footing foundation. Rather, the existing retaining wall was constructed as a vertical unreinforced variable-thickness stem only and supported on a hand-laid stone foundation.
A Conceptual Design Study commissioned by MCEO in 2023 concluded that the
125-year old retaining wall is structurally unstable, not suitable for rehabilitation, and should be removed. The study evaluated two post-removal alternatives: replacing the existing wall with a new retaining wall, and realigning Dayton Cincinnati Pike to reduce or eliminate the need for a retaining wall entirely.

.

C: PROJECT SCOPE (Describe the work to be completed) 2000 character limit.

The Conceptual Design Study evaluated a wall replacement alternative and a roadway realignment alternative that would allow removal of the existing wall without replacement. The baseline (2022) estimated construction cost for the wall replacement alternative was $3.9M; the estimated construction cost for the roadway realignment alternative was $2.3M. These estimates represent the construction cost for the entire project, which will be shared by the owning agencies in each jurisdiction. Approximately 55% of the project is located in Warren County and is the responsibility of the City of Franklin (COF); approximately 45% of the project is in Montgomery County and the responsibility of MCEO.
COF and MCEO concur that the roadway realignment is the
preferred alternative and that MCEO will act as lead agency for the entire project.
This District
4 OPWC application represents the portion of the project in Montgomery County only. A separate application will be submitted to OPWC District 10 by COF for the portion of the project in Warren County.
The project scope includes reconstruction of approximately 1,325 feet of Dayton Cincinnati Pike on an easterly-shifted alignment to allow for removal of the existing retaining wall and the roadway to be supported on 2H:1V sloped embankment. Limited lengths of shorter retaining walls may be required to preserve the Great Miami River Recreational Trail in its current location along the river. Relocation of the roadway will result in changes to the existing drainage patterns and will require a new culvert across Dayton Cincinnati Pike near the northern project limits. Lane and shoulder widths will be reconstructed to current design standards and all guardrail within the project limits will be replaced as part of the proposed project.

.

D. How do you intend to promote this project? 1000 character limit.

Funding transparency.

.

E: Additional Notes From Applicant - 1000 character limit.

Rating Criteria 10, Health/Safety/Condition: No formal condition rating systems exist for retaining walls in Ohio. The existing retaining wall is approximately 125 years old, structurally unstable, and in very poor condition. Using the General Requirements description under Rating Criteria 10, “the project will provide immediate health and/or safety benefit. Serious condition problem exists, i.e., structural deficiencies.” A score of 8 points under this criteria appears warranted.

Rating Criteria 16, Other Factors: The existing retaining wall cannot be feasibly rehabilitated. Complete reconstruction and realignment of 0.25 miles of principal arterial highway is necessary to remove the old retaining wall and eliminate the need for a replacement wall. The Dayton Cincinnati Pike roadway realignment project to eliminate a failing 125-year old retaining wall is in a class by itself, and warrants consideration of an additional 1 point under this criteria.

.

5.0 Project Officials

Changes in Project Officials must be submitted in writing from an officer of record.

5.1 Chief Executive Officer

(Person authorized in legislation to sign project agreements)

Name: Michael B. Colbert

Title: County Administrator

Address: 451 West Third Street

City: Dayton State: OH Zip: 45422

Phone: 937-225-4582

FAX:

E-Mail: colbertm@mcohio.org

5.2 Chief Financial Officer

(Can not also serve as CEO)

Name: Ronelle Kinney

Title: Fiscal Officer

Address: 451 West Third Street

City: Dayton State: OH Zip: 45422

Phone: 937-225-4904

FAX:

E-Mail: kinneyr@mcohio.org

5.3 Project Manager

Name: Rick Splawinski

Title: Project Manager

Address: 451 West Third Street

City: Dayton State: OH Zip: 45422

Phone: 937-496-6510

FAX:

E-Mail: splawinskir@mcohio.org

6.0 Attachments / Completeness review

Confirm in the boxes below that each item listed is attached (Check each box)

X A certified copy of the legislation by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 7.0, Applicant Certification, below.

X A certification signed by the applicant's chief financial officer stating the amount of all local share funds required for the project will be available on or before the dates listed in the Project Schedule section. If the application involves a request for loan (RLP or SCIP), a certification signed by the CFO which identifies a specific revenue source for repaying the loan also must be attached. Both certifications can be accomplished in the same letter.

X A registered professional engineer's detailed cost estimate and useful life statement, as required in 164-1-13, 164-1-14, and 164-1-16 of the Ohio Administrative Code. Estimates shall contain an engineer's seal or stamp and signature.

A cooperative agreement (if the project involves more than one subdivision or district) which identifies the fiscal and administrative responsibilities of each participant.

Farmland Preservation Review - The Governor's Executive Order 98-IIV, "Ohio Farmland Protection Policy" requires the Commission to establish guidelines on how it will take protection of productive agricultural and grazing land into account in its funding decision making process. Please include a Farm Land Preservation statement for projects that have an impact on farmland.

Capital Improvements Report. CIR Required by O.R.C. Chapter 164.06 on standard form.

X Supporting Documentation: Materials such as additional project description, photographs, economic impact (temporary and/or full time jobs likely to be created as a result of the project), accident reports, impact on school zones, and other information to assist your district committee in ranking your project. Be sure to include supplements which may be required by your local District Public Works Integrating Committee.

7.0 Applicant Certification

The undersigned certifies: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission as identified in the attached legislation; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that physical construction on the project as defined in the application has NOT begun, and will not begin until a Project Agreement for this project has been executed with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding from the project.

Certifying Representative (Printed form, Type or Print Name and Title)

Original Signature / Date Signed

RESOLUTION NO. 23-1027
AUGUST 08, 2023

RESOLUTION AUTHORIZING THE MONTGOMERY COUNTY ENGINEER'S OFFICE TO PREPARE AND SUBMIT APPLICATIONS TO PARTICIPATE IN THE OHIO PUBLIC WORKS COMMISSION (OPWC) STATE CAPITAL IMPROVEMENT PROGRAM (SCIP) OR THE LOCAL TRANSPORTATION IMPROVEMENT PROGRAM (LTIP), AND TO EXECUTE CONTRACTS AS REQUIRED FOR PROJECT APPLICATIONS TO BE SUBMITTED FOR FISCAL YEAR 2025, AS SHOWN IN ATTACHED EXHIBIT "A".

