

**CONCEPTUAL IMPLEMENTATION AND FINANCIAL PLAN**

**WARREN COUNTY WAR-63 CORRIDOR  
(Western Priority Segment)**

**I N T E R N A L   R E V I E W   D O C U M E N T**



**Warren County Transportation Improvement District  
210 W Main Street  
Lebanon, OH 45036**

**May 2018**

This is an Internal Review Document, the first step in establishing the final implementation and financial strategy for the WAR-63 corridor (Hamilton-Lebanon Road), including the western priority segment from Union Road to State Route 741.

The final Implementation and Financial Plan will be completed with guidance and input from multiple stakeholders, including Ohio DOT, county and township agencies and officials, and potential federal funding partners, among others.

This internal review document is exploratory only, and not for external circulation without the approval of the Warren County Transportation Improvement District.

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## EXECUTIVE SUMMARY

**An initial framework for a Conceptual Financial Plan was prepared for the western section of the planned WAR SR 63 highway corridor improvements in Turtlecreek Township, Warren County, generally between Union Road and the City of Monroe on the west, and State Route 741 on the east. Financial Plans are required for federal-aid projects over \$100 million, under Section 106(h) of Title 23, United States Code (23 U.S.C. 106(h)), as administered by FHWA for allocation of federal funds. Financial plans are also appropriate for smaller projects that have complexities in phasing, funding, benefits to multiple project partners, and alternative delivery and finance considerations. This latter condition applies to the WAR SR63 West Corridor project.**

**In this work, data needs were identified, financing options and funding sources explored, risks and responses for mitigation identified, alternative delivery methods and innovative financing techniques evaluated, and project phasing implications assessed. Final conclusions and recommendations were not part of this initial work, but rather a framing of issues and items for further examination in detailing the project Conceptual Implementation and Financial Plan. Consideration of long-term needs of the corridor as identified in the WAR-63 Scoping Study completed by the Warren County Transportation Improvement District was an anchor point in the work. Initial consultation with County agency stakeholders was also part of the work.**

**This report identifies inputs, establishes needed assumptions, and evaluates delivery, financing and phasing options for TID consideration and further development. This initial work also identifies and focuses needed work to finalize the conceptual financial plan. Other required pieces of the 10-Year implementation plan, include public outreach, benefit-cost analysis, environmental analysis, and estimation of economic investment and jobs creation. Among the important findings of this work are the following:**

- 1. Warren County has many opportunities to employ non-traditional funding and financing options, but it requires community and stakeholder involvement and communication to evaluate interest and value.**
- 2. A close cooperative relationship between the WCTID and Port Authority is essential for taking advantage of the special powers available to each in crafting an implementation plan that addresses the needs of all stakeholders within the envelope of influence.**
- 3. It is critical that ODOT establish their base contribution toward providing accommodation for the increase in background regional traffic.**
- 4. ODOT should be included in the regional discussion of expected outcomes, and be open to exploring non-traditional project delivery and financing approaches.**

## **I. What is being proposed?**

### **a. Purpose of the Project**

The purpose of the proposed action for the SR 63 corridor is to improve connectivity, mobility, safety and access along a heavily traveled portion of SR 63 in Warren County between Monroe and Lebanon to achieve the following outcomes:

- Maintain Effective East-West Connectivity between I71 and I75
- Improve Safety and Reduce Crash Risk
- Provide Effective Accommodation of Different Trip Types and Modes
- Provide a Balanced Transportation Solution for both Environmental Resources and Changing Land Use Picture

### **b. Project Description**

The proposed project (Phase 1) includes widening, geometric improvement and access management of a predominately 2-lane section of SR63 in Turtle Creek Township in Warren County, Ohio, from the City of Monroe corporation limit near an existing interchange with I-75 at the west, though the signalized intersection with SR741 at the east. A four lane rural section with a grass median is the suggested conceptual alternative strategy.

Design and location alternatives within the preferred strategy include centerline location; with specific consideration of environmental impacts, constructability and maintenance of traffic, as well as vertical profile options with specific regard to best practical design goals.

Access Management, Right of Way Preservation, and Internal Circulation are significant concerns in selecting a preferred alternative.

The project involves replacement of six (6) culverts.

**c. Right of Way Requirements<sup>1</sup>**

In general, a minimum of 102 feet of new Right of Way to the north of existing SR63 Right of Way should be preserved in zones of stronger topography, and a minimum of 80 feet elsewhere, except where limited by existing built facilities. These may need to be addressed by retaining walls. On the south side of SR63, a minimum of 80 feet of Right of Way should be preserved. Additional Right of Way may be need for driveway and access point consolidation, service roads, bike trails, and drainage accommodations.

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<sup>1</sup> Memorandum, May 13. 2016, Future ROW Recommendations – SR 63 Corridor West, RL RECORD LLC Consultants

## II. When will the project be built?

### a. Current scheduling assumptions

This analysis contemplates completion of the western segment of SR63 improvements (Phase 1) over a period of ten (10) years, and evaluates several temporal strategies for project delivery:

- A single project incorporating the entire western section of the SR63 Corridor.
- A flexible, phased approach comprised of component segments that responds to development pressures as they occur.

### b. Individual components by project segment

Segment	Identification	Description	Year*
<b>A</b>	Gateway Project	Improvement of a highly irregular, high-accident section of SR63 extending from the City of Monroe corporation boundary at Union Road, eastward through a transitional section fronting the Miami Valley Gaming facility that has confusing lane assignment and lane continuity conditions.	20XX + 1
<b>B</b>	LCI/WCI Access Improvements	Consolidation of multiple access points	20XX + 3
<b>C</b>	West Capacity Improvements	Capacity and geometric improvements from MVG to LCI	20XX + 4
<b>D</b>	East Capacity Improvements	Capacity and geometric improvements from LCI to SR741	20XX + 8
<b>E</b>	SR741 Intersection Improvements	Redesign and construction of capacity improvements at the SR63 and SR741 Intersection	20XX + 6
<b>F</b>	Multi-use Path	Design and construction of multi-use path	20XX +2

\*Initial construction starts

### **III. What will the project cost?**

#### **a. Life Cycle Costing (LCCA)**

LCCA is an economic analysis tool used to compare the total user and agency cost of project implementation alternatives over time. All of the relevant costs that occur over the lifetime of a project alternative, not only the original expenditures, are evaluated.

#### **b. Conceptual life cycle cost estimates**

Conceptual life cycle cost estimates, using the FHWA Office of Asset Management RealCost v.2.1 tool, were prepared for 2 scenarios:

- Low-build (based on ODOT's Assessment of Feasible Alternatives)
- Phased preservation of future capacity

**c. Capital costs by phase:**

LOW-BUILD			
Segment	Identification	Description	Cost*
A	Gateway Project	Improvement of a highly irregular, high-accident section of SR63 extending from the City of Monroe corporation boundary at Union Road, eastward through a transitional section fronting the Miami Valley Gaming facility that has confusing lane assignment and lane continuity conditions.	\$
B	LCI/WCI Access Improvements	Consolidation of multiple access points	\$
C	West Capacity Improvements	Capacity and geometric improvements from MVG to LCI	\$
D	East Capacity Improvements	Capacity and geometric improvements from LCI to SR741	\$
E	SR741 Intersection Improvements	Redesign and construction of capacity improvements at the SR63 and SR741 Intersection	\$
F	Multi-use Path	Design and construction of multi-use path	\$
Total Cost			\$

\*Year 20XX dollars; preliminary cost estimates to be refined based on ODOT AFA and other examinations

PRESERVATION OF FUTURE CAPACITY			
Segment	Identification	Description	Cost*
A	Gateway Project	Improvement of a highly irregular, high-accident section of SR63 extending from the City of Monroe corporation boundary at Union Road, eastward through a transitional section fronting the Miami Valley Gaming facility that has confusing lane assignment and lane continuity conditions.	\$ 6,400,000
B	LCI/WCI Access Improvements	Consolidation of multiple access points	\$ 1,000,000
C	West Capacity Improvements	Capacity and geometric improvements from MVG to LCI	\$ 4,150,000
D	East Capacity Improvements	Capacity and geometric improvements from LCI to SR741	\$ 5,450,000
E	SR741 Intersection Improvements	Redesign and construction of capacity improvements at the SR63 and SR741 Intersection	\$ 5,000,000
F	Multi-use Path	Design and construction of multi-use path	\$ 3,000,000
Total Cost			\$ 25,000,000

\*Preliminary cost estimates to be refined

**d. Cost by component (Too be developed in future work)**

LOW-BUILD						
Segment	A	B	C	D	E	F
Feasibility Studies						
Preliminary Engineering						
Environmental Studies						
Right of Way Acquisition						
Construction						
Construction Engineering and Inspection						
Project Management						
Contingencies						
Operations and Maintenance						
Total Costs						

PRESERVATION OF FUTURE CAPACITY						
Segment	A	B	C	D	E	F
Feasibility Studies						
Preliminary Engineering						
Environmental Studies						
Right of Way Acquisition						
Construction						
Construction Engineering and Inspection						
Project Management						
Contingencies						
Operations and Maintenance						
Total Costs						

**e. Life cycle assumptions**

Life cycle assumptions include estimates of useful life, a schedule of asset management treatments and the value of the asset at the end of its useful life.

Items	Scenario A Single Project	Scenario B Phased Project
Pavement and shoulder subgrade	30 years	10 years
Pavement surface course	10 years	10 years
Bridge Structure	50 years	10 years
Bridge Deck	30 years	10 years
Embankment and surface drainage*	30 years	10 years
Closed drainage and structures	50 years	10 years
Water Quality treatment BMPs	20 years	10 years
Signage and Signal systems	15 years	10 years
Guardrail and ROW fencing*	25 years	10 years
General asset condition inspection and corrective action	Annually	Annually
Embankment and drainage maintenance	Biannually	Biannually
Pavement seal/repair	Triennially	Triennially
Pavement markings and traffic control systems	Triennially	Triennially
Salvage value	80%	40%

\*Assumes preventive maintenance/asset management

**f. Discount rate assumptions**

The two most common approaches to determining the appropriate discount rate to apply to government investments are the Social Rate of Time preference (SRTP), the rate at which society is willing to trade current consumption for future consumption (a common proxy for this is the rate of return on tax-free government bonds), and the Social Opportunity Cost of Capital (SOC), which accounts for displacement of investment in the private sector. Circular A-4 requires federal agencies to use both a 7 percent (SOC) percent and a 3 percent (SRTP) in regulatory

analysis, and this convention has been applied here, although there is some convincing evidence that both are very conservative (high) thresholds.<sup>2</sup>

**g. Inflation assumptions**

SCENARIO	CY 2018	CY2019	CY2020	CY2021	CY2022
High	5.7%	6.2%	5.8%	5.5%	5.0%
Most Likely	3.4%	4.1%	3.6%	3.4%	3.2%
Low	1.9%	2.0%	1.5%	1.2%	3.2%

From CY 2023 through CY2026 inflation is forecast to be 3.0% based on average rates over 30 to 60 years as measured by the GDP deflator and the Consumer Price Index. The long-term forecast from 2027 onward is 2.0% based on the Federal Reserve’s long run inflation target rate.<sup>3</sup>

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<sup>2</sup> *Discounting for Public Policy: Theory and Recent Evidence on the Merits of Updating the Discount Rate*, Council of Economic Advisors Issue Brief, January 2017. It concludes that “intergenerational ethical considerations and greater uncertainty about the investment environment and economic growth in the far future would tend to support lower discount rates in this context”.

<sup>3</sup> Ohio DOT Construction Cost Index, January, 19, 2018

## IV. How will the project be funded?

### a. Definitions

Project funding refers to the identification of sources and amounts of monetary resources available to advance a proposed transportation action. Funds are generally a reflection of the societal value of a project.

