

APPENDIX E:

Meetings

Meeting Minutes

Project: Western Kentucky Parkway Upgrade Study
Subject: Project Team Meeting No. 1
Date: Monday, August 19, 2019, 10:30 AM
Location: Muhlenberg Alliance for Progress, Central City, Kentucky

Attendees:	Beth Niemann	KYTC Central Office, Division of Planning
	Steve De Witte	KYTC Central Office, Division of Planning
	Steve Ross	KYTC Central Office, Division of Planning
	David Souleyrette	KYTC Central Office, Division of Planning
	Tim Layson	KYTC Central Office, Division of Design
	Corinne Willmerdinger	KYTC Central Office, Division of Design
	Deneatra Henderson	KYTC District 2, Chief District Engineer
	Nick Hall	KYTC District 2, Planning
	Pamela Broadston	KYTC District 2, Environmental
	Gina Boaz	GRADD
	Craig Morris	Pennyrile ADD
	Brad Johnson	HMB
	Phillip Howard	HMB

1. The meeting began with introductions.
2. The study purpose was noted as: "Conduct a planning study to identify and evaluate potential improvement options to upgrade a portion of the Western Kentucky Parkway to interstate standards for inclusion into the interstate system. The study area limits are from I-69 in Hopkins County to I-165 in Ohio County."
3. Initially introduced as a stand-alone bill, the designation of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569) has been rolled into the draft version of America's Transportation Infrastructure Act (ATIA) of 2019 (Senate Bill 2302, Section 1517 and 1519). The Senate version of the bill passed out of committee unanimously. The House version is still in committee.
4. Six Year Plan Project 2-20039 has been pushed to Construction Year 2022 instead of 2020. The presentation for the Stakeholder Meeting will be updated to reflect this change in date.
5. District 2 noted that US 231 would be closing tonight (August 19th) and remain closed two to three nights to remove the Western Kentucky Parkway westbound bridge. The westbound bridge replacement will be completed by the end of the year and detour utilizing the US 231 ramps will be in place during construction. The eastbound bridge will be replaced in the spring.

6. HMB presented the crash analysis noting there were 24 directional 0.3-mile spots identified. However, animal hits were removed from the data prior to completing the analysis. KYTC noted the comparison data doesn't remove animal hits so the analysis will not be a completely accurate comparison. The analysis will be updated to include animal hits.
7. HMB will review the crash data relative to median turnaround locations to determine if additional median crossover locations should be removed.
8. HMB will also review in more detail the crash data near both the Kentucky State Police Post and Huck's rest area.
9. HMB presented the traffic data noting traffic volumes ranged between 10,000 and 11,200 vehicles per day. Recent counts show traffic volumes are lower; however, 20-year trends still show growth ranging between one-half and one percent. A one percent growth rate was recommended, and 2045 traffic volumes presented.
10. HMB noted Level of Service (LOS) along the corridor will be LOS A throughout the evaluation period and there are no future capacity concerns.
11. HMB noted that there was once a raised median but it was dug out several years ago. As a result, the cross slope will slope away from the median in some sections.
12. HMB noted the inside shoulder along one bifurcated section was four feet wide; however, for bifurcated sections, the inside shoulder should match the outside shoulder of ten feet.
13. The HMB analysis showed three sag vertical curves had stopping sight distance less than desired. These locations should be compared to historical crash records to determine if these are potentially causing or contributing to the crashes.
14. HMB asked what deficiencies will need to be addressed? In general, cost estimates will need to be developed for all deficiencies and then based on the estimates and past conversion agreements between FHWA and KYTC (e.g. Natcher Parkway upgrade to I-165, Breathitt Parkway and Western Kentucky Parkway upgrade to I-69), the team can determine which exceptions to request.
15. Several bridge vertical clearances were noted as not meeting the recommended 16 feet. It was noted that FHWA will allow less than 16 feet to remain on the shoulders. HMB will develop recommendations to address the bridges that do not meet vertical clearance.
16. One railroad bridge may no longer be used. HMB will determine if this is one of the bridges that doesn't meet vertical clearance and then determine if it could be removed and not replaced.
17. The shoulder width on a few bridges does not meet the 3.5 feet width requirement. Crash history will be reviewed at these locations and bridge widening options will be considered.
18. HMB noted the sidewalls of several bridges have not been upgraded.
19. HMB asked if the cost estimates should include replacing all guardrail that doesn't meet current recommendations. HMB has measured and documented a sample of