WHEREAS, the Montgomery County Engineer's Office has been notified that OPWC Program Funds will be available to jurisdictions within the area covered by the District 4 Public Works Integrating Committee for Fiscal Year 2025; and

WHEREAS, the OPWC's State Capital Improvement Program and the Local Transportation Improvement Program both provide financial assistance to political subdivisions for public infrastructure projects; and

WHEREAS, the Montgomery County Engineer's Office is planning to construct the capital improvements listed in Exhibit "A"; and

WHEREAS, the Montgomery County Engineer's Office commits to funding all local share project costs exceeding the total of the OPWC's grants and/or loans received; and

WHEREAS, the County Administrator is the County's authorized agent to sign the OPWC applications and subsequent contracts for project applications to be submitted for Fiscal Year 2025; and

WHEREAS, the Montgomery County Engineer's Office is authorized to provide additional information concerning the projects listed in Exhibit "A" and commits to meeting the reporting requirements for OPWC.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Montgomery County, Ohio, that the resolution authorizing the transmittal of the applications and entering into of any agreements necessary and appropriate for obtaining OPWC funds as described above for the projects listed in Exhibit "A", be and is hereby approved.

BE IT FURTHER RESOLVED that the Clerk shall certify a copy of this resolution to the County Engineer. The County Engineer shall forward a copy of the certified resolution to the OPWC's District 4 Public Works Integrating Committee. The resolution is also available on Montgomery County, Ohio's website at http://www.mcohio.org.

GES:th

RESOLUTION NO: 23-1027
AUGUST 08, 2023

CERTIFICATE

Ms. Dodge moved the adoption of the foregoing resolution. It was seconded by Mrs. Rice, and upon call of the roll the following vote resulted:

Ms. Dodge, aye; Mrs. Rice, aye; Mrs. Lieberman, aye: Carried.

I hereby certify that the foregoing is a true and correct copy of a resolution duly adopted by the Board of County Commissioners of Montgomery County, Ohio, on the 8th day of August, 2023.

THE BOARD OF COUNTY COMMISSIONERS HEREBY FINDS AND DETERMINES THAT ALL FORMAL ACTIONS RELATIVE TO THE ADOPTION OF THIS RESOLUTION WERE TAKEN IN AN OPEN MEETING OF THIS BOARD OF COUNTY COMMISSIONERS, AND THAT ALL DELIBERATIONS OF THIS BOARD OF COUNTY COMMISSIONERS, AND OF ITS COMMITTEES, IF ANY WHICH RESULTED IN FORMAL ACTION, WERE TAKEN IN MEETINGS OPEN TO THE PUBLIC, IN FULL COMPLIANCE WITH APPLICABLE LEGAL REQUIREMENTS, INCLUDING SECTION 121.22 OF THE REVISED CODE.

Emily Bradford

Emily Bradford, Clerk
Board of County Commissioners
Montgomery County, Ohio

COMMISSIONERS' OFFICE · MONTGOMERY COUNTY, OHIO ·

Exhibit A

Ohio Public Works Commission (OPWC) Round 2023-2024
State Capital Improvement Program (SCIP) and
Local Transportation Improvement Project (LTIP) Applications

OPWC SCIP Project Application	Job Number	Program Manager	SCIP Total Project Costs	Total SCIP Request	SCIP Grant Request	SCIP Loan Request	MCEO Road A&G	Funds for Others Sources	SCIP Loan Term
Dayton-Cincinnati Retaining Wall	2020-07	Rick Splawinski	$ 1,300,000	$ 500,000	$ 325,000	$ 175,000	$ 800,000	$ -	10-years
Shank (MOR-44-4.80; PID 113925)	2020-23	Cedric McGhee	$ 1,613,000	$ 200,000	$ 100,000	$ 100,000	$ 373,000	$ 1,040,000	5-years
Wilmington Pike (KET-85-1.59)	2023-10	Henry Brierton	$ 1,084,000	$ 500,000	$ 125,000	$ 375,000	$ 584,000	$ -	10-years
Lutheran Church Road (JEF-19-3.83)	2022-27	David Shields	$ 237,300	$ 200,000	$ 50,000	$ 150,000	$ 37,300	$ -	5-years
Wellbaum Road (CLY-T0223-02.05)	2023-08	Brierton	$ 430,000	$ 200,000	$ 100,000	$ 100,000	$ 230,000	$ -	5-years
Amity Road (PER-T0056-2.00)	2023-05	Shields	$ 483,500	$ 200,000	$ 100,000	$ 100,000	$ 283,500	$ -	5-years
Social Row Road Widening, Phases 1 & 2 (PID 113360)	2020-17	Joe Dura	$ 7,700,000	$ 2,000,000	$ 1,500,000	$ 500,000	$ 1,125,812	$ 4,574,188	10-years

OPWC LTIP Project Application	Job Number	Program Manager	LTIP Total Project Costs	LTIP Grant Request	[redacted]	MCEO Road A&G	Funds for Others Sources	[redacted]
Dayton-Cincinnati Retaining Wall	2020-07	Rick Splawinski	$ 1,300,000	$ 400,000		$ 900,000	$ -	
Shank (MOR-44-4.80; PID 113925)	2020-23	Cedric McGhee	$ 1,613,000	$ 400,000		$ 173,000	$ 1,040,000	
Wilmington Pike (KET-85-1.59)	2023-10	Henry Brierton	$ 1,084,000	$ 400,000		$ 684,000	$ -	
Lutheran Church Road (JEF-19-3.83)	2022-27	David Shields	$ 237,300	$ 118,650		$ 118,650	$ -	
Wellbaum Road (CLY-T0223-02.05)	2023-08	Henry Brierton	$ 430,000	$ 107,500		$ 322,500	$ -	
Amity Road (PER-T0056-2.00)	2023-05	David Shields	$ 483,500	$ 120,875		$ 362,625	$ -	
Social Row Road Widening, Phases 1 & 2 (PID 113360)	2019-10	Joe Dura	$ 7,700,000	$ 1,100,000		$ 2,025,812	$ 4,574,188	

MONTGOMERY COUNTY ENGINEERS OFFICE
CHIEF FINANCIAL OFFICER CERTIFICATION

I, Ronelle Kinney, Comptroller of the Montgomery County Engineers Office, hereby certify that the Montgomery County Engineers Office will have the total amount of $975,000.00 available in the Road A&G Fund as specified below. This amount will be added to the SCIP grant amount of $325,000 requested for the Dayton Cincinnati Pike Project, with $800,000.00 available in 2024 and $175,000 available thereafter to repay the SCIP or RLP loan over a 10-year term.