Project financing refers to the arrangements used to translate identified funding resources into a stream of cash payments available to support the development, construction, and operation and maintenance of a project.

Since project funding is a reflection of the societal value of a project, it follows that projects should be funded by the value they ultimately create. This is the concept known as *value capture*.

Traditionally the value of transportation investments has been determined by the political economy, the collection and redistribution of resources for the public good. It can also be determined by the market economy, as the value that an individual investment in transportation improvements creates and returns to the local community.

In the era of interstate development, the former approach was necessary. Where investments have a more local purpose, the latter approach is appropriate.

The SR63 Corridor project is a hybrid of each. Required improvements stemming from background growth and system conditions are best funded through traditional transportation mechanisms, including state and federal highway funds<sup>4</sup>, accessed through ODOT and OKI. Other travel demand components, beyond baseline levels<sup>5</sup>, stemming from major new development should be assessed for impact and value capture opportunities.

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<sup>4</sup> Use of federal funds in any phase of project development requires adherence to all federal Title 23 and NEPA requirements except as noted.

<sup>5</sup> Defined in *Scoping Study, State Route 63 between Union Road and Neil Armstrong Way/SR123, Warren County, Ohio*, WCTID and RL RECORD Consultants. FINAL REPORT April 2017.

ODOT District 8 is developing a strategy in response to base-line travel demands. This strategy may provide an interim solution to current pressures. Alternatively, an integrated solution, using ODOT’s proposed baseline cost proposal, as the state and federal contribution to a longer-term resolution for the corridor needs could be the most cost-effective approach.

## **b. Value Capture**

Transportation networks and land values are inextricably linked. Transportation investments make surrounding locations more attractive and more valuable, benefitting landowners and developers. Value capture techniques secure a portion of the increased land use value to help pay for transportation improvements and amenities.

In addition to increase in value of land, enhanced environmental outcomes can accrue as the result of a transportation investment. As with other transportation investments, a baseline environmental condition, incorporating the “avoid, minimize, and mitigate” strategy is established, and alternative environmental net-benefit approaches are advanced based on agency and stakeholder interest and willingness to pay.

The Warren County Port Authority offers unique possibilities for partnerships with other governments. Under Ohio law, the Port Authority can contract with any other government, governmental agency, or political subdivision to purchase or sell property, collect rent, lease land, or exercise any power that the other governmental entity is otherwise authorized to exercise. For example, the acquisition and disposition of land by political subdivisions can be subject to many legal restrictions, but the Port Authority has broad flexibility in its ability to acquire and dispose of land. In addition, while political subdivisions are traditionally barred from partnering with private sector businesses under Ohio law, a political subdivision can work cooperatively with a Port Authority to form that valuable partnership with private enterprise that is so crucial to economic development.<sup>6</sup>

The Port Authority can own, lease, subdivide, and sell real and personal property; issue revenue bonds for port authority facilities and other permanent improvements; operate transportation,

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<sup>6</sup> <http://www.co.warren.oh.us/portauthority/services/CooperativeProjects.aspx>

recreation, governmental, and cultural facilities; and cooperate with public sector agencies and private sector businesses to promote economic development. As a political subdivision, the Port Authority is a tax-exempt governmental entity. In many cases, this tax-exempt status can be shared with a private sector business for some aspects of its project.<sup>7</sup>

### **c. Revenue capture**

Tools used to capture increases in land value include:

- Tax Increment Financing (TIF) uses taxes on future gains in real estate values to pay for new infrastructure improvements. The intent is for the transportation improvement to enhance the value of existing properties and encourage new development in the district.
- A Residential Tax Increment Financing District (RIF) is a subset of TIF, and an alternative to Development Impact Fees.
- Development Impact Fees are one-time charges that can be used to pay for off-site services such as local roads.
- Land Value Tax is a levy on the value of unimproved land that shifts the basis of property taxes away from buildings and improvements to the assessed value of the land they are situated on. It is a payment for the benefits received from the transportation system and other infrastructure.
- Developer Contributions involve negotiated payments made by a developer (cash payments, land transfers) in exchange for transportation improvements including local roads, sidewalks, multi-use paths, streetlights, street furniture, and local water and sewer lines. These generally work best in situations where private developers and public transportation improvements are mutually benefited.
- Joint Development Agreements encourage private contributions toward transportation infrastructure improvements that are co-located or benefit a commercial, retail, residential or mixed-use development, common agreements include air-rights, ground leases, station connections, and other amenities.
- Special Assessment Districts involve compulsory levies against property owners to finance specified public improvements. Special assessments are only charged to those properties receiving special benefit, and the charge bears a direct relationship to the value of benefits received.

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<sup>7</sup> <http://www.co.warren.oh.us/portauthority/services/developmentProjects.aspx>

- A Joint Economic Development District (JEDD) is an arrangement in Ohio where one or more municipalities and a township agree to work together to develop township land for commercial or industrial purposes. The benefit to the municipality is that they get a portion of the taxes levied in the JEDD without having to annex it. The benefits to the township are that it does not lose prime development land, and it can still collect property taxes as well as a portion of the income tax collected.

#### **d. Right of Way Protection and Real Estate Overbuys**

Local governmental units and Transportation Improvement Districts (TIDs) have the ability to acquire real estate for demonstrable public purposes other than transportation. Acquisition by local jurisdictions of parcels for right of way preservation and economic development purposes, in arm's length transactions with a willing seller, can reduce the subsequent cost of transportation projects by insuring that available land is not converted to uses that make future acquisition financially infeasible.

Where the local government realizes the incremental increase in value of unused parcels that remain after the transportation investment is completed, proceeds from the sale of these parcels can be used to help finance future projects.

Additionally, local jurisdictions have the ability to acquire property and operate it as a going concern, collecting rents during the period the property is held.

Flexible match credit (discussed in section 5.a.) would be provided based on the appraised Fair Market Value (FMV) of the donated property actually required for the transportation improvement and the value must be included in total project costs.

Risk of land value fluctuation, location and timing of project implementation, and amount of property required for the project is borne entirely by the local jurisdiction or governmental unit.

**e. Opportunities for environmental benefit capture**

Identifying opportunities for enhanced environmental outcomes begins with identifying known environmental challenges and evaluating potential benefits above baseline, value measures, and revenue streams.<sup>8</sup> In consideration of benefit capture, the “Environment” means both natural and built (human community) systems, the whole of the environment and context within which the transportation investment operates and has substantive influence upon<sup>9</sup>. The physical/spatial and temporal distribution of “environmental” benefits (and disbenefits) varies among benefit capture categories of consideration (the “Envelope of Influence”).

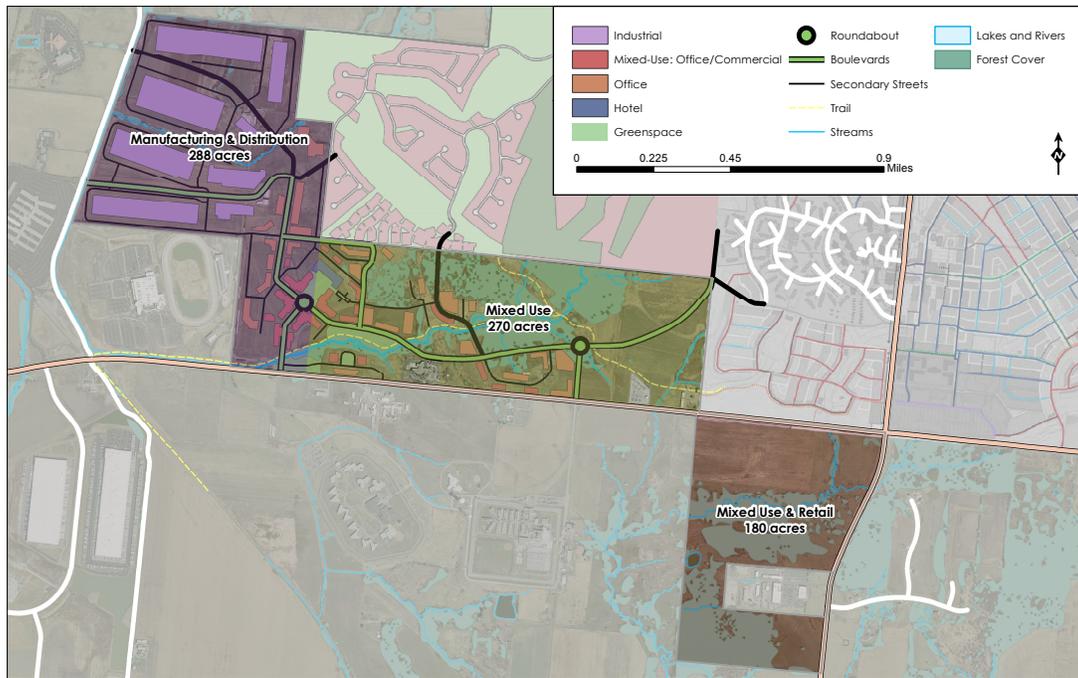
**f. Envelope of influence**

The Envelope of Influence refers to the area outside of the proposed project right of way that will benefit from the transportation investment, often associated with land use and development (**Figure A**).

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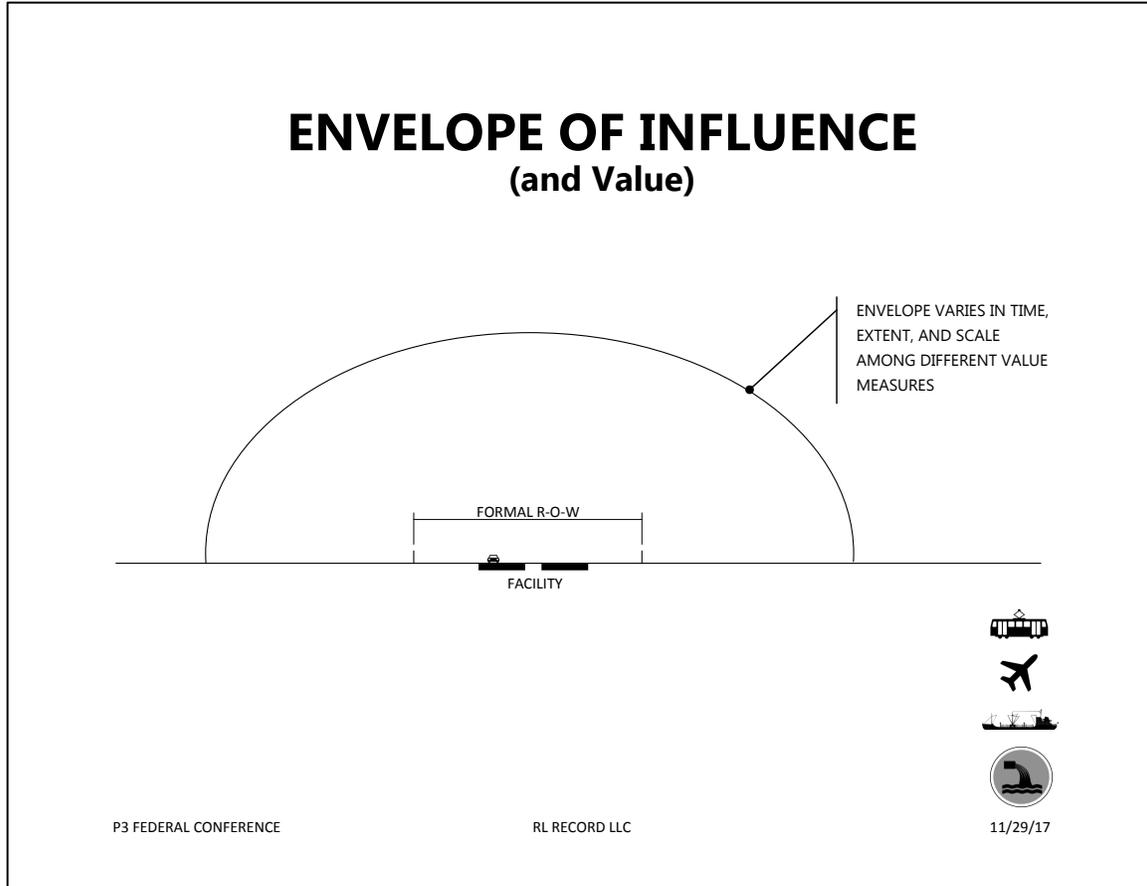
<sup>8</sup> Initial opportunities will extend from review of the project Scoping Report (April 2017), as well as Project Initiation Package, (draft prepared for ODOT and WCTID by RL RECORD LLC Consultants, April 2017 – see **Appendix F**)

<sup>9</sup> Concept as developed by RL RECORD LLC for USDOT OST, and reflected in part in current INFRA and BUILD grant funding guidelines.