- guardrail within the study area and found several instances that do not meet current height and/or end treatment recommendations. KYTC noted the Pennyrite Parkway Upgrade Study included costs for upgrading guardrail.
20. HMB noted that interchange spacing should be three miles or greater given the project is considered a rural section. The spacing between I-69 and the Kentucky State Police Post, US 231 and the Huck's rest area, and the Huck's rest area and I-165 all are below 3 miles.
 21. The Central City "toll booth" interchange will need to be improved if the parkway upgrade moves forward. Cost for a diamond interchange at this location will be developed. The interchange improvement was a SHIFT Top-5 project for District 2. It was sponsored but not boosted.
 22. HMB noted at least two other interchanges each have at least one ramp that doesn't meet recommended acceleration/deceleration lengths. These calculations are being confirmed.
 23. HMB noted there was no rolled curb on the interchange ramps.
 24. HMB noted access control was another feature that was reviewed and at least one location didn't meet the 300-foot recommended spacing.
 25. HMB noted the median is 30 feet, which is below recommended widths. This can be mitigated with cable barrier or guardrail. Cost estimates for both options will be considered.
 26. A question was posed - any other existing structures within the median of an interstate? It was noted that Huck's had recently been upgraded and their lease had been renewed.
 27. HMB noted several horizontal curves do not meet design speed based on Green Book tables; however, they noted the curves do meet the recommended friction factor of less than 0.1. HMB noted that on other projects, the horizontal curves were not improved if friction factors were met. HMB will cross reference these curves to accident locations to determine if the curves appear to be a potential cause.
 28. HMB noted several cross slopes were nearly flat. This can sometimes lead to ponding of water and cause an increase in crashes. Potentially, this could be addressed as part of a future 3R Project. This could be investigated further in Phase I Design if the project moves forward.
 29. HMB noted that in some locations the bottom of the ditch is approximately six feet from the break in shoulder putting it within the clear zone. Ditches are typically recommended to be either outside the clear zone, be a flatter slope than observed in the field, or be behind guardrail.
 30. HMB reviewed the schedule with the Project Team. HMB noted alternatives would be developed in September but expressed concern with using the term "alternatives". KYTC recommended "improvement concepts" as an alternative term. This was changed in the Stakeholder presentation.

Attachments:

Meeting Agenda

Sign-In Sheet

Existing Conditions Table

Presentation

AGENDA

Western Kentucky Parkway Upgrade Study

Project Team Meeting #1

August 19, 2019, 10:30 AM Central

Muhlenberg Alliance for Progress

Central City, Kentucky

- I. Introductions
- II. Project History
- III. Study Purpose
- IV. Crash Summary
- V. Traffic Summary
- VI. Existing Conditions Review
 - A. FHWA's 10 Controlling Criteria for Design
 - B. Additional Design Criteria
 - C. Typical Section
 - D. Segment Review
- VII. Discussion
- VIII. Next Steps/Schedule
- IX. Adjourn



**Western Kentucky Parkway Upgrade Study
PROJECT TEAM MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

Name	Organization	Email
Phillip Howard	HMB	PHoward@HMBPE.com
Corinne Willmerdinger	KYTC - central office	cwillmerdinger@KY.GOV
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Steve Ross	KYTC CO Planning	steve.ross@ky.gov
Brad Johnson	HMB	bcjohnson@hmbpe.com

Western Kentucky Parkway Upgrade Study
Project Team Meeting #1
Existing Conditions

Route	County	Beginning MP	Beginning Feature	Ending MP	Ending Feature	Interchange Spacing (Segment Length) (miles)	AADT	Crash Spots (Directional Occurances)	Rural/Urban	Number of Lanes	Speed Limit	Lane Width (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Superelevation Rate	Design Speed (# of Curves with a calculated design speed less than 70 MPH)	Curves with Friction Factor > 0.1	Maximum Grade	Vertical Clearance (# of Bridges)	Median Width (ft)	Design Loading Structural Capacity (# of Bridges With Posted Weights)	
Design Criteria						3						12	4 (10) ¹	10	8%	70	0.1	4%	16 feet	36		
WK 9001	Hopkins	38.326	I-69	39.685	KSP Post	1.359	11,200	1	Rural	4	70	12	4 (10) ¹	10	< 8%	0	0	Less than or equal to 4%	1	30	0	
		39.685	KSP Post	48.330	KY 175	8.645	11,200	2					4 (10) ¹	10		4	0		1	30	2	
	Muhlenberg	48.330	KY 175	52.545	KY 181	4.215	10,800	1					4	10		2	0		0	30	2	
		52.545	KY 181	57.970	US 431	5.425	10,200	7					4	10		4	0		0	30	2	
		57.970	US 431	74.580	US 231	16.610	10,000	12					4	10		6 locations greater than 8%	17		0	5	30	4
		Ohio	74.580	US 231	75.600	Huck's Rest Stop	1.020	11,000					0	4		10	0		0	0	30	0
			75.600	Huck's Rest Stop	77.143	I-165	1.543	11,000					1	4 (4-10) ¹		10	< 8%		0	0	0	30