Round PY25

Project Name: Dayton Cincinnati Pike Project

Grant Amount:	$325,000.00
Loan Amount:	$175,000.00
Road A&G:	$800,000.00
Total:	$1,300,000.00

The necessary funds will be available for use on July 1, 2024, immediately after formal project approval.

Ronelle Kinney, Comptroller
Montgomery County Engineers Office

Date: 7/31/23

MONTGOMERY COUNTY ENGINEERS OFFICE
CHIEF FINANCIAL OFFICER CERTIFICATION

I, Ronelle Kinney, Comptroller of the Montgomery County Engineers Office, hereby certify that the Montgomery County Engineers Office will have the amount of $900,000.00 available in the Road A&G Fund as specified below. This amount will be added to the LTIP grant amount of $400,000.00 requested for the Dayton Cincinnati Pike Project.

Round PY25

Project Name: Dayton Cincinnati Pike Project

Grant Amount:	$400,000.00
Road A&G:	$900,000.00
Total:	$1,300,000.00

These funds will be available for use on July 1, 2024, immediately after formal project approval.

Ronelle Kinney, Comptroller
Montgomery County Engineers Office

Date: 7/26/23

Dayton-Cincinnati Pike Project
Roadway Realignment & Retaining Wall Removal
City of Franklin and Miami Township

By: RGS
Date: 7/25/2023

ROADWAY REALIGNMENT COST ESTIMATE
2022 UNIT PRICES
REF: Dayton Cincinnati Pike Concept Report, Burgess & Niple, Mar-2023

								SHARE BY JURISDICTION			
								FRANKLIN		MCEO	
REF NO.	ITEM	ITEM EXT	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST				
			ROADWAY								
1	201	11000	Clearing and Grubbing	LS	1	$54,550	$54,550	50%	$27,275	50%	$27,275
2	202	23000	Pavement Removed	SY	4,700	$10.91	$51,277	55%	$28,202	45%	$23,075
3	203	10000	Excavation	CY	11,200	$16.37	$183,288	55%	$100,808	45%	$82,480
4	203	20000	Embankment	CY	7,200	$13.09	$94,262	55%	$51,844	45%	$42,418
5	204	10000	Subgrade Compaction	SY	4,800	$2.18	$10,474	55%	$5,760	45%	$4,713
6	606	15050	Guardrail, Type MGS	FT	2,000	$27.28	$54,550	55%	$30,003	45%	$24,548
			Roadway Subtotal				**$448,400**		**$243,893**		**$204,508**
			EROSION CONTROL								
7	659	00500	Seeding and Mulching, Class 1	SY	21,800	$2.18	$47,568	55%	$26,162	45%	$21,405
			Erosion Control Subtotal				**$47,600**		**$26,162**		**$21,405**
			DRAINAGE								
8			New Culvert (City of Franklin)	LS	1	$123,883	$123,883	100%	$123,883	0%	$0
9			New Culvert (Miami Twp.)	LS	1	$184,925	$184,925	0%	$0	100%	$184,925
10	605	13410	6" Unclassified Pipe Underdrains with Geotextile Fabric	FT	2,650	$21.82	$57,823	55%	$31,803	45%	$26,020
			Drainage Subtotal				**$366,600**		**$155,686**		**$210,945**
			PAVEMENT								
11	302	46000	8" Asphalt Concrete Base, PG64-22	CY	600	$284.75	$170,851	55%	$93,968	45%	$76,883
12	304	20000	8" Aggregate Base	CY	1,100	$65.46	$72,006	55%	$39,603	45%	$32,403
13	407	10000	Tack Coat	GAL	400	$3.27	$1,309	55%	$720	45%	$589
14	441	70000	1-1/4" Asphalt Concrete Surface Course, Type 1 (449), PG64-22	CY	200	$294.57	$58,914	55%	$32,403	45%	$26,511
15	441	70200	1-3/4" Asphalt Concrete Intermediate Course, Type 1 (449)	CY	300	$245.48	$73,643	55%	$40,503	45%	$33,139
			Pavement Subtotal				**$376,700**		**$207,197**		**$169,525**
			TRAFFIC CONTROL								
16			Signing and Pavement Marking	LS	1	$43,640	$43,640	55%	$24,002	45%	$19,638
			Traffic Control Subtotal				**$43,600**		**$24,002**		**$19,638**
			RETAINING WALLS								
17	202	11001	Structure Removed, As Per Plan	LS	1	$218,200	$218,200	50%	$109,100	50%	$109,100
18			Retaining Walls (City of Franklin)	LS	1	$163,650	$163,650	100%	$163,650	0%	$0
			Retaining Wall Subtotal				**$381,900**		**$272,750**		**$109,100**
			INCIDENTALS								
19	614	11000	Maintaining Traffic	LS	1	$218,200	$218,200	50%	$109,100	50%	$109,100
20	623	10000	Construction Layout Stakes and Surveying	LS	1	$19,638	$19,638	50%	$9,819	50%	$9,819
21	624	10000	Mobilization	LS	1	$109,100	$109,100	50%	$54,550	50%	$54,550
			Incidentals Subtotal				**$346,900**		**$173,469**		**$173,469**
			ESTIMATED CONSTRUCTION COST, 2022				**$2,012,000**		**$1,103,000**		**$909,000**

