

APPENDIX L: COST ESTIMATION SHEETS

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 1A (Traditional Solutions)

Corridor Information

Route	I-275
From	Indiana state line
To	KY 237 in Boone Co.
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					Total
			D	R	U	C		
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					Total
			D	R	U	C		
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)							

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 1A (TSMO Solutions)

Corridor Information

Route	I-275
From	Indiana state line
To	KY 237 in Boone Co.
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	6	\$2.4
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of state line, 1 west of KY 237, 1 before and after the other 2 interchanges.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$2.4
TOTAL TSMO	\$2.4

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 1B (Traditional Solutions)

Corridor Information

Route	I-275
From	KY 237 in Boone Co.
To	I-71
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Urban Freeway, Added Lanes (inner side)	Per Mile	5	\$2.5	\$0.0	\$0.0	\$83.5	\$86.0	
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note
Widen to 8 lanes from KY 237 to KY 3076

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					Total
			D	R	U	C		
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8	
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note
I-275/KY 3076 interchange mod

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					Total
			D	R	U	C		
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)	17,993	\$1.4	\$0.1	\$0.1	\$2.9	\$4.5	

Note
Only the 3 bridges within the proposed widening section are included in corridor-level cost estimation.

Cost Summary - Traditional Solutions (\$M)

Design	\$10.1
ROW	\$2.4
Utility	\$1.3
Construction	\$146.4
TOTAL	\$160.3

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 1B (TSMO Solutions)

Corridor Information

Route	I-275
From	KY 237 in Boone Co.
To	I-71
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	5	\$1.3
Traffic responsive non-centralized		
Stand alone		

Note
Ramp metering at all non-system interchanges entrance ramps

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	5	\$2.0
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of KY 237, 1 before and after the other 2 interchanges (1 existing west of I-275 interchange).

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$1.3
Dynamic Message Sign	\$2.0
TOTAL TSMO	\$3.3

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 1C (Traditional Solutions)

Corridor Information

Route	I-275
From	I-71
To	Ohio state line
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	2	\$12.5	\$4.6	\$2.5	\$120.0	\$139.6
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.72	\$0.6	\$0.0	\$0.0	\$5.6	\$6.2

Note
I-275/KY 17 interchange & I-275/KY 9 interchange
I-275 EB off-ramp to US 25 & I-275 WB off-ramp to Taylormill Rd

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$13.1
ROW	\$4.6
Utility	\$2.6
Construction	\$125.6
TOTAL	\$145.8

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 1C (TSMO Solutions)

Corridor Information

Route	I-275
From	I-71
To	Ohio state line
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	13	\$3.3
Traffic responsive non-centralized		
Stand alone		

Note
Ramp metering at all non-system interchange entrance ramps

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	9	\$3.6
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of I-71/75 interchange, 1 west of state line, before and after the other 5 interchanges, grouping the US 25 and KY 1303 interchanges due to proximity (4 existing DMS on the corridor).

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$3.3
Dynamic Message Sign	\$3.6
TOTAL TSMO	\$6.9

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 2 (Traditional Solutions)

Corridor Information

Route	I-471
From	Ohio state line
To	I-275
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6-8
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 2 (TSMO Solutions)

Corridor Information

Route	I-471
From	Ohio state line
To	I-275
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	6-8
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	8	\$2.0
Traffic responsive non-centralized		
Stand alone		

Note

Ramp metering at entrance ramps at all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)	3	\$1.5
Part-time Shoulder Use (Transit)		

Note

3 miles of part time shoulder use during peak hour

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$2.0
Part-time Shoulder Use (GP)	\$1.5
TOTAL TSMO	\$3.5

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3A (Traditional Solutions)

Corridor Information

Route	I-75
From	Tennessee state line
To	KY 21 in Berea
Highway District	7,8,11

Characteristics

Functional Class	Interstate
Lanes	4-6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.5	\$0.4	\$0.0	\$0.0	\$3.9	\$4.3

Note
I-75 NB off-ramp to KY 80 & I-75 SB off-ramp to KY 21

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.4
ROW	\$0.0
Utility	\$0.0
Construction	\$3.9
TOTAL	\$4.3

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3A (TSMO Solutions)

Corridor Information

Route	I-75
From	Tennessee state line
To	KY 21 in Berea
Highway District	7,8,11

Characteristics

Functional Class	Interstate
Lanes	4-6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	22	\$8.8
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of state line, 1 south of KY 21 interchange, 1 before and after the other 9 interchanges (excluding 1 south of Corbin and 1 south of London due to existing DMS), 1 in each direction between KY 21 and US 25 (Mt. Vernon) section, 1 in each direction before the rest stop.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$8.8
TOTAL TSMO	\$8.8

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3C (Traditional Solutions)

Corridor Information

Route	I-75
From	KY 876 in Richmond
To	Man O War Blvd
Highway District	7

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	2	\$12.5	\$4.6	\$2.5	\$120.0	\$139.6
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.61	\$0.5	\$0.0	\$0.0	\$4.7	\$5.2