**Figure A – Land Use and Development Changes (Part) that will benefit from improvements in the WAR-63 corridor Western Priority Segment**

But the Envelope of Influence (and Value for potential benefit capture) includes a much broader array of value measures than planned land use and development changes. The envelope may include disparate natural and man-made value categories that are measurably benefitted by the transportation investment and that *have value to system users and stakeholders*. This could include, for example, categories such as stormwater quantity and quality, noise, public health, ecosystems, aesthetics, travel time, intermodal enhancements, safety, and access, from among a long list of value categories (**Figure B**).



**Figure B – The Envelope of Influence encompasses the benefits resulting from a transportation investment in both human and natural systems**

The Envelope varies in physical (spatial) extent, various measures of time, and relative scale. Noise values may have one envelope signature, for example, while Access values may have a very different envelope.

Institutions, utilities, residential and commercial developments, and governmental sub-divisions all have an interest in the benefits derived from transportation investments, and to the extent that their interests can be supported and provided during construction and operation over the life of the project, an opportunity for synergy, cost savings, and cost sharing occur, with initial possible examples as follows:

Entity	Interest	Opportunity	Potential Synergy
Warren County Water and Sewer	Introduction of Sewer Service and Siting of WWTP Location of water main in SR63 ROW	Coordinated development of infrastructure	Value of land occupied by WWTP and water main
Warren County Soil and Water Conservation District	Water Quality Improvements	BMPs and Green Infrastructure	Inspection of Green Infrastructure (BMPs), both public and private
Warren County Stormwater Utility	Runoff from increased impervious surface due to development	Improved stormwater management	Stormwater Utility expansion
City of Monroe	Increased revenue	Provide emergency services	JEDD
Warren County Park District ARMCO Park and golf course	Access to park Dredging of water feature Maintenance of dam	Improved watershed management	Usage fees
Sports Complex Union Village	Multiuse path Ice rink	Concurrent development	RIF
Cincinnati Zoo Cheetah Run	Access Population	Entertainment destination	Fees
Shaker Runn Golf Course	Irrigation	Grey water and stream quality	Revenue
Green Lawn Golf Course conversion	Sewer and Water	Watershed management	Revenue
Community	Performing Arts Center	Not-for-Profit	Lodging tax
City of Lebanon Historic District	Winter Sleigh Rides Blues Festival Apple Fest	Improved access and reduced congestion	Lodging tax
Warren County Economic Development	Employment Development	Catalyst	Income tax Sales tax
Union Village	Amenities Access management Intermodal connectivity	Multiuse Path Wide shoulders Pedestrian crossings	Joint development agreement Special assessment district
Airport Authority	Access	Development	TIF
Davis Farm	Development	Conversion	TIF
WCTID	Union Road	Program level	Local Match

**g. Identification of dedicated and anticipated funds**

[to be developed in next stage of Implementation and Financial Plan development, in follow to ODOT AFA work and proposed low build funding]

**h. TIP/LRP conformity**

SR 63 is located in the urbanized area covered by the Ohio, Kentucky, Indiana, Regional Council Governments (OKI), transportation-planning district. In order to qualify for use of federal funds, the project must be included on both OKI's 2040 Long Range Plan (RLP) where it is tested for financial and air quality conformity (completed), and its Transportation Improvement Program (TIP). At present this remains to be accomplished.

## **V. How will the project be financed?**

### **a. Federal-Aid matching requirements**

In 1994 The Federal Highway Administration (FHWA) established the “Test and Evaluation” program initiative, designated as TE-045, identifying a number of innovative financing techniques, including flexible-match, soft-match, tapered-match, and shared resources. A number of the techniques identified in TE-045, were enacted into law under the National Highway System Designation Act (NHS Act) of 1995, and no longer require special approvals.

### **b. Precedent**

ODOT has historically participated in both the Toll Revenue Credit (TRC) Program and the Credit Bridge Program. ODOT’s employment of innovative financing techniques includes the State Infrastructure Improvement Bank (SIB) program, use of Grant Anticipation Revenue Vehicles (GARVEEs), Advance Construction and application of other Federal matching techniques.

ODOT’s financing of Spring-Sandusky, the Maumee River Bridge, and the Southeast Ohio Plan is described in a Federal Highway Administration Case Study Multiple Strategies: Combining Innovative Finance Techniques. (April 2002): “In order to further optimize these techniques, ODOT is combining new techniques and realizing a multiplier effect . . . These projects are being completed years in advance of when they would have been constructed using traditional financing techniques.”

In addition, the Transportation Review Advisory Council (TRAC) has permitted preliminary engineering advanced by local jurisdictions to count toward local match for scoring purposes. Ohio DOT has also made Toll Revenue Credit available to match federal dollars expended during later stages of project development to compensate for the 100% local dollars expended during early stages of development. (One example of this practice was the Olive Branch-Stonelick Road Interchange Project in Clermont County.)

This benefits the state by shifting to the local community the risk associated with expenditures on preliminary development – the uncertainty during environmental evaluation and preliminary engineering – that a feasible and affordable project will result.

**c. Corridor importance**

The elements advanced in this proposal create the opportunity to attract increased levels of local funding to reduce investment in the federal/state roadway network, and to preserve the capacity of the federal/state system through access management. Tapered, flexible, and pooled program-level matching allows local actions, including right of way protection, to be employed to reduce total project costs.

This proposal recognizes the different purposes and interrelationship of the local, regional, and system level transportation networks with respect to functional class definition, roles, and inter-relationships. It promotes the appropriate level of investment in each type of facility, thus avoiding the “wait until it gets bad enough and the Feds will fix it” mentality.

**d. Financing strategies available**

Financing strategies available to federal projects are discussed in **Appendix A**.

**e. Interest rates and fees**

[to be developed in next phase of work as project information becomes available]

**f. Estimated total financing costs by phase**

[to be developed in next phase of work as project information becomes available]

**g. Cash flow analysis**

[availability of funding versus expenditure my year, segment and cost component - to be developed in next phase of work as project information becomes available]

## **VI. How will the project be financed?**

### **a. Performance criteria**

Performance criteria are discussed in **Appendix B**.

Performance criteria will be the basis for scoping the contractors and describing the expected outcomes of the project.

### **b. Flexible procurement strategies**

Flexible procurement strategies are discussed in **Appendix C**.

Flexible procurement strategies are techniques that accelerate project development and deliver completed projects sooner than traditional methods.

### **c. Flexible payment strategies**

Flexible payment strategies are discussed in **Appendix D**.

### **d. Legislative authority**

[to be developed in next phase of work as project information becomes available]

### **e. Comparison of benefits**

[to be developed in next phase of work as project information becomes available]

### **f. Market conditions**

[to be developed in next phase of work as project information becomes available]

**g. Recommended delivery vehicle**

[to be developed in next phase of work as project information becomes available]

## VII. What risks are associated with project delivery?

### a. Summary of potential risks and response strategies

The tabulation below and on the following page provides a general summary of project risk associated with each stage of development and delivery, and countermeasures to reduce those risks from occurring.

[additional specific risks associated with a preferred delivery vehicles to be developed in next phase of work as project information becomes available]

Stage	Category	Description of Risk	Potential Impact	Mitigative Response Strategy
Preliminary Development	Public Involvement	Political Risk that Project does not advance	Project does not advance	Responsive Public Involvement Process
	Environmental Impact	Identification of unexpected Resource	Project Delay	Effective Purpose and Need
Right of Way Acquisition	Additional ROW required	Acquisition of unanticipated parcels	Project Delay	Multi-disciplinary risk review
	Utility Coordination	Unanticipated Utility involvement	Project Delay and Cost Escalation	Sub-surface review, Multi-disciplinary review with utilities
Design	Geotechnical	Unanticipated design constraints	Project Delay and Cost Escalation	Multi-disciplinary review with geo-technical engineers
	Asset Management	Identification of system condition improvement needs	Cost Escalation	Early Multi-disciplinary review with system maintenance staff
	Scope	Scope is too restrictive to allow for innovative (cost savings) opportunities	Lost Opportunities for Cost Savings and Innovation	Risk management of appropriate level of design criteria
	Designer failure to manage contract	Inadequate QA/AC	E&O Insurance, Project Delay	Appropriate Selection Procedures

Construction	Major Accidents	Cleanup and Recovery	Bonding, Project Delay, Risk Transfer	Appropriate Safety and Inspection Policies
	Technical Errors	Rebuild	Bonding, Project Delay	Inspection
	Weather	Inclement	Project Delay	Risk Transfer
	Maintenance of Traffic	Major delays and accidents	Project Delay	Performance Criteria
Operations and Maintenance	Post Construction Safety Concerns	Counter-measures	Traffic Delay	Performance Criteria
	Private Party malfeasance	Bankruptcy, failure to comply with performance standards	Bonding	Absorption of facility
	Vague or confliction performance standards	Unable to hold contractor to established standards	Assumption of penalties	Breaking of Contract

## **VIII Recommendations**

[to be developed in next phase of work as project information becomes available]

## **Appendix A**

### **Financing Strategies Available to Federal-aid Projects**

#### 1. Federal-aid matching strategies

##### a. Tapered-Match

Tapered match enables the project sponsor to vary the non-Federal share of a Federal-aid project over time, as long as the Federal contribution toward the project does not exceed the Federal-aid limit. Legislative changes made in Section 1302 of TEA-21 removed the requirement for a payment-by-payment match. Under the tapered-match approach, the non-Federal matching ratio is imposed on projects rather than individual payments.

Application in this Implementation Proposal:

WCTID and the local project sponsors propose to use this provision to establish a pooled fund of program expenditures, including programmatic task-order consultant development contracts, incurred in the preliminary development phases of the proposed projects within the Program and for the development, design, right-of-way acquisition, and construction of Transportation Demand Management (TDM) Projects identified as part of the program. These pooled funds would then be available as non-Federal match during later stages of project development.

##### b. Flexible Match

Flexible match allows a wide variety of public and private contributions to be counted toward the non-Federal match for Federal Aid projects. These provisions also have the benefit of promoting public-private partnerships, thereby reducing the total public cost of the program.

The majority of the flexible match opportunities now available was authorized under Section 322 of the NHS Act and is codified at Section 323 of Title 23. TEA-21 broadened the states' flexible-matching options by expanding the opportunity to match Federal highway funds with certain other types of Federal funds. These provisions are codified principally at Section 120(k), 120(l), and 133(e) (5)(c) of Title 23.

TEA-21 also authorized program-level approvals for the STP and Transportation Enhancement programs. These provisions are codified in Section 133(e) of Title 23. Program approval allows a number of projects to be approved as a single activity. The matching requirements are applied at the program level instead of to individual projects.

Application in this Implementation Proposal:

WCTID and the local project sponsors propose to define the "Program" as elements of the Warren County SR63 Corridor Program

The local project sponsors also propose to include Federal funds available from the State and Local Assistance Act, HUD Community Development Block Grants, Public Works Employment Act o, the Water Resource Restoration Sponsorship Program (WRRSP), and other sources of Federal funds, eligible as federal-to-federal match, as part of the financing package.

c. Soft Match

Soft match allows the Federal obligation to be increased up to 100 percent of project costs based on credits established and available. This approach has been codified in two programs.