Dayton-Cincinnati Pike Project

Roadway Realignment & Retaining Wall Removal

City of Franklin and Miami Township

By: RGS

Date: 7/25/2023

ROADWAY REALIGNMENT COST ESTIMATE

REF: Dayton Cincinnati Pike Concept Report, Burgess & Niple, Mar-2023

PROJECT COMPONENT		2022 COST	CITY OF FRANKLIN		MONTGOMERY COUNTY	
			Share	Cost	Share	Cost
2022 COST, CONSTRUCTION SUBTOTAL		**$2,012,000**	54.8%	$1,103,000	45.2%	$909,000
INFLATION 2022-2025 @	**15.9%**	**$319,000**		$175,000		$144,000
2025 COST, CONSTRUCTION		**$2,331,000**		**$1,278,000**		**$1,053,000**

Amounts for District 4 OPWC Application/ Montgomery County:

2025 Construction w/o Contingency	**$1,053,000**
Design Engineering	**$105,000**
Right of Way	**$37,000**
Construction Administration	**$0**
Contingency	**$105,000**
Total Estimated Costs	**$1,300,000**

Richard G. Splawinski

Richard G. Splawinski, P.E.
Ohio Engineer's License No. 56632

7-25-23

Date

Dayton-Cincinnati Pike Project

Roadway Realignment & Retaining Wall Removal

Weighted Useful Life & Design Service Capacity Calculations

Major Component	2022 Cost ($1,000)	Portion Repair/ Replacement (%)	Repair/ Replace Product	Useful Life (Years)	Useful Life Product
Full-depth road construction w/ drainage	1,481	100	148,145	25	37,036
Full-depth road construction w/o drainage				25	
Partial-depth road construction w/ drainage				15	
Partial-depth road construction w/o drainage				15	
Storm Sewers, Culverts	367	100	36,660	40	14,664
Sanitary Sewers				40	
Water Lines				40	
Bridges, Retaining Walls	164	100	16,365	75	12,274
Pumps, Lift Stations				15	
Sidewalks				25	
Bicycle Facilities				7	
Traffic Signals				25	
Totals	2,012		201,170		63,974

Weighted Useful Life: 31.8 Years

Design Service Capacity
- Portion Repair/ Replace 100 %
- Portion New/ Expansion %

USEFUL LIFE CERTIFICATION

I hereby certify that this project has an expected useful life of 31.8 years based on normal usage in this specific situation, in evidence whereof, I have set my signature and seal as of this date.

Richard G. Splawinski

Richard G. Splawinski, P.E.
Ohio Engineer's License No. 56632

7-25-23

Date

OHIO PUBLIC WORKS COMMISSION
DISTRICT 4
FY25 Supplemental Questionnaire

Applicant: Montgomery County Engineer

Project Title: Dayton Cincinnati Pike

Application Summary:

Briefly describe the project:

An approximately 125-year old retaining wall is located along the west side of Dayton Cincinnati Pike between the roadway and the Great Miami River, and straddles the Montgomery-Warren County line. The existing retaining wall is just under 800 feet long, has a maximum exposed height of approximately 15 feet, and was constructed by an interurban railroad company prior to the year 1900.

The existing retaining wall is in extremely poor condition. Large sections of the wall have cracked, separated, and fallen onto the Great Miami River Recreation Trail below. No record plans of the wall are known to exist. In February 2023, the Montgomery County Engineers Office (MCEO) performed exploratory excavations to expose and measure the existing wall components and geometry. The excavations revealed that the existing retaining wall does not contain external lateral load-carrying elements such as deadman anchors or counterforts, and the wall was not constructed with an integral spread footing foundation. The existing retaining wall was is comprised of a vertical unreinforced concrete stem only, supported on a laid stone foundation.

A Conceptual Design Study commissioned by MCEO in 2023 concluded that the 125-year old retaining wall is structurally unstable, not suitable for rehabilitation, and should be removed. The study evaluated two post-removal alternatives: replacing the existing wall with a new retaining wall, and realigning Dayton Cincinnati Pike to reduce or eliminate the wall entirely. The baseline (2022) estimated construction cost for the wall replacement alternative was $3.9M; the estimated construction cost for the roadway realignment alternative was $2.3M. Project costs will be shared by the two owning agencies, with approximately 55% of the project located in Warren County and the responsibility of the City of Franklin (COF), and approximately 45% of the project located in Montgomery County and the responsibility of MCEO.

COF and MCEO concur that the roadway realignment is the preferred alternative and that MCEO will act as lead agency for the entire project. This OPWC District 4 application represents the portion of the project located in Montgomery County only. A separate application will be submitted to OPWC District 10 by COF for the portion of the project in Warren County.

The project includes reconstruction of approximately 1,300 feet of Dayton Cincinnati Pike on an easterly-shifted alignment to allow removal of the existing retaining wall. Lane and shoulder widths will be reconstructed to current design standards, all guardrail within the project limits will be replaced, and a new culvert across Dayton Cincinnati Pike near the northern project limit will be installed as part of the proposed project.

Priority:

Is this application your priority project? (Circle One)	
Yes ○	No ◉

Generation of Revenue:

Will new user fees or assessments be assessed as part of this project? (Circle One)	
Yes ○	No ◉
What will the new user fees or assessments be used for?	

Additional Funding:

Will OPWC match, in part, a committed grant or loan? (Circle One)	
Yes ○	No ◉
If no, was the project submitted to an appropriate agency for funding, but denied due to lack of funding? (Circle One)	
Yes – Appropriate Documentation Attached ○	No ◉

Readiness of Project:

Will this project be <u>substantially</u> underway on or before June 1, 2025? (Circle One)	
Yes ◉	No ○

Health & Safety:

Describe the specific health or safety issue being addressed by this project. What deficiency or condition is causing the health or safety issue?
The existing 125-year old retaining wall is structurally unstable, in poor condition, and not suitable for rehabilitation. The existing 800-foot long, 15-foot tall retaining wall must be removed before it collapses.