Note
I-75/KY 876 interchange & I-75/US 25 interchange
I-75 SB off-ramp to KY 418 & I-75 SB off-ramp to Man O War

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$13.0
ROW	\$4.6
Utility	\$2.6
Construction	\$124.7
TOTAL	\$144.8

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
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- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3C (TSMO Solutions)

Corridor Information

Route	I-75
From	KY 876 in Richmond
To	Man O War Blvd
Highway District	7

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	8	\$3.2
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of KY 876, 1 south of Man o War, 1 before and after other 4 interchanges in between, excluding the two existing between US 25 Richmond and KY 627.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$3.2
TOTAL TSMO	\$3.2

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3E (Traditional Solutions)

Corridor Information

Route	I-75
From	I-64/I-75 Southern Split
To	I-64/I-75 Northern Split
Highway District	7

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3E (TSMO Solutions)

Corridor Information			Characteristics	
Route	I-75		Functional Class	Interstate
From	I-64/I-75 Southern Split		Lanes	6
To	I-64/I-75 Northern Split		Median	Divided
Highway District	7		Posted Speed	70 mph

Ramp Metering			Note
Proposed Strategies	Entrance Ramp	Cost (\$M)	Ramp meters at 5 entrance ramps for all non-system interchanges
Traffic responsive centralized	5	\$1.3	
Traffic responsive non-centralized			
Stand alone			

Managed Lanes			Note
Proposed Strategies	Mileage	Cost (\$M)	
Express Toll Lanes			
HOT Lanes			
HOV Lanes			
Part-time Shoulder Use (GP)			
Part-time Shoulder Use (Transit)			

Interchange Ramp Improvements			Note
Proposed Strategies	Location	Cost (\$M)	Increase acceleration lane lengths for safety concerns (5 ramps) Increase deceleration lane lengths for safety concerns (4 ramps)
Increase Acceleration Lane Length	5	\$3.0	
Increase Deceleration Lane Length	4	\$1.8	

Freight Strategies and Systems			Note
Proposed Strategies	Mileage	Cost (\$M)	
Truck Only Lanes			
Climbing Lanes			

Other Strategies			Note
Proposed Strategies	Mileage	Cost (\$M)	
Travel Demand Management			
Dynamic Lane Use			

Strategies That Could Apply Everywhere			Note
Proposed Strategies	Mileage/Location	Cost (\$M)	Groups of shields per lane at 5 locations in each direction, 4 lanes each direction. (1 at 75/64 northern split (SB direction), before/after both internal interchanges, 1 at 75/64 southern split (NB direction)) Same locations as elongated pavement markings besides on the 64/75 split ramps (4 locations , 2 directions , 8 total truss signs)
Road Weather Management			
Work Zone Management			
Variable Speed Limits			
Queue Warning			
Comparative Travel Times			
Dynamic Message Sign			
En-Route Traveler Information			
Truck Parking Information System			
Elongated Pavement Markings	40	\$0.6	
Improved Signage	8	\$1.6	

Cost Summary - TSMO Solutions (\$M)	
Traffic responsive centralized	\$1.3
Increase Acceleration Lane Length	\$3.0
Increase Deceleration Lane Length	\$1.8
Elongated Pavement Markings	\$0.6
Improved Signage	\$1.6
TOTAL TSMO	\$8.3

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3F (Traditional Solutions)

Corridor Information

Route	I-75
From	I-64/I-75 Northern Split
To	I-71
Highway District	6, 7

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange	1	\$2.1	\$1.2	\$1.5	\$26.0	\$30.9
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane	1.7	\$1.4	\$0.0	\$0.0	\$13.1	\$14.6
Interchange single ramp improvement - Rural	Per Mile Per Lane	0.2	\$0.1	\$0.0	\$0.0	\$0.9	\$1.1
Interchange single ramp improvement - Urban	Per Mile Per Lane	2.2	\$1.9	\$0.0	\$0.1	\$17.0	\$18.9

Note
New interchange at KY 14 south of KY 16
I-75/KY 16 interchange
continuous aux lanes on both directions between KY 16 and I-71
I-75/KY 620 interchange NB off-ramp
I-64/I-75 north split interchange SB to EB & WB to NB ramps

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)	10,230	\$0.8	\$0.1	\$0.0	\$1.7	\$2.6

Note
1 bridge on I-64/I-75 north split interchange SB to EB ramp

Cost Summary - Traditional Solutions (\$M)

Design	\$12.5
ROW	\$3.6
Utility	\$3.0
Construction	\$118.8
TOTAL	\$137.8

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 3F (TSMO Solutions)

Corridor Information

Route	I-75
From	I-64/I-75 Northern Split
To	I-71
Highway District	6, 7

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	19	\$7.6
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of I-75/I-64 northern split, 1 south of I-71, 1 before and after other 10 interchanges in between, excluding 2 near Georgetown and 3 due to interchange proximity.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$7.6
TOTAL TSMO	\$7.6