1) Bifurcated section

Western Kentucky Parkway Upgrade Study

Hopkins, Muhlenberg and Ohio Counties

Stakeholder Meeting
Muhlenberg Alliance for Progress

August 19, 2019

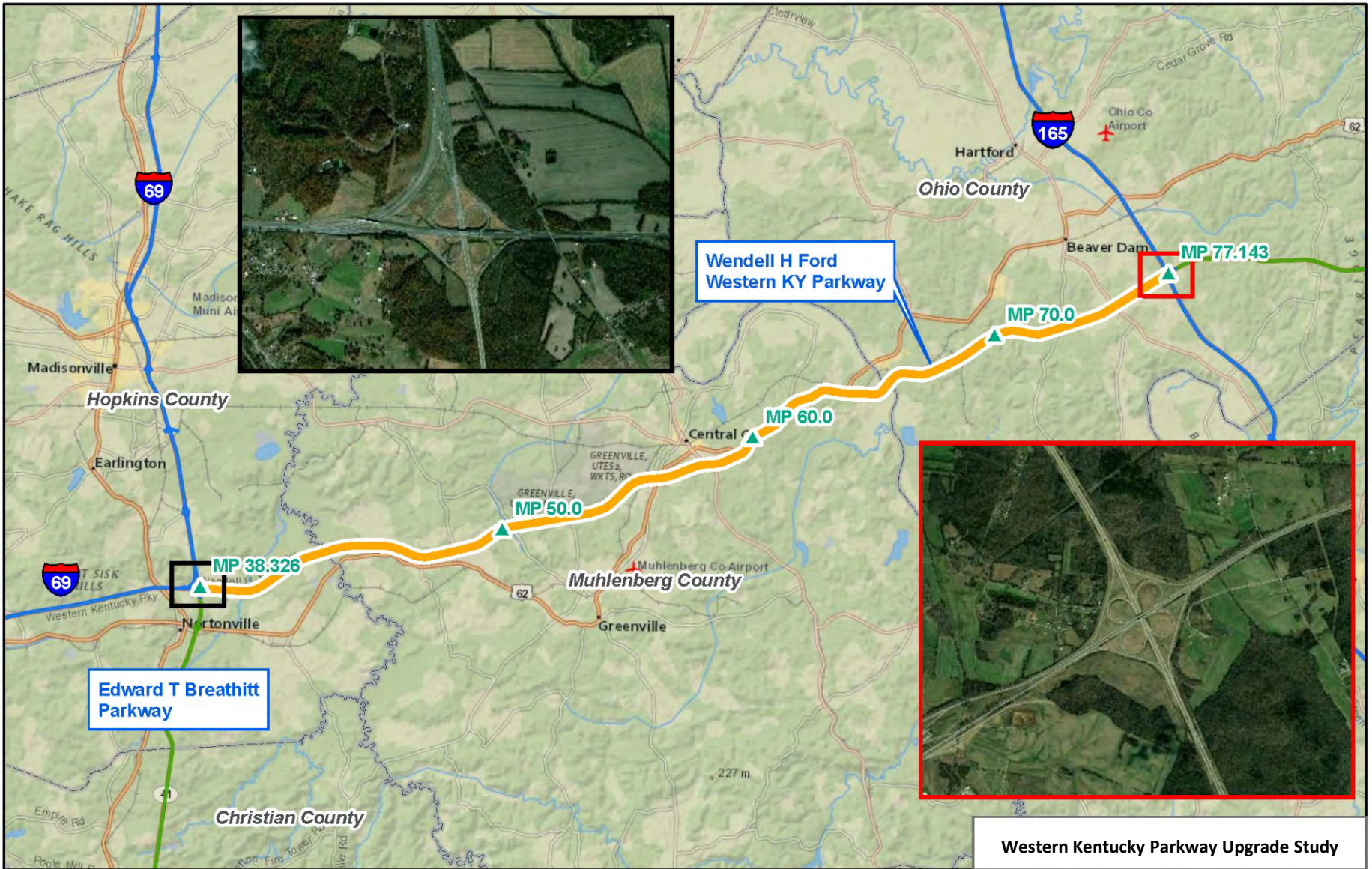


Study Purpose

Description: Conduct a planning study to identify and evaluate potential improvement options to upgrade a portion of the Western Kentucky Parkway to interstate standards for inclusion into the interstate system. The study area limits are from I-69 in Hopkins Co. to I-165 in Ohio County.