Addresses District Infrastructure Needs:

Is this project located in more than one community? (Circle One)	
Yes ◉	No ○

What percentage of the community will be served by this project? (Circle One)		
Less than 25% ○	25% to 40% ○	More than 40% ◉

Economic Development

How many jobs are being created as a result of this project?	N/A
How many jobs will be retained as a result of this project?	N/A

Why is it necessary to fund this improvement to secure this development?

What type of industry is proposed in this development?

Relieve Existing Traffic Congestion:

What is the level of service?	N/A

Other Factors

What other factors exist that make this project more important than other like projects?

The existing retaining wall was constructed in the late 19th century prior to the automobile era to support an interurban traction line railroad constructed between the then-existing Miami & Erie Canal and the Great Miami River. Until its condition and safety concerns were recently brought to the attention of MCEO by the Miami Conservancy District, the existing wall had not been inventoried or maintained by any public agency. This highway system component was inherited from a series of now-defunct electric railroad companies in the early 20th century, initially by the State of Ohio Department of Highways in the 1920s, then by Montgomery and Warren Counties when Intercounty Highway 19 (later U.S. 25) reverted from state to local control.

Current federal transportation infrastructure funding sources do not adequately accommodate the unique circumstances of this project. The existing retaining wall is unstable and cannot be economically rehabilitated. The cost to construct a replacement retaining wall is estimated to be just under $4 million. While no new roadway capacity is needed or proposed, complete reconstruction and realignment of 0.25 miles of principal arterial highway is necessary to remove the old retaining wall and eliminate the need for a replacement wall. Confronted with a project of this magnitude under these circumstances, MCEO believes that the Dayton Cincinnati Pike roadway realignment is in a class by itself, and warrants consideration as a highly important project in District 4.

DAYTON CINCINNATI PIKE

Roadway Realingment Project

Location Map

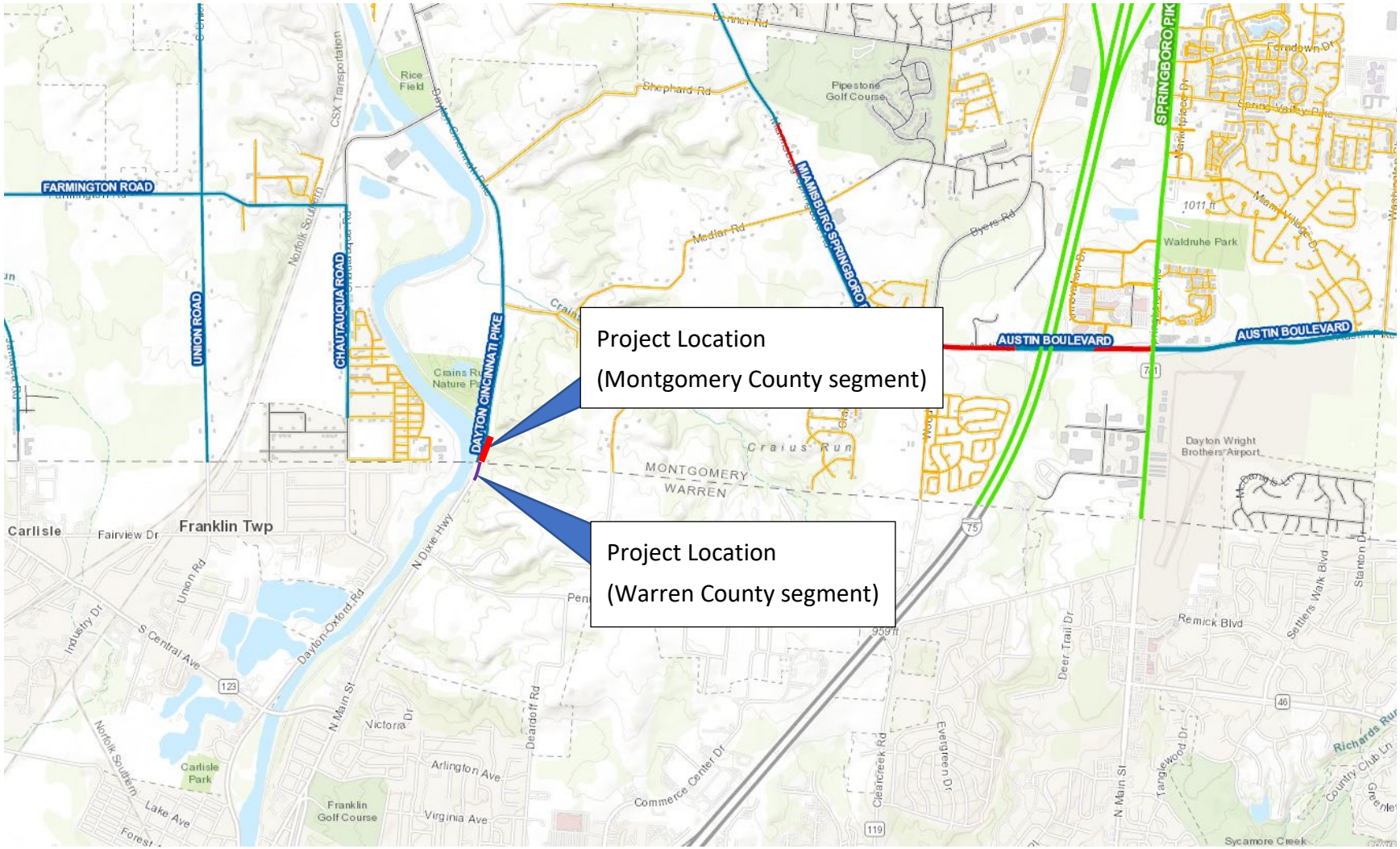

Figure 1: Dayton Cincinnati Pike – Existing Retaining Wall Condition

The existing retaining wall is approximately 125 years old. Constructed by an early interurban railroad prior to 1900, the unreinforced concrete wall has decomposed from carbonation and spalled after decades of environmental exposure. The Great Miami River Recreational Trail is located between the retaining wall and the river, and is visible on the right in this photo.