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 3H (Traditional Solutions)

Corridor Information

Route	I-75
From	KY 536 in Boone County
To	I-275
Highway District	6

Characteristics

Functional Class	Interstate
Lanes	8
Median	Divided
Posted Speed	65 - 70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile						
	Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile						
	Per Lane						
Add Auxiliary Lane - Urban	Per Mile						
	Per Lane						
Interchange single ramp improvement - Rural	Per Mile						
	Per Lane						
Interchange single ramp improvement - Urban	Per Mile						
	Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 3H (TSMO Solutions)

Corridor Information			Characteristics	
Route	I-75		Functional Class	Interstate
From	KY 536 in Boone County		Lanes	8
To	I-275		Median	Divided
Highway District	6		Posted Speed	65 - 70 mph

Ramp Metering			Note
Proposed Strategies	Entrance Ramp	Cost (\$M)	Ramp Metering at entrance ramp for all non-system interchanges
Traffic responsive centralized	11	\$2.8	
Traffic responsive non-centralized			
Stand alone			

Managed Lanes			Note
Proposed Strategies	Mileage	Cost (\$M)	
Express Toll Lanes			
HOT Lanes			
HOV Lanes			
Part-time Shoulder Use (GP)			
Part-time Shoulder Use (Transit)			

Interchange Ramp Improvements			Note
Proposed Strategies	Location	Cost (\$M)	
Increase Acceleration Lane Length			
Increase Deceleration Lane Length			

Freight Strategies and Systems			Note
Proposed Strategies	Mileage	Cost (\$M)	
Truck Only Lanes			
Climbing Lanes			

Other Strategies			Note
Proposed Strategies	Mileage	Cost (\$M)	
Travel Demand Management			
Dynamic Lane Use			

Strategies That Could Apply Everywhere			Note
Proposed Strategies	Mileage/Location	Cost (\$M)	<p>Due to the 6.5 mile corridor length, queue warning should be placed throughout the corridor</p> <p>Group of shields per lane at 8 locations in each direction between each interchange (5 interchanges and excluded the Mall half interchange). 4 lanes on each direction.</p> <p>Same 8 locations as the Elongated Pavement Markings on both directions</p>
Road Weather Management			
Work Zone Management			
Variable Speed Limits			
Queue Warning	6.5	\$3.3	
Comparative Travel Times			
Dynamic Message Sign			
En-Route Traveler Information			
Truck Parking Information System			
Elongated Pavement Markings	64	\$1.0	
Improved Signage	8	\$1.6	

Cost Summary - TSMO Solutions (\$M)	
Traffic responsive centralized	\$2.8
Queue Warning	\$3.3
Elongated Pavement Markings	\$1.0
Improved Signage	\$1.6
TOTAL TSMO	\$8.6

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 4A (Traditional Solutions)

Corridor Information

Route	I-71
From	I-64
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.7	\$0.6	\$0.0	\$0.0	\$5.6	\$6.3

Note
I-71 WB to I-64 WB ramp; I-71 EB off-ramp to Zorn Ave

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.6
ROW	\$0.0
Utility	\$0.0
Construction	\$5.6
TOTAL	\$6.3

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 4A (TSMO Solutions)

Corridor Information

Route	I-71
From	I-64
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	2	\$0.5
Traffic responsive non-centralized		
Stand alone		

Note
Ramp metering at the Zorn Ave interchange only

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)	5	\$2.5
Part-time Shoulder Use (Transit)		

Note
5 miles of part time shoulder use

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	4	\$1.6
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of I-64 interchange, 1 west of I-264 interchange, and one in each direction near the Blankenbaker Lane bridge (existing 1 on each side of the Zorn interchange).

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$0.5
Part-time Shoulder Use (GP)	\$2.5
Dynamic Message Sign	\$1.6
TOTAL TSMO	\$4.6

Cost Estimation Detail - Corridor 4B (Traditional Solutions)

Corridor Information

Route	I-71
From	I-264
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note
I-71/I-265 system interchange

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$6.2
ROW	\$2.3
Utility	\$1.3
Construction	\$60.0
TOTAL	\$69.8

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 4B (TSMO Solutions)

Corridor Information

Route	I-71
From	I-264
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)	4	\$2.0
Part-time Shoulder Use (Transit)		

Note
4 miles of part time shoulder use

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	2	\$0.8
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
One in each direction near the US 45 bridge. Two existing near I-265.

Cost Summary - TSMO Solutions (\$M)

Part-time Shoulder Use (GP)	\$2.0
Dynamic Message Sign	\$0.8
TOTAL TSMO	\$2.8

Cost Estimation Detail - Corridor 4C (Traditional Solutions)

Corridor Information

Route	I-71
From	I-265
To	KY 53 in La Grange
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange	1	\$0.3	\$0.0	\$0.0	\$2.5	\$2.8
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note
I-71/KY 393 interchange
I-71/I-265 system interchange

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$6.5
ROW	\$2.3
Utility	\$1.3
Construction	\$62.5
TOTAL	\$72.6

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 4C (TSMO Solutions)

Corridor Information

Route	I-71
From	I-265
To	KY 53 in La Grange
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length	8	\$4.8
Increase Deceleration Lane Length	8	\$3.6

Note
2 ramps per interchange, at all 4 interchanges
2 ramps per interchange, at all 4 interchanges

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	5	\$2.0
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of I-265 interchange is existing already, 1 west of KY 53 interchange, 1 on each side of the remaining 3 interchanges, excluding two due to interchange proximity.