- Toll Revenue Credits:

Section 1044 of ISTEA (Public Law 102-240) permits a state to use certain toll revenue expenditures as a credit toward the non-Federal matching share of all programs authorized by ISTEA and Title 23. Section 1111(c) of TEA-21 incorporated into 23 U.S.C. 120(j) toll credit provisions initially set forth in ISTEA. Available credit is established based on a “maintenance of effort” (MOE) calculation. Toll credits may also be applied toward the non-Federal matching share of transit projects eligible under Chapter 53 of Title 49.

- Off-System Bridge Credits:

Title 23, Section 144(n), allows amounts exceeding 20 percent of construction costs of certain off-system bridges to be used to reduce the amount of state and local funds needed to match Federal-aid bridge replacement and rehabilitation projects.

Application in this Implementation Proposal:

WCTID and the local project sponsors propose to incorporate the MOE provisions of the Toll Revenue Credit and Off-System Bridge Credit programs under the experimental authority of TE-045 to develop credit eligibility criteria for local expenditures on Federal-aid eligible projects within the definition of the Program.

d. Shared Resources

Shared resources are donations of communications technology (principally fiber optic communications) or other utilities (water, sewer, stormwater, power) granted in exchange for access to public rights-of-way. The use of shared resources is an invaluable tool for states seeking to build a technological backbone for Intelligent Transportation Systems (ITS). In addition to obtaining increased access to telecommunications technology, states can use the donated technologies and credit the value of these private donations toward their matching share of project costs associated with the deployment of ITS projects (including signal preemption and coordination). The shared resources concept has been limited to selected experimental projects and has not to-date been codified as part of the regular Federal-aid program.

Application in this Implementation Proposal:

WCTID anticipates expansion of intelligent transportation system to encompass the SR63 corridor. The WCTID and the local project sponsors propose to solicit private partners to achieve this expansion. Additionally, consideration will be given to using private donations to reduce utility relocation costs.

The application of one or several of these innovative funding techniques used in combination is referred to generically as “pooled local match” throughout the remainder of this document.

## 2. Additional Innovative Financing Opportunities

Other financing mechanisms may be available as a result of a decision to toll (or shadow toll) the improvements to the SR63 Corridor. Shadow tolls are such an arrangement that would allow the use of additional financing tools described briefly below.

### a. Section 129 Loans

Under Section 129 of Title 23, the United States allows States to obtain Federal reimbursement for loans the States make to toll projects. These loans are granted under the same basis and terms as State Infrastructure Bank Programs loans.

Eligible projects traditionally include new toll road construction or conversion of existing roads to toll facilities. Recent TE-045 changes expanded the SEC 129 loan program to include any project with a dedicated revenue stream. Now, local government projects, local transportation authority projects, and private industry projects (such as, railroads and shipping) are also eligible as long as the project has a dedicated revenue stream. This is the only Federal funding mechanism available that allows states to obtain Federal-aid reimbursement for state-initiated loans to either public or private entities. These loans are open to all states, and there are no special administrative responsibilities. The terms are up to 30 years with subsidized interest.

States initiate a loan to a public, private, or quasi-private entity sponsoring a project. The proposed project must be able to generate enough revenue to repay 80% of the total project cost over the course of the loan. The state can then receive Federal-aid reimbursement for the loaned funds, along with repayments from the sponsor. The state can recycle the repaid principal and interest and invest it in other eligible Title 23 projects. Loan repayments can be capitalized to fund additional project loans and the resulting revolving loan fund can be allocated among many different projects.

Section 129 loans can reduce the amount of debt that must be issued in capital markets and can be subordinated to payment of debt service on revenue bonds, thereby increasing the credit rating of, and investor confidence in, market rate securities.

### b. ISTEA Section 1044 Toll Revenue Credits

Originally ISTEA Section 1055 Toll Revenue Credits allowed a state with sufficient Maintenance of Effort "MOE" to spend federal allocations at a 100% rate up to the credit limit. A state earns toll revenue credit if funds eligible projects with existing toll revenues. When applying for Toll Revenue Credit "TRC" the state files a MOE report with the FHWA Division Administrator, who determines the amount of eligible credit, taking into consideration eligibility factors including: The facility generating toll revenue is open to the public and fully operational.

- The toll authority is a public, quasi-public, or private entity
- Expenditures are for capital improvements and do not include maintenance, debt service, or operation costs.
- Credit is calculated as revenues generated (including tolls, receipts, concession sales, right of way leases, interest, and borrowed funds supported by a dedicated revenue stream) and used

by the toll authority to build, improve, or rehabilitate highways, bridges, tunnels or other structures that serve interstate commerce.

Revisions under TE-045 have relaxed the MOE standards. MOE used to require that state's prior year transportation spending be higher than, or equal to, the average of the previous three years' expenditures. States are now permitted to apply the MOE test prospectively, demonstrating that either the current year's or the next year's predicted expenditures exceed the three prior years' expenditures.

c. Private Activity Bonds

This financing vehicle allows private investors access to tax-exempt interest rates, significantly lowering the cost of capital, and making public infrastructure a more attractive investment for private enterprise. It reflects the Federal government's desire to increase private sector interest in transportation investments. Qualifying projects include:

- Surface transportation projects eligible for Federal assistance under Title 23.
- International bridge or tunnel projects where an international entity is authorized under Federal and/or State laws
- Inter-modal freight transfer facilities from truck to rail or rail to truck.

d. TIFIA

Since TIFIA credit assisted projects are Title 23 eligible projects, they are qualified for tax-exempt private activity bonds, making both TIFIA and Private Activity Bonds excellent incentives for private equity investment in highway and freight projects.

e. State Infrastructure Bank (SIB) Loans

State Infrastructure Banks are state operated revolving loan funds capitalized with Federal-aid dollars providing credit to Title 23 eligible projects. Federal-aid funds are matched with state funds equal to 20 percent of the total deposits. The funds are then used for credit assistance, including both direct loans and loan guarantees. In addition, bonds can be issued against SIB revolving loan capitalization, providing further leverage. ODOT has this capability.

f. Grant Anticipation Revenue Vehicles (GARVEEs)

Where project scope exceeds a state's ability to distribute effectively and equitably its annual allocation of Federal funding, GARVEEs create the opportunity to repay bonds with future Federal-aid apportionments. This allows the benefits of critical transportation projects (avoidance of cost escalation, reduction of driver delay, improvement in on-time delivery of freight, realization of economic development opportunities, reduction of vehicle operating costs and improvement in air quality) to be realized earlier, the consumer benefits far outweighing interest on the GARVEE bonds.

g. Post ISTEA Advance Construction

Advance construction allows states to use state and federal funds to accelerate construction of transportation projects and still to preserve eligibility for Federal-aid reimbursement. TE-045

allows states to begin projects and receive Federal-aid reimbursement for construction expenditures obligated during a previous authorization period as long as the state limits its use of advance construction to its current year balance of apportioned funding plus three years of anticipated apportionment funding.

h. Partial Conversion of Advance Construction

With the implementation of TE-045, states can obligate funds toward projects designated for advance construction consistent with the staged cash flow of actual expenditures instead of having to obligate the entire cost of a project at one time.

## **Appendix B**

### **Performance Criteria**

1. Traffic performance expectations:
  - Signal timing
  - Queue length
  - LOS
  
2. Safety performance expectations:
  - Crash rate
  - Facility availability
  
3. Access management expectations:
  - Distance between access points
  
4. Geometric expectations:
  - Shoulder width
  - Median width
  - Vertical curve
  - Horizontal curve
  - Retaining walls
  
5. Stormwater expectations:
  - Quantity
  - Quality
  
6. Intermodal expectations:
  - Pedestrian
  - Bicycle
  - Trucks
  - Buses
  - Other special vehicles (garbage, mail, etc.)
  
7. Aesthetic expectations:
  
8. Utility coordination expectations:
  
9. Environmental commitments:
  
10. Environmental expectations:

## **Appendix C**

### **Flexible Procurement Strategies**

#### **Including Public Private Partnerships (PPP, P3, 3P)**

#### 1. Design-Bid-Build

Design-bid-build is the traditional project delivery approach that was used for most of the 20th century to procure public works. The design-bid-build model segregates design and construction responsibilities by awarding them to an independent private engineer and a separate private contractor. By doing so, design-bid-build separates the delivery process into three linear phases: 1) Design, 2) Bid, and 3) Construction.

During the initial design phase, a transportation agency awards a design contract to an engineer using a quality-based approach, awarding the procurement to the firm providing the best experience and quality. The engineer is responsible for completing a final project design and providing detailed documentation, including drawings, specifications, and supporting documentation.

In the bid phase, the owner would use the documentation prepared by the engineer to assemble construction bid documents. Pre-qualified contractors would be invited to submit competitive, lump-sum bids, and the owner would award the construction contract to the contractor submitting the lowest responsible bid or total contract price. The project would then move into the construction phase, with the owner retaining responsibility for monitoring the contractor's performance.

#### 2. Private Contract Fee Services

An increasing number of public agencies are expanding the role of the private sector by transferring responsibility for services they would typically perform in-house to private sector companies. This is done by awarding competitively procured contracts to the bidder providing the best value, reflecting both price and technical qualifications.

Expanding the private sector role allows public agencies to tap private sector technical, management, and financial planning expertise in new ways. This can reduce work burdens for agency staff and provide access to innovative technology applications and specialized expertise.

Operations and Maintenance and Program and Financial Management are two functions that some owners are transferring to private sector partners as contract fee services.

#### 3. Design-Build

Design-build is a project delivery method that combines two, usually separate services into a single contract. With design-build procurements, owners execute a single, fixed-fee contract for both engineering services and construction. The design-build entity may be a single firm, a consortium, joint venture or other organization assembled for a particular project.

Design-Build Enhancements with SAFETEA-LU:

Section 1503 of SAFETEA-LU eliminates the \$50 million floor on the size of contracts that can use design-build contracting without special approval. SAFETEA-LU also eliminates an obstacle contained in FHWA's existing design-build rule, relating to the ability of transportation agencies to take certain preliminary actions prior to receipt of NEPA approval for a project. Specifically, the FHWA rule prohibited agencies from issuing requests for proposals and entering into contracts until after issuance of NEPA approval. This has been a particular problem for public-private partnerships where the expectation is that the private sector partner will be involved in the project definition process.

Section 1503 directs the Secretary to revise the regulations applicable to design-build contracts to permit transportation agencies to proceed with certain actions relating to design-build contracts prior to receipt of final NEPA approval. Specifically, the regulations may not require compliance with section 102 of the National Environmental Policy Act of 1969 prior to any agency: (a) issuing requests for proposals; (b) proceeding with awards of design-build contracts; or (c) issuing notices to proceed with preliminary design work under design-build contracts.

With design-build delivery, the design-builder assumes responsibility for the majority of the design work and all construction activities, together with the risks associated with providing these services for a fixed fee. When using design-build delivery, owners usually retain responsibility for financing, operating, and maintaining the project. While design-build procurement has been more prevalent in private sector work, it is also gaining acceptance among many public sector transportation infrastructure owners.

With design-build procurement, the owner must complete a certain amount of preliminary engineering and project definition in order to be able to prepare bid documents. While the level of definition is not fixed, experience in the highway sector suggests that preliminary design efforts of 10 to 15 percent completion are usually adequate. A project that is too advanced (for example, fully designed) may be unattractive since there will be minimal opportunity for the private sector to apply innovative methods to reduce cost and schedule. A project that still is at a nebulous stage with unanswered questions regarding scale, alignment and other project features will be difficult to structure on a design-build basis because the potential private sector partner will be unable to reliably assess schedule and costs.