Figure 2: Dayton Cincinnati Pike – Wall Condition Overview

The existing concrete retaining wall was constructed in multiple lifts, with unreinforced cold joints used between the pours. The existing wall is thickest at the base, with the stem width decreasing in steps at each successive lift. The railroad company constructing the wall used available steel rail sections to provide longitudinal continuity, but otherwise the wall does not contain vertical or horizontal reinforcing. The rectangular blockouts visible on a regular horizontal spacing were used to support knee braces for an original timber train platform and railing.

Figure 3: Dayton Cincinnati Pike – Spalled Section at Top of Wall

After years of carbonation and decomposition, a large section of the top of the wall separated and fell to the ground, landing between the wall face and the recreational trail. Debris from the spalled section has been removed.

Figure 4: Dayton Cincinnati Pike – Existing Loose Stone Foundation

The wall foundation is composed of dry-stacked limestone, with no physical connection to the concrete wall stem above.

Figure 5: Dayton Cincinnati Pike – South Wall Section Showing Original Batter

The retaining wall was originally constructed with a sloped face, with the front face battered vertically at 1” per foot. Where the height gradually diminishes at the south end of the wall, approximately one-quarter of the existing wall retains its original batter.

Figure 6: Dayton Cincinnati Pike – North Wall Section Showing Front Face Rotated

As an inevitable consequence of the wall providing insufficient resistance to overturning against lateral earth pressure, the northern three-quarters of the Dayton Cincinnati Pike retaining wall has rotated into a vertical front face position.

Figure 7: Dayton Cincinnati Pike – Historical Photo

This 1918 photo shows the man-made reservoir that existed on the Great Miami River following construction of the Franklin Hydraulic in 1870. The Chautauqua resort was located on the west side of the river, with interurban train service provided on the east side and a pedestrian bridge across the river. The Miami & Erie Canal is visible adjacent to the single track traction line. The existing retaining wall is located below the timber train platform, and extends for approximately 800 feet where the canal and river alignments converged at the Montgomery-Warren County line.

Montgomery County Engineer's Office
Traffic Department

Location : Dayton Cincinnati Road
Cross Street : 525' N of Warren County Line
By : KRL

Site: 23 394
3/21/2023
Tuesday

24 Hour Volume

Interval Start	Northbound		Southbound		Combined	
11:00 AM	27	158	26	119	53	277
11:15 AM	43		32		75	
11:30 AM	47		29		76	
11:45 AM	41		32		73	
12:00 PM	33	138	30	118	63	256
12:15 PM	35		34		69	
12:30 PM	40		26		66	
12:45 PM	30		28		58	
1:00 PM	41	133	32	144	73	277
1:15 PM	29		39		68	
1:30 PM	35		29		64	
1:45 PM	28		44		72	
2:00 PM	29	185	32	169	61	354
2:15 PM	58		47		105	
2:30 PM	41		36		77	
2:45 PM	57		54		111	
3:00 PM	47	235	42	214	89	449
3:15 PM	70		59		129	
3:30 PM	58		52		110	
3:45 PM	60		61		121	
4:00 PM	74	274	61	296	135	570
4:15 PM	69		84		153	
4:30 PM	64		74		138	
4:45 PM	67		77		144	
5:00 PM	76	229	58	225	134	454
5:15 PM	60		62		122	
5:30 PM	44		67		111	
5:45 PM	49		38		87	
6:00 PM	40	162	38	152	78	314
6:15 PM	43		33		76	
6:30 PM	40		39		79	
6:45 PM	39		42		81	
7:00 PM	27	109	25	120	52	229
7:15 PM	25		37		62	
7:30 PM	20		31		51	
7:45 PM	37		27		64	
8:00 PM	17	68	23	72	40	140
8:15 PM	15		17		32	
8:30 PM	21		18		39	
8:45 PM	15		14		29	
9:00 PM	15	53	16	53	31	106
9:15 PM	12		11		23	
9:30 PM	13		14		27	
9:45 PM	13		12		25	
10:00 PM	9	44	11	34	20	78
10:15 PM	13		7		20	
10:30 PM	7		8		15	
10:45 PM	15		8		23	

Interval Start	Northbound		Southbound		Combined	
11:00 PM	3	11	6	10	9	21
11:15 PM	3		3		6	
11:30 PM	2		0		2	
11:45 PM	3		1		4	
3/22/2023 12:00 AM	2	8	1	7	3	15
12:15 AM	0		2		2	
12:30 AM	4		3		7	
12:45 AM	2		1		3	
1:00 AM	4	6	0	6	4	12
1:15 AM	0		4		4	
1:30 AM	2		1		3	
1:45 AM	0		1		1	
2:00 AM	0	2	3	4	3	6
2:15 AM	0		0		0	
2:30 AM	0		1		1	
2:45 AM	2		0		2	
3:00 AM	2	12	1	7	3	19
3:15 AM	4		1		5	
3:30 AM	3		2		5	
3:45 AM	3		3		6	
4:00 AM	3	16	6	21	9	37
4:15 AM	7		4		11	
4:30 AM	3		4		7	
4:45 AM	3		7		10	
5:00 AM	12	67	19	79	31	146
5:15 AM	20		23		43	
5:30 AM	16		19		35	
5:45 AM	19		18		37	
6:00 AM	27	124	30	122	57	246
6:15 AM	33		29		62	
6:30 AM	30		23		53	
6:45 AM	34		40		74	
7:00 AM	47	186	53	156	100	342
7:15 AM	58		45		103	
7:30 AM	37		39		76	
7:45 AM	44		19		63	
8:00 AM	44	135	33	143	77	278
8:15 AM	36		48		84	
8:30 AM	28		32		60	
8:45 AM	27		30		57	
9:00 AM	29	99	22	113	51	212
9:15 AM	21		34		55	
9:30 AM	32		28		60	
9:45 AM	17		29		46	
10:00 AM	25	109	29	114	54	223
10:15 AM	27		24		51	
10:30 AM	23		27		50	
10:45 AM	34		34		68	

Volume Totals

	Northbound	Southbound	Combined
12:00 AM - 12:00 PM	922 (50.9%)	891 (49.1%)	1813
12:00 PM - 12:00 AM	1641 (50.5%)	1607 (49.5%)	3248
24 Hours	2563 (50.6%)	2498 (49.4%)	5061