Cost Summary - TSMO Solutions (\$M)

Increase Acceleration Lane Length	\$4.8
Increase Deceleration Lane Length	\$3.6
Dynamic Message Sign	\$2.0
TOTAL TSMO	\$10.4

Cost Estimation Detail - Corridor 4D (Traditional Solutions)

Corridor Information

Route	I-71
From	KY 53 in La Grange
To	I-75
Highway District	5, 6

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile	6.5	\$0.8	\$0.0	\$0.0	\$92.3	\$93.2	
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note
Widen to 6 lanes from I-75 to Boone/ Gallatin County Line

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					
			D	R	U	C	Total	
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)	21,268	\$1.6	\$0.1	\$0.1	\$3.5	\$5.3	

Note
Only the 3 bridges within the proposed widening section are included in corridor-level cost estimation.

Cost Summary - Traditional Solutions (\$M)

Design	\$2.5
ROW	\$0.1
Utility	\$0.1
Construction	\$95.8
TOTAL	\$98.5

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 4D (TSMO Solutions)

Corridor Information

Route	I-71
From	KY 53 in La Grange
To	I-75
Highway District	5, 6

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length	16	\$9.6
Increase Deceleration Lane Length	16	\$7.2

Note
All interchange ramps
All interchanges ramps

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	17	\$6.8
En-Route Traveler Information		
Truck Parking Information System		

Note
1 east of KY 53, 1 west of I-75 interchange is already existing, 1 before and after the other 8 interchanges.

Cost Summary - TSMO Solutions (\$M)

Increase Acceleration Lane Length	\$9.6
Increase Deceleration Lane Length	\$7.2
Dynamic Message Sign	\$6.8
TOTAL TSMO	\$23.6

Cost Estimation Detail - Corridor 6B (Traditional Solutions)

Corridor Information

Route	I-65
From	Cumberland Expressway
To	Western KY Pkwy
Highway District	3, 4

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.7	\$0.6	\$0.0	\$0.0	\$5.4	\$6.0

Note
I-65 NB on-ramp from Western KY Pkwy & SB off-ramp to Western KY Pkwy

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)	27,668	\$2.1	\$0.2	\$0.1	\$4.5	\$6.9

Note
2 bridges on I-65 NB on-ramp from Western KY Pkwy & SB off-ramp to Western KY Pkwy

Cost Summary - Traditional Solutions (\$M)

Design	\$2.7
ROW	\$0.2
Utility	\$0.1
Construction	\$9.9
TOTAL	\$12.9

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

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Cost Estimation Detail - Corridor 6B (TSMO Solutions)

Corridor Information

Route	I-65
From	Cumberland Expressway
To	Western KY Pkwy
Highway District	3, 4

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	15	\$6.0
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of Cumberland Expy, 1 south of WKP, 1 before and after other 8 interchanges in between excluding two existing

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$6.0
TOTAL TSMO	\$6.0

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 6C (Traditional Solutions)

Corridor Information

Route	I-65
From	Western KY Pkwy
To	KY 44 in Shepherdsville
Highway District	4, 5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane	0.3	\$0.1	\$0.1	\$0.1	\$1.4	\$1.7	
Interchange single ramp improvement - Urban	Per Mile Per Lane	1.3	\$1.1	\$0.0	\$0.0	\$10.1	\$11.2	

Note
I-65 SB off-ramp to KY 245
I-65 NB on-ramp from Western KY Pkwy & SB off-ramp to Western KY Pkwy & I-65 SB off-ramp to KY 44

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					
			D	R	U	C	Total	
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)	27,668	\$2.1	\$0.2	\$0.1	\$4.5	\$6.9	

Note
2 bridges on I-65 NB on-ramp from Western KY Pkwy & SB off-ramp to Western KY Pkwy

Cost Summary - Traditional Solutions (\$M)

Design	\$3.3
ROW	\$0.2
Utility	\$0.2
Construction	\$16.0
TOTAL	\$19.7

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 6C (TSMO Solutions)

Corridor Information

Route	I-65
From	Western KY Pkwy
To	KY 44 in Shepherdsville
Highway District	4, 5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes	11	\$1.1

Note
MP 104 to 106, 107-116

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	13	\$5.2
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 south of KY 44, 1 north of WKP is existing, 1 south of BG Parkway is existing, 1 before and after other 7 interchanges in between excluding 1 existing.