Customary practice with design-build procurements is to rely upon best value. This approach, which is encouraged by Federal guidelines, takes into account both the technical capabilities and qualifications of the design-build team and the cost. There is no universally accepted approach for determining best value, with the request for proposal usually specifying the relationship between technical factors and price.

#### 4. Build-Operate-Transfer/Design-Build-Operate-Maintain

The build-operate-transfer (BOT) / design-build-operate-maintain (DBOM) model is an integrated partnership that combines the design and construction responsibilities of design-build procurements with operations and maintenance. These integrated PPPs transfer design, construction, and operation of a single facility or group of assets to a private sector partner. This

project delivery approach is practiced by several governments around the world and is known by a number of different names, including "turnkey" procurement, BOT, and DBOM.

In a single design-build-operate contract for the entire project, the contractor also provides long-term operation and maintenance services. The public sector sponsor secures the financing and retains the operating revenue risk and any surplus operating revenue.

The advantage of the BOT/DBOM approach is that it combines responsibility for usually disparate functions—design, construction, and maintenance—under a single entity. This allows the private partners to take advantage of a number of efficiencies. The project design can be tailored to the construction equipment and materials that will be used. In addition, the BOT team is also required to establish a long-term maintenance program up front, together with estimates of the associated costs. The team's detailed knowledge of the project design and the materials utilized allows it to develop a tailored maintenance plan that anticipates and addresses needs as they occur, thereby reducing the risk that problems will go unnoticed or unattended and then deteriorate into much more costly disruptions.

Owners award BOT/DBOM contracts by competitive bid following a transparent tender process. Proposers respond to the specifications provided in the tender documents and are usually required to provide a single price for the design, construction, and maintenance of the facility for whatever period of time is specified. Proposers are also required to submit documentation on their qualifications, thereby allowing owners to compare the costs of the different offers and the ability of the proposers to meet their specified needs.

While the potential exists to reap substantial rewards by utilizing the integrated BOT/DBOM approach, owners who are not accustomed to this approach must take great care to specify all standards to which they want their facilities designed, constructed, and maintained. With BOT/DBOM procurement, owners relinquish much of the control they typically possess with more traditional project delivery. Unless needs are identified up front as overall project specifications, they will not generally be met. This is important, because from design through operation, BOT/DBOM contracts can extend for periods of up to 20 years or more.

##### 5. Long-Term Lease Agreements

This PPP model involves the long-term lease of existing, publicly financed toll facilities to a private sector concessionaire for a prescribed concession period during which they have the right to collect tolls on the facility. In exchange, the private partner must operate and maintain the facility and in some cases make improvements to it. The private partner must also pay an upfront concession fee.

Long-term leases are procured on a competitive basis, with awards going to the qualified bidder making the most attractive offer to the sponsoring agency. The most important criterion for the award of long-term lease concessions generally is the amount of the concession fee. Other criteria may include the length of the concession period and the credit worthiness and professional qualifications of the bidders.

#### 6. Design-Build-Finance-Operate (DBFO)

With the Design-Build-Finance-Operate (DBFO) approach, the responsibilities for designing, building, financing and operating are bundled together and transferred to private sector partners. There is a great deal of variety in DBFO arrangements in the United States, and especially the degree to which financial responsibilities are actually transferred to the private sector. One commonality that cuts across all DBFO projects is that they are either partly or wholly financed by debt leveraging revenue streams dedicated to the project. Direct user fees (tolls) are the most common revenue source. However, others ranging from lease payments to shadow tolls and vehicle registration fees. Future revenues are leveraged to issue bonds or other debt that provides funds for capital and project development costs. They are also often supplemented by public sector grants in the form of money or contributions in kind, such as, right-of-way. In certain cases, private partners may be required to make equity investments as well.

#### 7. Build-Own-Operate (BOO) (DBOOM) (DBFOOM)

With the build-own-operate model, a private company is granted the right to develop, finance, design, build, own, operate, and maintain a transportation project. The private sector partner owns the project outright and retains the operating revenue risk and all of the surplus operating revenue in perpetuity. While this approach is more common in the power and telecommunications industries, it has also been used to develop transportation infrastructure.

Comparison of control and risk using flexible procurement strategies (table following page)

COMPARISON OF CONTROL AND RISK USING FLEXIBLE PROCUREMENT STRATEGIES			
Procurement Strategy	Control	Risk Transfer	Benefits & Considerations
Traditional Design-Bid-Build	Monitors contractor performance during design and construction	<ul style="list-style-type: none"> <li>• Errors and Omissions</li> <li>• Bonding</li> </ul>	Offers greatest control over outcomes and unexpected occurrences during performance of contract
Private Construction Fee Services	Aspects not specifically transferred	<ul style="list-style-type: none"> <li>• Program and Financial Management</li> <li>• Construction Inspection</li> <li>• Construction Management</li> </ul>	Reduces burdens on agency staff and provides access to innovative technology and specialized expertise
Design-Build	Financing, operating and maintenance	Responsibility for design and construction are transferred to single contractor	<ul style="list-style-type: none"> <li>• Accelerates delivery</li> <li>• Requires certain level of preliminary engineering to adequately scope project</li> </ul>
Design-Build-Operate-Maintain (DBOM, BOT, Turnkey)	Financing	Transfer of responsibility for design, construction, operations and maintenance	Incentive to consider life-cycle costs during design and construction
Long-Term Lease	Generally existing facility	Operation and Maintenance of facility in exchange for a concession fee	Credit worthiness of private sector partner
Design-Build-Finance-Own-Operate-Maintain (DBOOFM) (DBFOOM) (BOO)	Planning and regulatory control	Ownership of the project is transferred to the private sector partner	Credit worthiness of private sector partner

## **Appendix D**

### **Flexible Payment Strategies**

#### 1. Flexible Payment Strategies

Two alternatives to tolling are widely used to reimburse private sector partners

##### a. Shadow tolling

Shadow tolling is a contractual payment made by a government per vehicle using a road to a private company that operates and maintains a road built using private financing. Payments are based, at least in part, on the number of vehicles using a section of road, over a defined period. The shadow tolls or per vehicle fees are usually paid directly to the company from the public entity without intervention from the users.

##### b. Availability payments

Availability payments are negotiated payments to a private sector partner based over a given period of time in return for the functionality of a roadway at agreed upon levels of service (often as federal funds are expected to become available to the DOT).

## Appendix E Data Needs for Life Cycle Cost Analysis<sup>10</sup>

Input	Description	Data Recommendation
<b>Project Level Data</b>		
Analysis period	Number of years over which the alternatives will be compared	35 to 40 years
Discount rate	The rate by which future expenditures will be discounted to present value	Real discount rate of 3%, 5%, and 7%
Beginning of the analysis period	Base year of analysis	2020
Salvage value at year 40	Agency value	100% ROW, Earthwork, Subgrade Pavement recycling
User costs	Include in analysis?	Yes
Traffic direction	Inbound or outbound	Both
Remaining service life	Include user costs?	
AADT	Annual average daily traffic in the construction or base year of the analysis both directions	
Single unit truck	Percentage of AADT that is single unit trucks	
Annual growth rate of traffic	% AADT in both directions increases each year	
Normal operation speed limit	Under normal operating conditions	60 mph design, 50 mph posted
Normal number of lanes open	Under normal operating conditions	4 both directions
Queue dissipation capacity	Capacity of each lane during queue dissipation operating conditions	800
Normal free flow capacity	Capacity of each lane under normal operating conditions	1500
Maximum AADT in both directions	Caps traffic growth at this number. If traffic grows beyond this value, this value is substituted for computed future AADT and future user costs are calculated based on this maximum AADT figure. Used to prevent growth beyond possible capacity	20,000 (scenario 1) 35,000 (scenario 2) 49,000 (scenario 3)
Maximum queue length	Models the effects of self-imposed detours (traffic	0.5 miles

<sup>10</sup> Life-Cycle Cost Analysis RealCost v. 2.1 User Manual, FHWA Office of Asset Management, May 2004

	exiting from the work zone route yet still incurring some user costs).	
Rural or Urban	Choice between two hourly traffic distribution based on TTI	
Value of user time		Default
Added time and vehicle stopping costs		Default
Hourly traffic distribution		Per SR 63 Scoping Report
AADT urban/rural %		40/60
Inbound /Outbound %		50/50
Alternative Level Data		
Alternative Descriptions		
Activity Descriptions		
Agency construction cost	Agency cost for activity	\$
Service life	Number of years after this activity the next major activity will take place	
User costs		Use calculated
Maintenance costs	Cost of minor scheduled maintenance that is performed between major activities. These activities incur no user costs	\$
Maintenance frequency	Cyclical frequency of minor maintenance	
Work zone length	Measured from the beginning to the end of the work zone speed limit	3 miles
Work zone duration	Number of day work zone is in effect	420 Days
Work zone capacity	Vehicular capacity of one lane of the work zone for 1 hour	900 Vehicles per hour per lane
Work zone speed limit	Posted speed in the work zone	45 Mph
Lanes open in each direction during work zone	Number of lanes open while work zone is in effect	1 each direction
Work zone hours	Allows inbound and outbound separately using three separate periods	24 hour clock

**Appendix F**  
**Draft Project Initiation Package: WAR-63-0.00/3.25**  
 (by WCTID, Furnished to ODOT District 8, April 2017)

**Project Initiation Package: WAR-63-0.00/3.25**

**Instructions**

- The Project Initiation Package is intended to focus on critical issues that can be identified with existing information from secondary sources and/or identified during a site visit. [A comprehensive secondary source initial compilation is provided in the Scoping Study Report<sup>1</sup> completed for the WAR-63 corridor]
- Each specialty area of the Project Initiation Package should be completed by individuals who possess sufficient experience to enable them to correctly identify and evaluate issues arising from the field review. [Draft PIP content provided herein based on Scoping Study work and reviews; ODOT update for priority segment may be required]
- In the Location/Comments field provide information concerning potential impacts that is brief, but gives enough detail to allow an understanding of the issue(s). [Draft PIP content provided herein based on Scoping Study work and reviews; ODOT update for priority segment may be required]
- The scope of services document should account for any issues identified in the Project Initiation Package that have the potential to affect scope, schedule, and budget. [Draft PIP content provided herein based on Scoping Study work and reviews; ODOT update for priority segment may be required]
- A list of resources/subject areas that may need to be consulted for the secondary source review in order to complete this form can be found on this form, in the [PDP Manual](#) (in the Planning Phase, Preliminary Engineering Phase, and Environmental Engineering Phase chapters; and in Appendix C), and in some of the manuals on the [DRRC website](#).

**Project Initiation Package Deliverables**

Provide an expanded Study Area Map identifying project design, utility, right of way and environmental constraints identified through the Project Initiation Package. Tables, USGS and/or aerial mapping, photographs keyed to available project mapping, the plan to inform and involve the public, and other support material should also be submitted with the Project Initiation Package to illustrate specific problem areas. [Study Area mapping and other information relating to project planning and preliminary design, alternatives, utility, right of way and environmental constraints, as well as Tables, USGS and/or aerial mapping, photographs keyed to available project mapping, and recommendations related to a plan to inform and involve the public, is found in the WAR-63 Corridor Scoping Study Report]

**General**

<b>Date(s) of field review:</b>	Several by the WCTID team, during preparation of the project Scoping Study document, some involving ODOT; updates for priority segment suggested for specific features and controlling issues as required.
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<b>Project Name (County, Route, Section):</b>	WAR-63-0.00/3.25 <sup>2</sup>	<b>PID:</b>	
<b>Date Project Initiation Package Completed:</b>	April 2017 (draft)	<b>Prepared By:</b>	Warren County TID for ODOT
<b>City, Township or Village Name(s):</b>	Unincorporated Turtlecreek Township; City of Monroe	<b>ODOT Project Manager:</b>	Jennifer Elston

**Project Description:** Improvement of a priority capacity and safety segment in a predominately 2-lane section of SR 63 between a multi-lane section at the west end in the City of Monroe near an existing interchange with I-75, and a signalized intersection with SR 741. Multi-lane rural section anticipated with preferred and other alternatives per recommendations of Scoping Study report (April 2017; page 64)

**Project Limits/Study Area/General Location:** Project will extend from just west of an at-grade rail crossing in the City of Monroe to just past a signalized intersection with SR 741, about 3.5 miles in total length. No major improvements to the SR 741 intersection will occur, pending other long-range needs to be identified by other actions underway, including a traffic impact study related to the Otterbein development, and other major land use and traffic generation issues in this section of the WAR-63 corridor.