Peak Hours

12:00 AM - 12:00 PM

	Northbound	Southbound	Combined
Started	7:00 AM	6:45 AM	6:45 AM
Volume	186	177	353
Factor	0.80	0.83	0.86

12:00 PM - 12:00 AM

	Northbound	Southbound	Combined
Started	4:15 PM	4:00 PM	4:00 PM
Volume	276	296	570
Factor	0.91	0.88	0.93

Montgomery County Engineer's Office
Traffic Department

Location : Dayton Cincinnati Road
Cross Street : 525' N of Warren County Line
By : KRL

Site: 23 394
3/21/2023
Tuesday

24 Hour Classification

Northbound

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
11:00 AM	158	1	90	45	2	13	1	0	4	2	0	0	0	0
12:00 PM	138	1	88	36	1	9	0	0	0	3	0	0	0	0
1:00 PM	133	0	79	35	3	11	0	0	2	3	0	0	0	0
2:00 PM	185	1	122	50	0	8	0	0	2	2	0	0	0	0
3:00 PM	235	2	153	60	4	14	1	0	0	1	0	0	0	0
4:00 PM	274	2	186	67	2	16	0	0	1	0	0	0	0	0
5:00 PM	229	4	167	50	2	4	0	0	2	0	0	0	0	0
6:00 PM	162	3	112	39	0	8	0	0	0	0	0	0	0	0
7:00 PM	109	0	78	29	0	2	0	0	0	0	0	0	0	0
8:00 PM	68	1	49	15	0	3	0	0	0	0	0	0	0	0
9:00 PM	53	0	35	12	1	5	0	0	0	0	0	0	0	0
10:00 PM	44	0	32	8	0	4	0	0	0	0	0	0	0	0
11:00 PM	11	0	8	2	0	1	0	0	0	0	0	0	0	0
3/22/2023 12:00 AM	8	0	7	1	0	0	0	0	0	0	0	0	0	0
1:00 AM	6	0	5	1	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	1	0	0	1	0	0	0	0	0	0	0	0
3:00 AM	12	0	6	5	0	0	0	0	1	0	0	0	0	0
4:00 AM	16	0	11	2	0	1	1	0	1	0	0	0	0	0
5:00 AM	67	0	47	15	0	4	0	0	1	0	0	0	0	0
6:00 AM	124	0	80	28	1	12	0	0	1	2	0	0	0	0
7:00 AM	186	0	118	54	4	7	0	0	2	1	0	0	0	0
8:00 AM	135	1	76	35	3	7	2	1	3	7	0	0	0	0
9:00 AM	99	1	59	25	2	8	0	0	3	1	0	0	0	0
10:00 AM	109	0	73	21	0	12	0	0	1	2	0	0	0	0
Total	2563	17	1682	635	25	150	5	1	24	24	0	0	0	0
%		0.7	65.6	24.8	1.0	5.9	0.2	0.0	0.9	0.9	0.0	0.0	0.0	0.0

Montgomery County Engineer's Office
Traffic Department

Location : Dayton Cincinnati Road
Cross Street : 525' N of Warren County Line
By : KRL

Site: 23 394
3/21/2023
Tuesday

24 Hour Classification

Southbound

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
11:00 AM	119	2	65	28	4	16	2	0	1	1	0	0	0	0
12:00 PM	118	1	79	26	0	10	0	0	2	0	0	0	0	0
1:00 PM	144	3	84	43	4	8	0	0	1	0	1	0	0	0
2:00 PM	169	2	109	45	2	10	0	0	0	1	0	0	0	0
3:00 PM	214	3	141	50	4	14	0	0	2	0	0	0	0	0
4:00 PM	296	1	207	70	1	11	4	0	2	0	0	0	0	0
5:00 PM	225	5	163	43	1	11	1	0	1	0	0	0	0	0
6:00 PM	152	3	99	42	3	4	1	0	0	0	0	0	0	0
7:00 PM	120	1	85	26	0	8	0	0	0	0	0	0	0	0
8:00 PM	72	0	53	15	0	4	0	0	0	0	0	0	0	0
9:00 PM	53	0	41	9	0	2	1	0	0	0	0	0	0	0
10:00 PM	34	0	26	4	0	4	0	0	0	0	0	0	0	0
11:00 PM	10	0	9	1	0	0	0	0	0	0	0	0	0	0
3/22/2023 12:00 AM	7	0	3	3	0	1	0	0	0	0	0	0	0	0
1:00 AM	6	0	5	1	0	0	0	0	0	0	0	0	0	0
2:00 AM	4	0	4	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	7	0	6	1	0	0	0	0	0	0	0	0	0	0
4:00 AM	21	0	18	3	0	0	0	0	0	0	0	0	0	0
5:00 AM	79	0	51	20	1	7	0	0	0	0	0	0	0	0
6:00 AM	122	0	88	23	1	8	2	0	0	0	0	0	0	0
7:00 AM	156	1	93	34	5	17	2	0	3	1	0	0	0	0
8:00 AM	143	1	73	31	4	28	0	0	3	3	0	0	0	0
9:00 AM	113	2	69	19	3	17	1	0	2	0	0	0	0	0
10:00 AM	114	0	63	35	3	12	1	0	0	0	0	0	0	0
Total	2498	25	1634	572	36	192	15	0	17	6	1	0	0	0
%		1.0	65.4	22.9	1.4	7.7	0.6	0.0	0.7	0.2	0.0	0.0	0.0	0.0

Montgomery County Engineer's Office
Traffic Department

Location : Dayton Cincinnati Road
Cross Street : 525' N of Warren County Line
By : KRL