Cost Summary - TSMO Solutions (\$M)

Climbing Lanes	\$1.1
Dynamic Message Sign	\$5.2
TOTAL TSMO	\$6.3

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 6D (Traditional Solutions)

Corridor Information

Route	I-65
From	KY 44 in Shepherdsville
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile	7.7	\$3.8	\$0.0	\$0.0	\$128.6	\$132.4
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note
Widen to 8 lanes between KY 44 and Ripple Creek Rd (MP 116.27 to 124.00)

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	1.29	\$1.1	\$0.0	\$0.0	\$10.0	\$11.1

Note
I-65/I-265 System Interchange
I-65 SB off-ramp to KY 1526, I-65 NB on-ramp from KY 1526, I-65 SB off-ramp to KY 44

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)	7,049	\$0.5	\$0.0	\$0.0	\$1.2	\$1.8

Note
Only the 2 bridges within the proposed widening section are included in corridor-level cost estimation.

Cost Summary - Traditional Solutions (\$M)

Design	\$11.7
ROW	\$2.3
Utility	\$1.3
Construction	\$199.7
TOTAL	\$215.1

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 6D (TSMO Solutions)

Corridor Information

Route	I-65
From	KY 44 in Shepherdsville
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes	3	\$0.3

Note
Steep Vertical Grade (MP 117-MP 120)

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	3	\$1.2
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of KY 44, 1 south of I-265 is existing, 1 before and after KY 1526

Cost Summary - TSMO Solutions (\$M)

Truck Climbing Lanes	\$0.3
Dynamic Message Sign	\$1.2
TOTAL TSMO	\$1.5

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 6E (Traditional Solutions)

Corridor Information

Route	I-65
From	I-265
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	8 or 10
Median	Divided
Posted Speed	55 or 65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane	4	\$7.7	\$1.0	\$1.0	\$70.4	\$80.0	

Note
1-lane CD throughout (except for the portion between KY 1065 & KY 1747 with existing CD)

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					Total
			D	R	U	C		
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					Total
			D	R	U	C		
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)							

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$7.7
ROW	\$1.0
Utility	\$1.0
Construction	\$70.4
TOTAL	\$80.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 6E (TSMO Solutions)

Corridor Information

Route	I-65
From	I-265
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	8 or 10
Median	Divided
Posted Speed	55 or 65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	5.5	\$2.8
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
Queue warning placed throughout the corridor (5.5 mile)

Cost Summary - TSMO Solutions (\$M)

Queue Warning	\$2.8
TOTAL TSMO	\$2.8

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 6F (Traditional Solutions)

Corridor Information

Route	I-65
From	I-264
To	Indiana State Line
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 6F (TSMO Solutions)

Corridor Information

Route	I-65
From	I-264
To	Indiana State Line
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	13	\$3.3
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	5.5	\$2.8
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
Queue warning placed throughout the corridor (5.5 mile)

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$3.3
Queue Warning	\$2.8
TOTAL TSMO	\$6.0

Cost Estimation Detail - Corridor 7B (Traditional Solutions)

Corridor Information

Route	I-265
From	I-65
To	I-64
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	3	\$18.7	\$6.8	\$3.8	\$180.0	\$209.4
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	1	\$0.8	\$0.0	\$0.0	\$7.7	\$8.6

Note
I-65/I-265 System Interchange & I-265/US 150 interchange & I-265/KY 155 interchange
I-65 EB off-ramp to KY 61, I-65 WB off-ramp to KY 61, I-65 EB off-ramp to Smyrna Pkwy

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$19.6
ROW	\$6.8
Utility	\$3.8
Construction	\$187.7
TOTAL	\$218.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 7B (TSMO Solutions)

Corridor Information

Route	I-265
From	I-65
To	I-64
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	15	\$3.8
Traffic responsive non-centralized		
Stand alone		

Note
All entrance ramps besides the two system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	12	\$4.8
En-Route Traveler Information		
Truck Parking Information System		

Note
1 east of I-65 is existing, 1 south of I-64 is existing, 1 before and after remaining 6 interchanges.

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$3.8
Dynamic Message Sign	\$4.8
TOTAL TSMO	\$8.6

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 7C (Traditional Solutions)

Corridor Information

Route	I-265
From	I-64
To	I-71
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane	1.2	\$2.3	\$0.3	\$0.3	\$21.1	\$24.0	

Note
CD system from I-71 to Brownsboro Rd

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	4	\$25.0	\$9.1	\$5.1	\$240.0	\$279.2
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane	0.5	\$0.4	\$0.0	\$0.0	\$3.9	\$4.3

Note
I-65/I-265, I-265/Brownsboro Rd, I-265/Old Henry Rd, I-265/US 60 interchanges
I-265 SB off-ramp to KY 1447 & I-265 NB loop ramp to KY 1447

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$27.7
ROW	\$9.4
Utility	\$5.4
Construction	\$265.0
TOTAL	\$307.5

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 7C (TSMO Solutions)