Project Length ~ 39 Miles

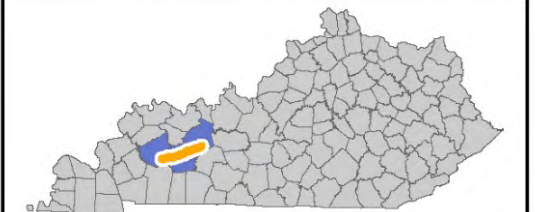
MP 38.326 to MP 77.143



- Study Area
- Interstate
- Parkway



0 2.5 5 10 Miles



Study Background

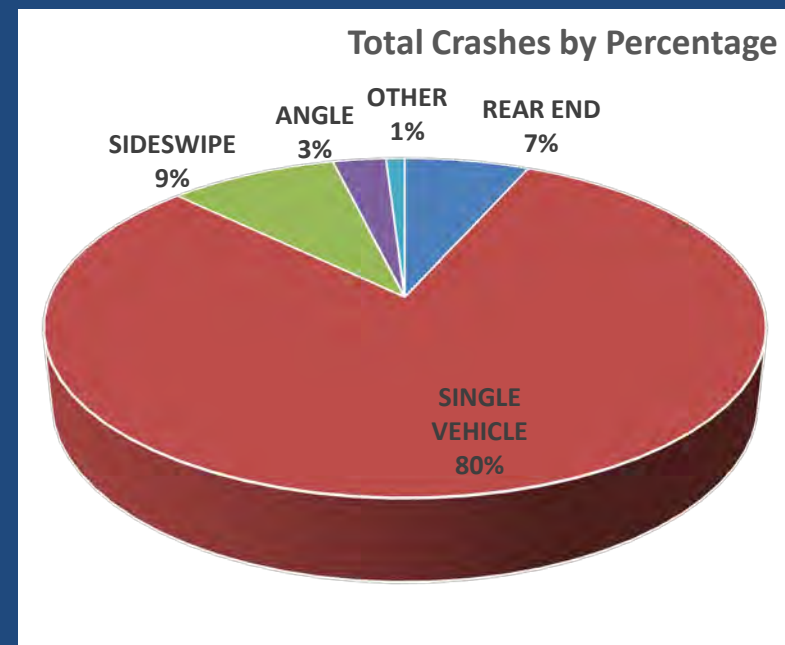
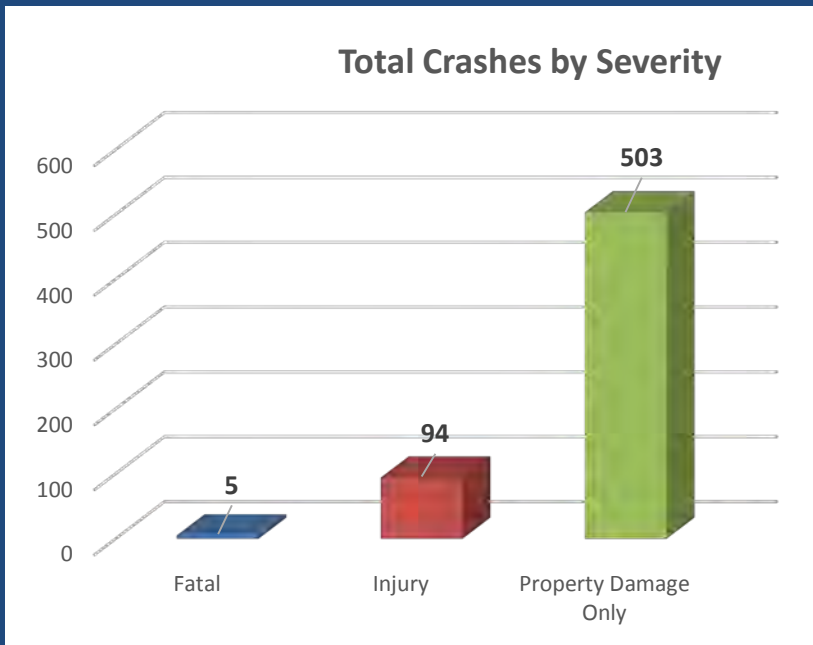
- Representative Comer Introduced a Federal Bill to Designate a Section of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569).
 - Bill May be Rolled into New Surface Transportation Bill
 - Operation of Rest Area Included in Draft Version as an Exemption.