<sup>1</sup> Scoping Study: State Route 63 Between Union Road and Neil Armstrong Way/SR 123 (WAR-63-0.00/6.33), Warren County, Ohio (Warren County Transportation Improvement District, April 2017 Final Report)

<sup>2</sup> Approximate for priority segment, depending on terminal treatments and limits; confirm with ODOT team.

## Project Initiation Package: WAR-63-0.00/3.25

ODOT DISCIPLINE INVOLVEMENT:		
<i>List name and phone number of individual(s) representing each discipline during the site visit and preparation of the Project Initiation Package. One individual may represent multiple disciplines.</i>		
DISCIPLINE	NAME	PHONE NUMBER
District Highway Management representative	[to be updated]	[to be updated]
District Planning and Engineering representative	[to be updated]	[to be updated]
District Environmental Coordinator	[to be updated]	[to be updated]

## Project Initiation Package: WAR-63-0.00/3.25

EXTERNAL AGENCY INVOLVEMENT:		
<i>Indicate external agency involvement during identification of project issues affecting scope development. List the name and phone number of individual(s) representing each agency during the site visit.</i>		
AGENCY	NAME	PHONE NUMBER
Warren County TID	Neil Tunison, WCTID Secretary and Warren County Engineer	(513) 695-3301
Warren County Engineer's Office	Dave Mick, Assistant Warren County Engineer	(513) 695-3308
Warren County Regional Planning Commission	Stan Williams, Executive Director	(513) 695-1223
City of Monroe	Bill Brock, City Manager	(513) 539-7374
Ohio Department of Administrative Services	[to be updated]	[to be updated]
Texas Eastern Gas	[to be updated]	[to be updated]
Miami Valley Gaming	[to be updated]	[to be updated]

GENERAL EXISTING INFORMATION:	
Legal Speed:	50 and 55
Design Speed:	55
Opening Year ADT:	17,000 (per ODOT SHIFT tool estimate reported for Year 2015) <sup>3</sup>
Design Year ADT:	20,000 (per ODOT SHIFT tool estimates; Year 2040) <sup>4</sup>
Trucks (24 Hour B&C):	1,268 (7.9% of actual for 2015)
Functional Classification:	Primary Arterial
Locale (Rural or Urban):	Rural (urban transition at west terminus)
National Highway System (NHS):	No

DISTRICT HIGHWAY MANAGEMENT STAFF CONCERNS:	
<i>List any comments/requests from the District Highway Management Staff.</i>	
[to be updated]	

CRASH DATA:	
<i>Has a Safety Study been completed in the project area within past three years</i>	<i>(Yes/No) [to be checked/updated]</i>
<i>Project is highlighted on the Safety Integrated Project Maps</i>	<i>(Yes/No) [to be checked/updated]</i>
<i>Based on a spatial query (using GCAT or TIMS) of the three most recent years of crash data, briefly summarize crash history. Indicate any design features that may be contributing to the observed crash pattern that may be addressed by the project.</i>	
3-year Crash Data is summarized and presented in WAR-63 Scoping Study Report.	

<sup>3</sup> For unincorporated township segment west of SR 741, as reported in Scoping Study Report for WAR-63; for western terminus of project in Monroe, 2015 ADT is about 20% higher than rest of project segment at 19,267.

<sup>4</sup> This should be viewed as the low end of the range of possible design year traffic volume in this segment of WAR-63; if the 34-year average traffic growth rate dating from 1982 continues, the Year 2040 volume will be about 45,000, *excluding* any new growth, development and traffic generation in the corridor; see Scoping Study Report - Appendix E. Sensitivity to future traffic forecast ranges, should be considered in alternatives development and evaluation.

## Project Initiation Package: WAR-63-0.00/3.25

<b>ENVIRONMENTAL ISSUES:</b>	
<i>Make a preliminary determination on whether the following resources will be affected by the proposed project. Include the location and any other pertinent information for resources that may be affected.</i>	
Resource/Feature	Location/Comments <sup>5</sup>
Parkland, nature preserves and wildlife areas {4(f)/6(f)}	None
Threatened and Endangered Species and/or habitat	Six listed species; follow up required
Scenic River	N/A
Existing wet areas /existing cattails/wetlands	Minimal potential; no high-quality resources
Stream/river/waterway/jurisdictional ditch	3 existing culvert intermittent stream crossings
Historic Resources (buildings, structures, objects)	No NR-listed resources; occurrence/eligibility survey required
Historic Bridge(s)	None
National Historic Landmarks	None
Archaeological Sites	No NR-listed resources; occurrence/eligibility survey required
Public Facilities	Lebanon and Warren Correctional Institutions
Cemetery (modern and historic cemeteries)	Otterbein-Shaker Cemetery
Farmland	Predominant
Watershed Specific (i.e. Darby or Olentangy) NPDES Permit Area	N/A
Air Quality non-attainment area or concerns	Non-attainment area for ozone
Landfill, Superfund, CERCLIS, RCRA, NPL, or industrial site(s), and/or evidence of hazardous materials	ESA screening for 5 sites
Sensitive environmental justice areas	Yes
Federal Emergency Management Agency (FEMA) floodplains	Yes
Lake Erie Coastal Management Area	N/A
Sole Source Aquifers	Yes
Wellhead Protection Areas	Yes
Noise abatement issues	Probably not
Other environmental issues	Aesthetics; land use; stormwater; utilities/gas transmission pipeline

<b>GEOMETRIC ISSUES:</b>	
<i>Use the design speed, design functional classification and available traffic data to make a preliminary determination as to the geometric standards for the project. Compare these requirements to crash data and impacts if deviations from standard are being considered.</i>	
Design Feature	Location/Comments
Lane Width	12'
Graded Shoulder Width	10'
Bridge Width	N/A
Horizontal Alignment (including Excessive Deflections, Degree of Curve, Transition/Taper Rates, Intersection Angles, etc.)	Generally tangent condition
Vertical Alignment (including grade breaks)	[to be updated]
Grades	[to be updated]
Stopping Sight Distance	[to be updated]
Pavement Cross Slopes	[to be updated]

<sup>5</sup> See WAR-63 Scoping Study Report for locations and discussion of Environmental Issues

## Project Initiation Package: WAR-63-0.00/3.25

<b>GEOMETRIC ISSUES:</b>	
<i>Use the design speed, design functional classification and available traffic data to make a preliminary determination as to the geometric standards for the project. Compare these requirements to crash data and impacts if deviations from standard are being considered.</i>	
Superelevation (Maximum rate, transition, position)	[to be updated]
Horizontal Clearance	[to be updated]
Vertical Clearance	[to be updated]
<b>GEOMETRIC ISSUES:</b>	
<i>Indicate if the following geometric issues are present or should be considered during project development. Consider work on the mainline as well as any side roads or service roads. Provide additional comments as needed.</i>	
Design Issue	Location/Comments <sup>6</sup>
Does intersection sight distance need to be improved?	Yes
Are there geometric issues that may affect traffic safety? <i>Describe.</i>	Yes
List unprotected hazards that appear to be in the clear zone.	Several; most critical: gas transmission valving station
Should existing access control be revised to improve safety?	Yes
Are there any drive locations that will require special attention during design (e.g., very steep grades, high volume commercial drives, drives close to bridges or intersections)?	Yes
Do the existing intersection radius returns need to be modified to accommodate turning movements of large trucks?	Possibly
Does grading need to be upgraded? To what criteria (e.g., clear zone, safety, standard)? Consider potential right of way and other impacts when considering grading method.	Yes
<i>If constructing a new roadway, will it be a connection between two existing NHS Routes?</i>	<b>(Yes/No)</b>
Are there any other geometric issues? <i>Describe</i>	See WAR-63 Scoping Study Report

<b>GEOTECHNICAL ISSUES</b>	
<i>Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.</i>	
Design Issues	Location/Comments
Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)?	Some, in Shaker Creek area
Will construction be impacted based on the groundwater table?	Potentially, in Shaker Creek area
Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	Some, in Shaker Creek area

<sup>6</sup> See WAR-63 Scoping Study Report for location and comments on general geometric issues

## Project Initiation Package: WAR-63-0.00/3.25

<b>GEOTECHNICAL ISSUES</b>	
<i>Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.</i>	
Is there evidence of any slope instability (soil or rock)?	Some, in Shaker Creek area
Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	Potentially, in Shaker Creek area
Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	In some cut sections, close to surface
Is there evidence of active, reclaimed or abandoned surface mines? Evidence of quarries?	None
Is there information pertaining to the existence of underground mines?	None
Is there Acid Mine Drainage present within the study area?	No
Are there any other geotechnical issues? <i>Specify.</i>	

<b>PAVEMENT ISSUES:</b>	
<i>Indicate if the following pavement issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Provide additional comments as needed.</i>	
Design Issue	Location/Comments
Do dynaflect tests indicate the existing pavement is in poor condition?	[to be updated by ODOT]
Are joint repairs needed?	[to be updated by ODOT]
Are pressure relief joints needed?	[to be updated by ODOT]
Does curb need to be replaced due to deteriorated condition or lack of curb reveal?	[to be updated by ODOT]
Has the site received repeated resurfacings in recent years?	[to be updated by ODOT]
Does pavement deterioration appear to be caused by drainage or geotechnical problems?	[to be updated by ODOT]
Are there any other pavement issues? <i>Specify.</i>	Yes; see WAR-63 Scoping Study Report

<b>STRUCTURAL ISSUES:</b>	
<i>Indicate if the following structure issues are present or should be considered during project development. Provide additional comments as needed. The Bridge Inspection reports should be evaluated and attached. Provide a separate table for each structure.</i>	
Design Issue	Location/Comments
Is it possible for the structure to be replaced with a prefabricated box culvert or 3-sided box?	N/A (culverts only)
Is the deck delaminated? <i>Specify.</i>	N/A (culverts only)
Is non-destructive testing needed to determine the amount of delamination?	N/A (culverts only)
Are there areas to be patched/repared on the deck?	N/A (culverts only)

## Project Initiation Package: WAR-63-0.00/3.25

<b>STRUCTURAL ISSUES:</b>	
<i>Indicate if the following structure issues are present or should be considered during project development. Provide additional comments as needed. The Bridge Inspection reports should be evaluated and attached. Provide a separate table for each structure.</i>	
Structure Number:	
Design Issue	Location/Comments
Is the bridge a poor candidate for an overlay? <i>Specify type of overlay if known.</i>	N/A (culverts only)
Does the bridge rail violate current standards?	N/A (culverts only)
Is fatigue analysis required?	N/A (culverts only)
Should all fatigue prone details be retrofitted or replaced? <i>Specify.</i>	N/A (culverts only)
Is there any evidence of substructure movement (e.g., settlement, rotation)?	N/A (culverts only)
Is elimination of the deck joint possible? What modifications are necessary?	N/A (culverts only)
Is it possible for the hinges to be removed to make the members continuous?	N/A (culverts only)
Is there any evidence that the bridge does not meet hydraulic capacity?	N/A (culverts only)
Are there existing sidewalks on or adjacent to the bridge?	N/A (culverts only)
Is Vandal Protection Fencing required in accordance with the BDM?	N/A (culverts only)
Will the structure work require any special maintenance of traffic (e.g., closing of roadway for erection of beams, maintenance of waterway traffic, location of cut line, etc.)? <i>Specify.</i>	N/A (culverts only)
Does the bridge need to accommodate future roadway lanes or railroad tracks?	N/A (culverts only)
Will temporary shoring be required next to the railroad?	N/A (culverts only)
Describe any issues with the bridge deck (curb, sidewalk, railing, surface, median, drainage, expansion joints, etc.).	N/A (culverts only)
Describe any issues with the bridge superstructure (alignment, beams/girders/slab, bearing devices, etc.).	N/A (culverts only)
Describe any issues with the bridge substructure (abutments, piers, backwalls, wingwalls, scour, etc.).	N/A (culverts only)
Describe any issues with the channel (i.e. alignment, erosion, etc.)	N/A (culverts only)
Describe any issues with the bridge approaches (i.e. pavement, guardrail, etc.)	N/A (culverts only)
Are there any other structure related issues? <i>Specify.</i>	N/A (culverts only)