Corridor Information

Route	I-265
From	I-64
To	I-71
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	11	\$2.8
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	10	\$4.0
En-Route Traveler Information		
Truck Parking Information System		

Note
1 north of I-64, 1 east of I-71, 1 before and after remaining 5 interchanges excluding 2 existing.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$4.0
Traffic responsive centralized	\$2.8
TOTAL TSMO	\$6.8

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 8A (Traditional Solutions)

Corridor Information

Route	I-64
From	Indiana State Line
To	I-65
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 8A (TSMO Solutions)

Corridor Information

Route	I-64
From	Indiana State Line
To	I-65
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	4	\$1.0
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	4	\$2.0
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
Queue warning placed throughout the corridor (4 miles)

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$1.0
Queue Warning	\$2.0
TOTAL TSMO	\$3.0

Cost Estimation Detail - Corridor 8B (Traditional Solutions)

Corridor Information

Route	I-64
From	I-65
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange	1	\$6.2	\$2.3	\$1.3	\$60.0	\$69.8
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane	0.7	\$0.6	\$0.0	\$0.0	\$5.4	\$6.0
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note
I-64/I-264 interchange
Adding aux lane on both directions from MellwoodAve to I-71

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)	59,618	\$4.6	\$0.4	\$0.2	\$9.8	\$14.9

Note
Only the 4 bridges within the proposed widening section are included in corridor-level cost estimation.

Cost Summary - Traditional Solutions (\$M)

Design	\$11.4
ROW	\$2.7
Utility	\$1.5
Construction	\$75.2
TOTAL	\$90.7

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 8B (TSMO Solutions)

Corridor Information

Route	I-64
From	I-65
To	I-264
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	7	\$2.8
En-Route Traveler Information		
Truck Parking Information System		

Note
1 east of I-65, 1 west of I-264, 1 before and after remaining 3 interchanges excluding one existing.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$2.8
TOTAL TSMO	\$2.8

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 8C (Traditional Solutions)

Corridor Information

Route	I-64
From	I-264
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6 or 8
Median	Divided
Posted Speed	55 or 65 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile	2.5	\$4.2	\$0.0	\$0.1	\$38.7	\$43.0	
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note
6 to 8 lanes between KY 1747 and KY 913

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					
			D	R	U	C	Total	
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)	50,954	\$3.9	\$0.3	\$0.2	\$8.3	\$12.7	

Note
Only the 4 bridges within the proposed widening section are included in corridor-level cost estimation.

Cost Summary - Traditional Solutions (\$M)

Design	\$8.1
ROW	\$0.3
Utility	\$0.3
Construction	\$47.0
TOTAL	\$55.7

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 8C (TSMO Solutions)

Corridor Information

Route	I-64
From	I-264
To	I-265
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6 or 8
Median	Divided
Posted Speed	55 or 65 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	5	\$1.3
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	6.5	\$3.3
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings	24	\$0.4
Improved Signage	5	\$1.0

Note
Queue warning placed throughout the corridor (6.5 miles)
6 locations (two between each interchange), one location per lane for 4 lanes on the EB direction.
Same locations as the Elongated Pavement Markings (two between each interchange) excluding 1 existing west of I-265

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$1.3
Queue Warning	\$3.3
Elongated Pavement Markings	\$0.4
Improved Signage	\$1.0
TOTAL TSMO	\$5.9

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 8D (Traditional Solutions)

Corridor Information

Route	I-64
From	I-265
To	KY 53 in Shelbyville
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

New Roadway

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Connector Road (4-lane)			\$5.0	\$8.0	\$2.0	\$45.0	\$60.0

Note
Eastwood Connector (based on input from KYTC)

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange	1	\$2.1	\$1.2	\$1.5	\$26.0	\$30.9
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane	0.3	\$0.1	\$0.1	\$0.1	\$1.4	\$1.7
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note
New interchange south of Eastwood
I-64 EB off-ramp to KY 53

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$7.2
ROW	\$9.3
Utility	\$3.6
Construction	\$72.4
TOTAL	\$92.5

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 8D (TSMO Solutions)

Corridor Information

Route	I-64
From	I-265
To	KY 53 in Shelbyville
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	7	\$2.8
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of I-265, 1 west of KY 53, 1 on both sides of the remaining 3 interchanges (including the new proposed one), excluding one existing

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$2.8
TOTAL TSMO	\$2.8

Cost Estimation Detail - Corridor 8E (Traditional Solutions)

Corridor Information

Route	I-64
From	KY 53 in Shelbyville
To	I-64/I-75 north split
Highway District	5, 7

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile	4.1	\$2.0	\$0.0	\$0.0	\$68.5	\$70.5
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile	18.3	\$2.4	\$0.0	\$0.0	\$260.0	\$262.3
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note
ATL from KY 151 to US 127 & from US 60 to I-75 (Urban portions)
ATL from KY 151 to US 127 & from US 60 to I-75 (Rural portions)