Site: 23 394
3/21/2023
Tuesday

24 Hour Speed

Northbound

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Avg.
11:00 AM	158	0	1	2	3	6	9	20	48	45	19	3	2	0	47.9
12:00 PM	138	0	1	10	3	3	1	21	36	39	19	3	1	1	47.3
1:00 PM	133	0	0	0	6	4	3	19	49	38	10	4	0	0	47.9
2:00 PM	185	1	1	0	1	4	3	30	61	63	18	3	0	0	48.6
3:00 PM	235	1	0	7	7	7	2	24	70	85	26	6	0	0	48.3
4:00 PM	274	4	1	1	2	2	1	12	88	115	42	6	0	0	50.2
5:00 PM	229	0	2	6	6	8	3	21	63	81	32	7	0	0	48.4
6:00 PM	162	1	0	3	1	1	7	20	48	54	23	2	1	1	49.1
7:00 PM	109	0	0	1	1	0	2	10	47	30	16	1	1	0	49.8
8:00 PM	68	0	0	0	0	0	1	8	21	28	10	0	0	0	50.6
9:00 PM	53	0	0	0	0	0	1	5	9	23	12	3	0	0	52.2
10:00 PM	44	0	0	0	0	0	1	2	17	14	9	1	0	0	51.2
11:00 PM	11	0	0	0	0	0	0	2	4	3	1	0	1	0	50.7
3/22/2023 12:00 AM	8	0	0	0	0	0	0	2	3	3	0	0	0	0	47.9
1:00 AM	6	0	0	0	0	0	1	0	3	1	1	0	0	0	48.5
2:00 AM	2	0	0	0	0	0	0	2	0	0	0	0	0	0	41.5
3:00 AM	12	0	0	0	0	0	0	2	6	3	1	0	0	0	48.4
4:00 AM	16	0	0	0	0	0	1	6	7	0	2	0	0	0	46.0
5:00 AM	67	1	0	0	0	0	3	14	21	20	7	1	0	0	48.3
6:00 AM	124	0	1	0	0	3	1	15	32	50	18	3	1	0	50.1
7:00 AM	186	2	0	0	0	0	5	27	62	63	22	4	1	0	49.5
8:00 AM	135	1	1	0	3	4	4	22	47	37	14	2	0	0	47.7
9:00 AM	99	0	0	2	2	4	6	30	30	13	11	0	1	0	45.7
10:00 AM	109	0	0	1	3	2	12	17	31	31	9	2	1	0	47.3
Total	2563	11	8	33	38	48	67	331	803	839	322	51	10	2	48.7
%		0.4	0.3	1.3	1.5	1.9	2.6	12.9	31.3	32.7	12.6	2.0	0.4	0.1	

Average (Mean) 48.7 mph **Minimum** 10.1 mph **Maximum** 83.2 mph **Pace Range** 44.6 - 54.6 mph 1653 vehicles (64.5%)

Percentile Speeds	10%	15%	50%	85%	90%
(mph)	41.5	43.5	49.7	55.0	56.1

Speeds Exceeded	25 mph	35 mph	45 mph	55 mph	65 mph	75 mph
	98.0% (2511)	94.6% (2425)	79.1% (2027)	15.0% (385)	0.5% (12)	0.1% (2)

Montgomery County Engineer's Office
Traffic Department

Location : Dayton Cincinnati Road
Cross Street : 525' N of Warren County Line
By : KRL

Site: 23 394
3/21/2023
Tuesday

24 Hour Speed

Southbound

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Avg.
11:00 AM	119	1	1	2	2	1	3	5	30	51	13	8	0	2	50.2
12:00 PM	118	0	1	4	3	0	5	13	28	41	15	7	1	0	48.8
1:00 PM	144	1	2	3	1	2	5	17	50	46	12	5	0	0	48.2
2:00 PM	169	2	1	4	1	0	0	16	59	56	24	5	1	0	49.4
3:00 PM	214	4	1	8	4	2	2	12	64	87	28	2	0	0	48.3
4:00 PM	296	1	0	6	2	0	2	18	60	131	62	9	4	1	51.4
5:00 PM	225	0	1	8	6	0	2	12	57	84	45	9	0	1	50.2
6:00 PM	152	1	0	4	5	0	1	8	52	56	19	5	0	1	49.2
7:00 PM	120	0	0	2	0	0	4	16	35	42	14	5	2	0	50.2
8:00 PM	72	0	0	1	0	0	1	5	15	31	12	6	1	0	52.1
9:00 PM	53	0	0	0	0	0	1	3	17	15	14	3	0	0	51.8
10:00 PM	34	0	0	0	0	0	0	3	14	6	7	1	0	3	52.5
11:00 PM	10	0	0	0	0	0	0	1	5	3	1	0	0	0	49.3
3/22/2023 12:00 AM	7	0	0	0	0	0	0	1	1	3	2	0	0	0	51.9
1:00 AM	6	0	0	0	0	0	0	0	5	0	1	0	0	0	49.0
2:00 AM	4	0	0	0	0	0	0	1	2	0	1	0	0	0	48.6
3:00 AM	7	0	0	0	0	0	1	2	1	1	2	0	0	0	48.0
4:00 AM	21	0	0	0	0	0	0	1	6	9	5	0	0	0	51.7
5:00 AM	79	1	0	0	0	1	4	6	13	31	15	6	1	1	51.7
6:00 AM	122	0	0	1	0	0	1	9	40	44	22	4	0	1	51.1
7:00 AM	156	0	0	1	0	1	5	14	35	67	24	6	2	1	51.3
8:00 AM	143	0	0	1	1	0	5	20	43	54	12	4	2	1	49.9
9:00 AM	113	0	1	2	2	2	5	17	39	29	12	1	2	1	48.3
10:00 AM	114	0	0	4	1	0	5	11	42	42	8	1	0	0	48.1
Total	2498	11	8	51	28	9	52	211	713	929	370	87	16	13	50.0
%		0.4	0.3	2.0	1.1	0.4	2.1	8.4	28.5	37.2	14.8	3.5	0.6	0.5	

Average (Mean) 50.0 mph **Minimum** 10.1 mph **Maximum** 80.9 mph **Pace Range** 45.8 - 55.8 mph 1681 vehicles (67.3%)

Percentile Speeds	10%	15%	50%	85%	90%
(mph)	43.0	45.0	50.8	55.9	57.3

Speeds Exceeded	25 mph	35 mph	45 mph	55 mph	65 mph	75 mph
	97.2% (2428)	95.7% (2391)	85.2% (2128)	19.5% (486)	1.2% (29)	0.1% (3)