## Project Initiation Package: WAR-63-0.00/3.25

<b>HYDRAULIC ISSUES:</b>	
<i>Indicate if the following drainage issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Any available Culvert Inspection reports should be evaluated and attached. Provide additional comments as needed.</i>	
Design Issue	Comments
Does the existing drainage system appear to be appropriately sized and functioning properly? <i>Describe deficiencies.</i>	Generally yes
Is there evidence of alignment or flow velocity problems (e.g., scour, bank erosions, silting) at culvert inlets or outlets?	Not major
Are there sinkholes or other deterioration in the pavement that would indicate separations in the existing pipes?	Not visible
Is the exposed curb height in existing gutters inadequate to contain flow (include height of proposed resurfacing)?	N/A
Does the project affect a wetland or waterway (e.g., stream, river, jurisdictional ditch)?	Yes; WOTUS three locations
Will channel relocation be required?	Probably not
Will post construction BMPs be required that could impact R/W or utilities?	Probably
Are existing underdrain outlets functioning properly?	N/A
Does the drainage work warrant any special maintenance of traffic considerations?	Probably not beyond general construction
Are there any other hydraulic issues? <i>Describe.</i>	

<b>TRAFFIC CONTROL ISSUES:</b>	
<i>Indicate if the following traffic control (signals, signing, pavement markings, etc.) issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Comments
Are there any obvious deviations from requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD)?	Some (conditions); see WAR-63 Scoping Study Report
Will coordination with Ohio Rail Development Commission (ORDC) be required (i.e. at-grade railroad crossings located within 400' of an intersection within the project area)?	Yes
Does this project affect or contain any ITS elements?	No
Will pavement widening affect pole locations?	Yes
Will resurfacing affect signal height?	Probably not
Does it appear that any traffic control items will fall outside the existing right of way limits (e.g., large signs, strain poles)?	Probably not
Are there any crashes that can be related to existing signal deficiencies (e.g., timing, lack of protected turn phase)?	Yes
Are new or updated curb ramps needed?	N/A
Do turn lane lengths appear to have sufficient storage capacity?	No
Does the controller need to be upgraded?	Probably, in next phase of corridor work

## Project Initiation Package: WAR-63-0.00/3.25

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<b>TRAFFIC CONTROL ISSUES:</b>	
<i>Indicate if the following traffic control (signals, signing, pavement markings, etc.) issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Comments
Do proprietary materials need to be specified?	No
Should signs or signal installations be supplemented with lighting?	Probably not
Are any Tourist Oriented Directional Signs (TODS) or LOGO signs present?	Yes; local features
If traffic control at an intersection is being changed from stop control to signalization, does the stop condition road need to be upgraded to accommodate faster traffic?	N/A
Are there any other traffic control issues? <i>Specify.</i>	[to be updated]

## Project Initiation Package: WAR-63-0.00/3.25

<b>MAINTENANCE OF TRAFFIC ISSUES:</b>	
<i>Briefly describe the maintenance of traffic and any constraints. A list of considerations has been provided below.</i>	
<b>Maintenance of Traffic Considerations:</b> Limits on traffic detour (including local alternate detours) due to load limits, bridge width restrictions, shoulder condition, emergency vehicle impact, temporary pavement requirements, speed limit during construction, pedestrian traffic, additional width at culverts, drive access, stopping sight distance, construction access, right of way acquisition, permitted lane closures, cross-overs, short duration road closures, temporary structure requirements, additional signal heads (drives and/or side roads), construction timeframe issues, innovative contracting, maintaining railroad traffic, turn movement restrictions	
<b>MAINTENANCE OF TRAFFIC DESCRIPTION:</b>	
[to be updated]	

<b>RIGHT OF WAY/SURVEY ISSUES:</b>	
<i>Indicate if right of way or survey issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Location/Comments
Will there be any work beyond the existing right of way limits?	Yes
Will relocation of residences be involved?	No
Will relocation of businesses be involved?	No
Will the project require modifying the access control to any properties?	Yes – formal access management is a priority requirement
Identify significant right of way encroachments (i.e. large commercial business signs, etc.)?	[to be updated]
Will temporary parcels be needed (e.g., for drive work)?	[to be updated]
Will additional right of way be needed for utility relocations?	[to be updated]
Are there any specific property owner concerns? If so, list property owners and concerns.	[to be updated]
Are work agreements prohibited for any reason?	[to be updated]
Are there any other right of way or survey issues? <i>Specify.</i>	Long-term ROW preservation coordinated with access management

<b>UTILITY ISSUES:</b>	
<i>Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Location/Comments
Do existing utilities need to be relocated? <i>If so, please identify.</i>	Yes; overhead electric; possible gas and water
Would the project benefit from Subsurface Utility Engineering (SUE) Level A?	Probably
Are there existing utilities on an existing structure that need to be relocated?	N/A
Are there any specific utility requirements or concerns? <i>Specify.</i>	High pressure gas transmission; drinking water/wellhead/well field protection
Are there water or sanitary lines that will be relocated as part of the ODOT contract?	Probably
Are there any other utility issues? <i>Specify.</i>	[to be updated]

## Project Initiation Package: WAR-63-0.00/3.25

<b>Pedestrian and Bicycle Issues:</b>	
<i>Indicate if the following pedestrian and bicycle issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Location/Comments
Does sidewalk need to be replaced or installed?	No
Does a bike lane need to be replaced or installed?	Not in roadway section
Is the project in the vicinity of a heavily traveled bicycle or pedestrian corridor?	No
Is the project located on a designated or proposed bike route?	Off-ROW; being developed by WCEO
Has a Safe Routes to School - School Travel Plan been completed within the project area?	[to be updated]; school bus transport is an issue (see WAR-63 Scoping Study Report)

<b>MISCELLANEOUS ISSUES:</b>	
<i>Indicate if the following issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Design Issue	Location/Comments
Will any of the construction activity take place over, under, or near railroad property?	Yes
Could material with long lead times for delivery have an impact on the construction schedule (e.g., strain poles, large box culverts, steel beams, etc.)?	Probably not
Are there any concerns related to existing or proposed lighting (e.g., light trespass, river navigation, airway clearance)?	Coordinate with LCI/WCI prison properties
Are there any other project concerns? <i>Specify</i>	[to be updated]

<b>AGENCY COORDINATION/PERMIT ISSUES:</b>	
<i>Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.</i>	
Issue	Location/Comments
Will an individual Corps of Engineers/ Environmental Protection Agency 404/401 permit be required?	No for this segment
Will a Coast Guard permit be required?	No
Is review by a local public agency or project sponsor required? <i>Specify.</i>	Yes; Warren County Engineers Office and Warren County Transportation Improvement District
Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?	Possibly
Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?	No
Is coordination with any other agency required?	[to be updated]

## Project Initiation Package: WAR-63-0.00/3.25

SCOPE, SCHEDULE AND BUDGET CONSIDERATIONS:	
<i>Based on the responses to the above items, do any of the following need to be modified?</i>	
Issue	Comments
Conceptual scope	[to be updated] – Conceptual Scope narrative attached below
Work limits	[to be updated]
Probable environmental document type	[to be updated]
Project Path classification	[to be updated]
Schedule	[to be updated]
Budget	[to be updated]

### CONCEPTUAL SCOPE

The WAR-63 Scoping Study Report establishes the conceptual scope of the improvements required for this segment. It does this by providing problem identification, assessing existing conditions, developing purpose and need of transportation improvements, establishing criteria for evaluating improvement strategies and concept design alternatives, identifying a preferred improvement strategy and concept design, assessing feasibility and environmental framework, and identifying key elements required for successful implementation and effectively addressing purpose and need.

#### Purpose and Need of Project to Be Addressed in Design and Delivery

The Project must respond to these items of Transportation Need:

- Degradation in Level of Service
- Increasing Travel Demand
- Emerging Safety Issues
- Changes in Roadway Conditions and Driver Expectations
- Increasing Trip Type and Mode Conflicts
- Current and Evolving Access Management Problems

See additional narrative for the above Transportation Need items in the WAR-63 Scoping Study Report.

The project must demonstrate that the designed and delivered improvement meets these identified items of Transportation Purpose and performance outcome:

- Maintain Effective Connectivity
- Improve Safety and Reduce Crash Risk
- Effectively Accommodate Different Trip Types and Modes
- Provide a Balanced Transportation Solution for Land Use and Environmental Context Issues

See additional narrative for the above Transportation Purpose items in the WAR-63 Scoping Study Report.

Other Goals and Objectives to be considered in project design and delivery include:

- Support for adopted land use and community plans
- Facilitation of economic development efforts
- Forwarding local stormwater and water resource management objectives
- Linking corridor improvement actions to local greenspace programs and aesthetic objectives

See additional narrative for the above Transportation Goals and Objectives items in the WAR-63 Scoping Study Report.

All of these elements of Need, Purpose and Goals and Objectives may require confirmation and refinement with stakeholders and citizens.

## Project Initiation Package: WAR-63-0.00/3.25

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### Alternatives

A preferred improvement strategy was identified in the Scoping process as best able to meet the long term need of the WAR-63 corridor. This preferred concept consists of a four lane rural section with a grass median, access control, and turn lanes as the baseline and starting point for developing alternatives for the Project Initiation Package, with the west segment (WAR-63-0.00/3.25) the priority.

The basis for identification of this as the Preferred Strategy is outlined in the WAR-63 Scoping Study Report.

Other alternatives, including No-Build, will need to be considered and evaluated for ability to meet Purpose and Need and impact consequences, as required by environmental processes. Staging options, or interim improvements, may also be considered. This might include a "narrowed" 3 or 5-lane section for initial construction, but with right-of-way and layout for needed future capacity and performance requirements aligning with the preferred concept. Purpose and need elements must be accounted for throughout.

Design and location alternatives within the preferred four-lane grass median strategy that should be evaluated include centerline location (hold existing, shift north, shift south) with specific consideration to impacts, constructability and maintenance of traffic, as well as vertical profile options (with specific regard to best practical design goals as well as impacts). Alternatives regarding access management will also need to be accounted for.

### Special Requirements and Considerations For All Alternatives

#### 1) ROW and Corridor Preservation

In order to account for expected future land use conditions, protection of right-of-way and corridor preservation is critical. Coordination with Department of Administrative Services to secure frontage rights from the future owners of the LCI property during sale is necessary in order to preserve the opportunity to provide a functional east-west corridor and access to I-75 under future scenarios, even if interim (lower first cost) build alternatives are selected. This is discussed further in the WAR-63 Scoping Study Report.