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane	0.3	\$0.1	\$0.1	\$0.1	\$1.4	\$1.7
Interchange single ramp improvement - Urban	Per Mile Per Lane	2.2	\$1.9	\$0.0	\$0.1	\$17.0	\$18.9

Note
I-64 EB off-ramp to KY 53
I-64/I-75 north split interchange SB to EB & WB to NB ramps

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)	140,989	\$10.8	\$1.0	\$0.4	\$23.1	\$35.2

Note
21 bridges within widening section and I-64/I-75 north split

Cost Summary - Traditional Solutions (\$M)

Design	\$17.2
ROW	\$1.0
Utility	\$0.5
Construction	\$369.9
TOTAL	\$388.7

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 8E (TSMO Solutions)

Corridor Information

Route	I-64
From	KY 53 in Shelbyville
To	I-64/I-75 north split
Highway District	5, 7

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	13	\$5.2
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 east of KY 53, 1 west of I-75-64 northern split, 1 before and after the other 6 interchanges, exclude one existing west of Midway exit

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$5.2
TOTAL TSMO	\$5.2

STATEWIDE INTERSTATE AND PARKWAY PLAN (SWIPP)



Cost Estimation Detail - Corridor 10A (Traditional Solutions)

Corridor Information

Route	I-264
From	I-64 (West)
To	I-65
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane							

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					
			D	R	U	C	Total	
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange							
Interchange Modification - Urban	Per Interchange							
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					
			D	R	U	C	Total	
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)							

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 10A (TSMO Solutions)

Corridor Information

Route	I-264
From	I-64 (West)
To	I-65
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	6
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	9	\$2.3
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges from Dixie Highway to I-65

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	11.5	\$5.8
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings	30	\$0.5
Improved Signage	5	\$1.0

Note
Queue warning placed throughout the corridor (11.5 miles)
10 locations, two between each interchange.
5 signs near elongated pavement marking locations that don't have existing signage already.

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$2.3
Queue Warning	\$5.8
Elongated Pavement Markings	\$0.5
Improved Signage	\$1.0
TOTAL TSMO	\$9.5

Cost Estimation Detail - Corridor 10B (Traditional Solutions)

Corridor Information

Route	I-264
From	I-65
To	I-64 (East)
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	8 or 10
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 10B (TSMO Solutions)

Corridor Information

Route	I-264
From	I-65
To	I-64 (East)
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	8 or 10
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	11	\$2.8
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	6.5	\$3.3
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings	36	\$0.5
Improved Signage		

Note
Queue warning placed throughout the corridor (6.5 miles)
6 locations spaced between interchanges from Taylorsville Road to I-64.
Existing signage is good on this corridor

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$2.8
Queue Warning	\$3.3
Elongated Pavement Markings	\$0.5
TOTAL TSMO	\$6.5

Cost Estimation Detail - Corridor 10C (Traditional Solutions)

Corridor Information

Route	I-264
From	I-64 (East)
To	I-71
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4 or 6
Median	Divided
Posted Speed	55 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Urban Freeway, Added Lanes (inner side)	Per Mile						
Urban Freeway, Added Lanes (outer side)	Per Mile						
Rural Freeway, Added Lanes (inner side)	Per Mile						
Rural Freeway, Added Lanes (outer side)	Per Mile						
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane						

Note

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)				
			D	R	U	C	Total
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile						
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile						
Increase Shoulder Width	Per Mile						

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)				
			D	R	U	C	Total
New Service Interchange - Rural	Per Interchange						
New Service Interchange - Urban	Per Interchange						
Interchange Modification - Rural	Per Interchange						
Interchange Modification - Urban	Per Interchange						
Add Auxiliary Lane - Rural	Per Mile Per Lane						
Add Auxiliary Lane - Urban	Per Mile Per Lane						
Interchange single ramp improvement - Rural	Per Mile Per Lane						
Interchange single ramp improvement - Urban	Per Mile Per Lane						

Note

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)				
			D	R	U	C	Total
Bridge - Replacement	Per Square Ft (Deck Area)						
Bridge - Rehab	Per Square Ft (Deck Area)						

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$0.0
ROW	\$0.0
Utility	\$0.0
Construction	\$0.0
TOTAL	\$0.0

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 10C (TSMO Solutions)

Corridor Information

Route	I-264
From	I-64 (East)
To	I-71
Highway District	5

Characteristics

Functional Class	Interstate
Lanes	4 or 6
Median	Divided
Posted Speed	55 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized	7	\$1.8
Traffic responsive non-centralized		
Stand alone		

Note
at entrance ramps for all non-system interchanges

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning	4	\$2.0
Comparative Travel Times		
Dynamic Message Sign		
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
Queue warning placed throughout the corridor (4 miles)

Cost Summary - TSMO Solutions (\$M)

Traffic responsive centralized	\$1.8
Queue Warning	\$2.0
TOTAL TSMO	\$3.8

Cost Estimation Detail - Corridor 15 (Traditional Solutions)

Corridor Information

Route	PennyrilePkwy (Future I-169)
From	I-24
To	I-69/Western KY Pkwy
Highway District	2

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Widening

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Urban Freeway, Added Lanes (inner side)	Per Mile							
Urban Freeway, Added Lanes (outer side)	Per Mile							
Rural Freeway, Added Lanes (inner side)	Per Mile							
Rural Freeway, Added Lanes (outer side)	Per Mile							
New Collector-Distributor Road (mainly for urban)	Per Mile Per Lane	1.5	\$2.9	\$0.4	\$0.4	\$26.4	\$30.0	

Note
Complete CD system from Exit #33 to Exit #34

Upgrade

Proposed Concept	Unit Cost	Mileage	Project Cost (\$M)					Total
			D	R	U	C		
Parkway Upgrade to Freeway with Pavement Reconstruction	Per Mile							
Parkway Upgrade to Freeway with Pavement Rehab	Per Mile							
Increase Shoulder Width	Per Mile							

Note

Interchange / Grade Separation

Proposed Concept	Unit Cost	Interchange / Mileage	Project Cost (\$M)					Total
			D	R	U	C		
New Service Interchange - Rural	Per Interchange							
New Service Interchange - Urban	Per Interchange							
Interchange Modification - Rural	Per Interchange	2	\$0.5	\$0.0	\$0.0	\$5.1	\$5.6	
Interchange Modification - Urban	Per Interchange	2	\$12.5	\$4.6	\$2.5	\$120.0	\$139.6	
Add Auxiliary Lane - Rural	Per Mile Per Lane							
Add Auxiliary Lane - Urban	Per Mile Per Lane							
Interchange single ramp improvement - Rural	Per Mile Per Lane							
Interchange single ramp improvement - Urban	Per Mile Per Lane							

Note
I-69/US 41 interchange, I-69/Western KY Pkwy interchange
I-69 Exit #5 to Exit #6 SB Braided Ramp, I-69/KY 1682 interchange

Major Structure

Proposed Concept	Unit Cost	Deck Area (sq ft)	Project Cost (\$M)					Total
			D	R	U	C		
Bridge - Replacement	Per Square Ft (Deck Area)							
Bridge - Rehab	Per Square Ft (Deck Area)							

Note

Cost Summary - Traditional Solutions (\$M)

Design	\$15.9
ROW	\$4.9
Utility	\$2.9
Construction	\$151.5
TOTAL	\$175.2

Additional Notes:

- The cost estimation may not include additional costs to address the potential impacts of major utilities (e.g., gas line, major water supplier, transmission line) within the proximity of the corridor, due to the lack of data when the report was prepared. Further investigation is recommended in future studies.
- Cost estimation was based on 2021 dollars. There is a 1-3% inflation rate. Estimated cost could vary -50% to +250% of the actual number (as a rule of thumb).
- Major structure costs only include bridges that are within the corridor sections for proposed widening improvements.
- Cost estimation does not account for KYTC's existing and committed (E+C) projects.
- Shoulder widening is not included in the cost estimation, as it is a relatively minor cost.
- If multiple improvement concepts are recommended for the corridor, only the cost of the larger-scale improvement concept is estimated.

Cost Estimation Detail - Corridor 15 (TSMO Solutions)

Corridor Information

Route	PennyriplePkwy (Future I-169)
From	I-24
To	I-69/Western KY Pkwy
Highway District	2

Characteristics

Functional Class	Interstate
Lanes	4
Median	Divided
Posted Speed	70 mph

Ramp Metering

Proposed Strategies	Entrance Ramp	Cost (\$M)
Traffic responsive centralized		
Traffic responsive non-centralized		
Stand alone		

Note

Managed Lanes

Proposed Strategies	Mileage	Cost (\$M)
Express Toll Lanes		
HOT Lanes		
HOV Lanes		
Part-time Shoulder Use (GP)		
Part-time Shoulder Use (Transit)		

Note

Interchange Ramp Improvements

Proposed Strategies	Location	Cost (\$M)
Increase Acceleration Lane Length		
Increase Deceleration Lane Length		

Note

Freight Strategies and Systems

Proposed Strategies	Mileage	Cost (\$M)
Truck Only Lanes		
Climbing Lanes		

Note

Other Strategies

Proposed Strategies	Mileage	Cost (\$M)
Travel Demand Management		
Dynamic Lane Use		

Note

Strategies That Could Apply Everywhere

Proposed Strategies	Mileage/Location	Cost (\$M)
Road Weather Management		
Work Zone Management		
Variable Speed Limits		
Queue Warning		
Comparative Travel Times		
Dynamic Message Sign	18	\$7.2
En-Route Traveler Information		
Truck Parking Information System		
Elongated Pavement Markings		
Improved Signage		

Note
1 north of I-24, 1 south of I-69, 1 on both sides of remaining 8 interchanges excluding one due to interchange proximity.

Cost Summary - TSMO Solutions (\$M)

Dynamic Message Sign	\$7.2
TOTAL TSMO	\$7.2