#### 2) Project Financing

Corridor Preservation is linked to project financing. The fair market value of donated right of way can be used as local match in project funding. Additionally, while the base condition of traffic growth, as forecast by the SHIFT tool, should be the responsibility of the facility owner (ODOT), additional traffic growth beyond baseline resulting from conversion of land use, or other investments pertaining to aesthetic and environmental upgrades, may be borne all or in part by the community in the form of TIFs, or other special assessment districts or mechanisms. The least life cycle cost pathway for this scenario for all stakeholders (including ODOT) involves corridor preservation and planning for future capacity. This is discussed further in the WAR-63 Scoping Study Report.

#### 3) Adopted Access Management Plan

Access Management requirements for this segment are important, and are discussed and illustrated in the WAR-63 Scoping Study Report.

**PROJECT IMPLEMENTATION AND FINANCIAL PLAN**

**ADDENDUM FEBRUARY 2019**

**WARREN COUNTY WAR-63 CORRIDOR  
(Western Priority Section)**

**I N T E R N A L   R E V I E W   D O C U M E N T**



**Warren County Transportation Improvement District  
210 W Main Street  
Lebanon, OH 45036**

**Updated: February 2019**

This is an Interim Draft Document, the first step in establishing the final implementation and finance strategy for the WAR-63 western priority segment from Union Road to State Route 741.

The finalization of the Implementation and Financial Plan will be completed with guidance and input from multiple stakeholders, including Ohio DOT, county and township agencies and officials, and potential federal funding partners, among others.

This Interim document is not for external circulation without the approval of the Warren County Transportation Improvement District.

**Prepared By:**

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With the cooperation and assistance of the Warren County  
Transportation Improvement District, Warren County Engineers Office

## **g. Identification of dedicated and anticipated funds**

Warren County leadership has expressed the intention to provide 50% of the funding necessary to advance the State Route 63 Western Priority Segment.<sup>1</sup>

### **FUNDING STRATEGIES:**

The following strategies may be used individually or in combination as sources of revenue to fund the initial project<sup>2</sup>:

- Tax Increment Financing (TIF)  
Turtle Creek Township has created a TIF district entailing the Miami Valley Gaming Racino property to provide funding for both on-site improvements, and improvements necessary to provide safe access to the facility. Turtle Creek Township is evaluating the potential of extending the existing TIF from 10 to 30 years in order to contribute the local share necessary to build needed broader system improvements resulting from increased traffic volumes caused by casino trips. Estimates indicate that proceeds could support a \$7 million borrowing. Multiple scenarios are being examined.
- Application of Available Inside Millage  
All counties and townships are guaranteed a minimum levy within a 10-mill (non-voted) limitation. Ohio Revised Code permits a township to annually levy up to 3 mills in the aggregate of inside millage for road maintenance and repair over the unincorporated portion of the township (depending upon existing millage). Warren County is considering reducing its inside millage<sup>3</sup> in 2019 or future years. This may provide capacity to redirect up to \$7 million per year (1 mill) countywide without increasing the tax burden on the citizens of Warren County.
- Outside Millage (Voted) Tax Levy  
ORC Sections provide authority for tax levies and bond issue for the following purposes:
  1. 5705.19 (G) – General construction, reconstruction, resurfacing, and repair of roads and bridges;
  2. 5705.19 (OO) – Sidewalks, Trails, Walkways & Bike-paths (including purchase of land to make these improvements); and
  3. 5705.19 (PP) – Roads, Bridges, Sidewalks, Bike-paths & similar improvements.
- Transportation Improvement District Assessment  
ORC Section 5540.031 (Special Assessments for Improvements) provides the authority for the board of trustees of a transportation improvement districting to levy an assessment for the construction, reconstruction, improvement, alteration, or repair of any road, highway, public place, building, or other infrastructure if the improvement will benefit the area where it will be constructed.<sup>4</sup>

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<sup>1</sup> Meeting with Secretary Chao – date – location – attendees  
remaining funding is expected to be provided by the Ohio DOT, and a BUILD grant

<sup>2</sup> Funding scenarios for the entire Central Warren County Program of Projects are discussed in the Central Warren County Program of Projects Planning Report (<http://>

<sup>3</sup> Dayton Daily News 12/24/2018

<sup>4</sup> ORC 5540.031

It states:

*“The board shall levy special assessments at an amount not to exceed ten per cent of the assessable value of the lot or parcel of land being assessed. The board shall determine the assessable value of a lot or parcel of land in the following manner: the board shall first determine the fair market value of the lot or parcel being assessed in the calendar year in which the area to be benefited by the public improvement is first designated and then multiply this amount by the average rate of appreciation in value of the lot or parcel since that calendar year. The assessable value of the lot or parcel is the current fair market value of the lot or parcel minus the amount calculated in the manner described in the immediately preceding sentence.”<sup>5</sup>*

An assessment of the area benefited by the proposed SR 63 Improvements could potentially return about \$2.1 million annually.

- Sales Tax Increase  
Warren County is “Ohio’s Playground”, and consequently, much of the traffic congestion experienced on its roads is the result of trips that begin and end outside of Warren County. Recently Warren County established a quarter percent sales tax increase to pay for a new jail. A quarter percent increase in the sales tax yields about \$10 million annually countywide.
- Permissive License Plate Fees  
Warren County has recently availed itself of the additional \$5.00 license plate fee authorized by Ohio lawmakers in 2017. The fee, effective January 1, 2019, is projected to raise \$1.1 million annually for road and bridge repairs. This maximizes the permissive license plate fee in Warren County.

## **LIFE CYCLE COSTS**

In addition to initial first cost, Life Cycle Cost Analysis, as described in Section III, is used to identify total user and agency cost of a project over time. Planning, Design, Environmental, Construction, Operations, Maintenance and User cost are evaluated. Since WAR-63 is a state route, in addition to the preliminary engineering, environmental cooperation and processing, and construction oversight, the Ohio DOT will provide ongoing operation and maintenance of the improved facility if not included in a DBOM contract.

## **MUTUAL BENEFIT OPPORTUNITIES:**

Contributions from the following Warren County agencies, using their own taxing authorities, could augment the benefits of the project if it proves to be the lowest life-cycle cost/best benefit provider of mutually advantageous services to residents<sup>6</sup>, including but not limited to:

- Warren County Stormwater District
- Warren County Soil & Water Conservation District
- Warren County Water and Sewer District
- Warren County Mental Health District
- Warren County Health Department
- Warren County General Fund

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<sup>5</sup> ORC 5540.031 (F) (3)

<sup>6</sup> These opportunities are described more completely in the CONCEPTUAL IMPLEMENTATION AND FINANCIAL PLAN, WARREN COUNTY WAR-63 CORRIDOR, RL RECORD, MAY 2018, IV (F.), Envelope of influence.

**RESPONSIBILITY FOR CORRIDOR GROWTH AND ASSOCIATED IMPROVEMENTS:**

While the base traffic growth of the WAR63 corridor, as forecast by ODOT should be the responsibility of government, additional traffic growth beyond baseline resulting from conversion of land use; or other investments pertaining to aesthetic and environmental upgrades, should be borne all or in part by the development community in the form of TIFs, special assessment districts or other mechanisms.<sup>7</sup>

A matrix is appended (TABLE 1) to assist elected officials and decision makers in evaluating the best course of action to providing local funding for this project.

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<sup>7</sup> This is discussed further in the WAR-63 Scoping Study Report

**TABLE 1: EVALUATION OF WAR-63 FUNDING OPTIONS**

Strategy	Potential Annual Revenue	Methodology	Benefits	Concerns	Timing Considerations
Turtle Creek Township Miami Valley Gaming Racino TIF – Extension of existing Tax Increment Financing District from X to X years	\$7 Million in borrowing capacity over 25 additional years	100% of proceeds redirected to TID	<ol style="list-style-type: none"> <li>History makes evaluating revenue streams more predictable for bonding</li> <li>Bonding and cash flow could begin immediately upon renewal</li> </ol>	<ol style="list-style-type: none"> <li>Requires approval of both Turtlecreek Township and LCSD</li> <li>Special Purpose levies (EMS, Mental health, Fire, Health, Library) forego benefits of increased valuation</li> <li>School District must be compensated</li> </ol>	<ol style="list-style-type: none"> <li>Requires renewal</li> <li>Bonding and cash flow could begin immediately upon renewal</li> </ol>
Application of Available Inside (unvoted) Millage to TID for Capacity Projects	1 mill yields approximately \$7 million dollars annually on a county-wide basis	Could be assessed county-wide, or on benefited subdivisions <sup>8</sup> only	<ol style="list-style-type: none"> <li>Does not require a ballot measure</li> <li>Inside millage is authorized by ORC up 10 mills</li> </ol>	<ol style="list-style-type: none"> <li>Requires approval of County Commissioners</li> <li>Approved program of projects is necessary for county-wide application</li> </ol>	<ol style="list-style-type: none"> <li>Requires coordination with inside millage rollback in 2019 or future year</li> <li>Collection year follows taxable year</li> <li>Bonding or other anticipatory revenue stream required</li> </ol>
Levy of Outside (voted) millage – new ballot issue	1 mill yields approximately \$7 million dollars annually on a county-wide basis	Could be assessed county-wide, or on benefited subdivisions only	<ol style="list-style-type: none"> <li>Expands tax base and provides dedicated revenue stream for transportation improvements that respond to development pressures in Warren County</li> </ol>	<ol style="list-style-type: none"> <li>Requires ballot measure and voter approval</li> <li>Apportionment of revenues is necessary if implemented on a county-wide basis</li> <li>Coordination of multiple subdivision levies is necessary if applied only to benefited areas</li> </ol>	<ol style="list-style-type: none"> <li>Collection year follows taxable year</li> <li>Bonding or other anticipatory revenue stream required</li> </ol>
Transportation Improvement District Assessment	Potential \$2.1 million annual revenue stream <sup>9</sup>	Assesses benefit areas only, may be used on impacted areas	<ol style="list-style-type: none"> <li>Assessed by TID Board of Trustees<sup>10</sup></li> <li>Does not impact schools or special purpose levies</li> <li>Land value tax does not injure property holders or users current surplus<sup>11</sup></li> </ol>	<ol style="list-style-type: none"> <li>Uncertainty surrounding estimates of increased valuation may impact ability to bond</li> </ol>	<ol style="list-style-type: none"> <li>Collection year immediately follows assessment year</li> <li>Bonding or other anticipatory revenue stream required</li> </ol>
Sales Tax Increase	.25% increase would potentially yield about \$10 million county-wide	Countywide Implementation	<ol style="list-style-type: none"> <li>Approval of Warren County Board of Commissioners or Voters</li> <li>Current rate matches that of Butler, Hamilton and Preble Counties, is .25% lower than Montgomery County</li> <li>Approximately 50% of expenditures in Warren County arise from out of county visitors</li> </ol>	<ol style="list-style-type: none"> <li>Would require approved county-wide program of projects or apportionment of collections</li> <li>Requires coordination with Developmental Disabilities property tax rollback</li> </ol>	<ol style="list-style-type: none"> <li>Requires coordination with expiration of WC Jail Construction Bond Levy (four years) or results in increase in tax burden to Warren County taxpayers</li> <li>Bonding or other anticipatory revenue stream required</li> </ol>
Permissive License Plate Fees	Extra \$5 per license plate yields approximately \$1.1 million annually	Countywide	<ol style="list-style-type: none"> <li>Dedicated to Roads and Bridges Repairs and Maintenance</li> </ol>	<ol style="list-style-type: none"> <li>Already at maximum fee allowed by ORC</li> </ol>	Not available

<sup>8</sup> Townships, Municipalities or Villages

<sup>9</sup> Warren County SR63 – Land Value Capture Potential – TIERED OVERALL BENEFITED AREA AND ROUGH YIELD (RL RECORD – October 30, 2018)

<sup>10</sup> ORC 5540.031 Special assessments for improvements

<sup>11</sup> Warren County SR63 – Land Value Capture Potential – REFERENCE CURVES (RL RECORD – October 30, 2018). Surplus is defined as value of land to owners and users.