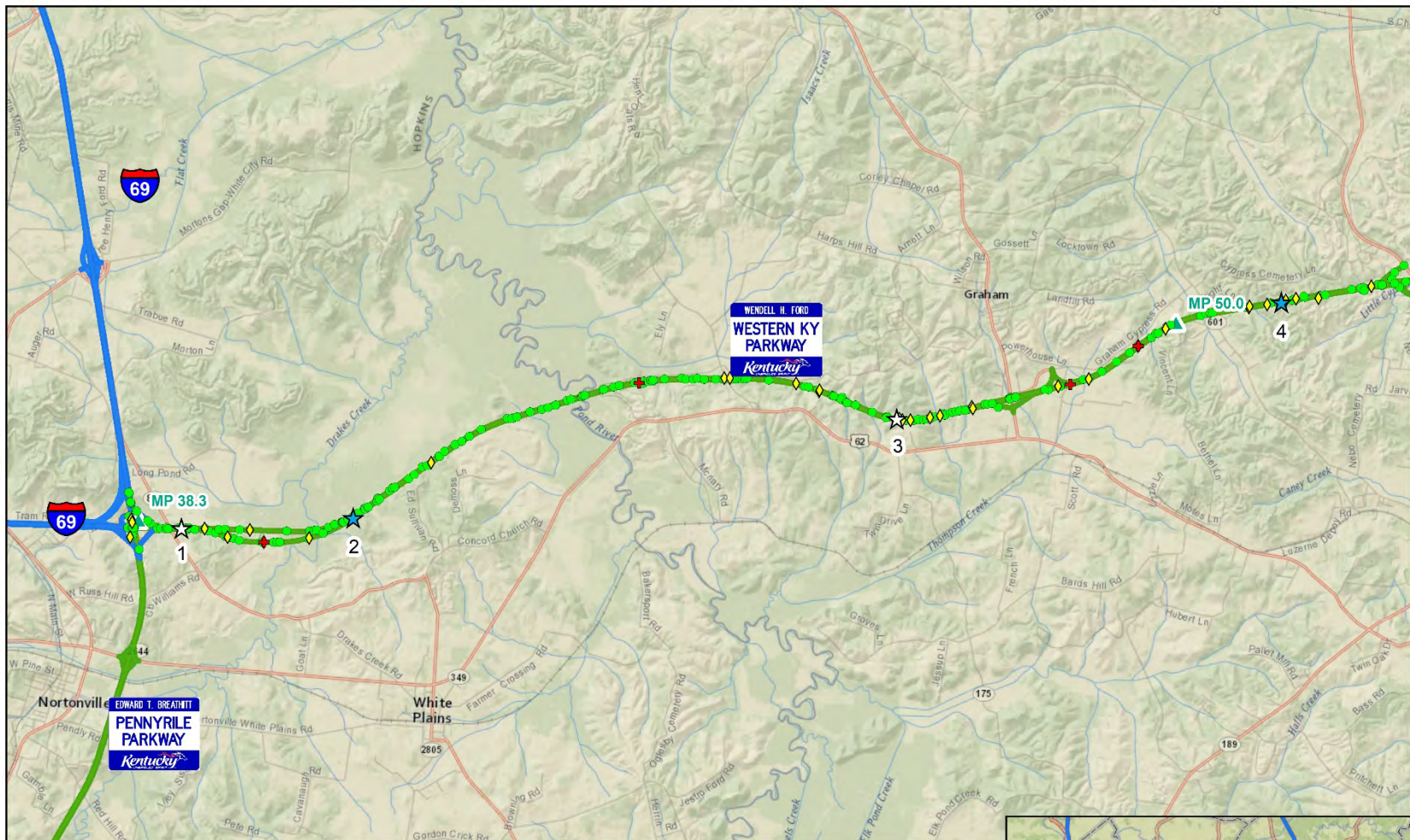
Six Year Plan Projects

- Item 2-20035 – Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 42.807 to MP 43.424 (Construction: 2024)
- Item 2-20036 - Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 43.424 to MP 45.950 (Construction: 2024)
- Item 2-20039 - Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 65.680 to MP 83.300 (Construction: 2022)

Crash Analysis

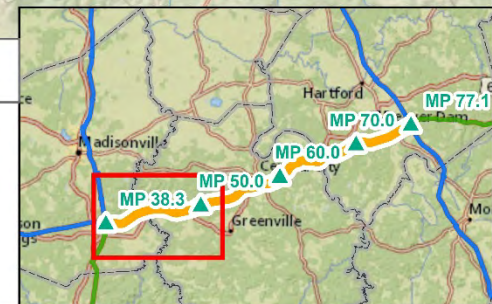
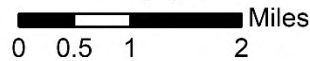
- 24 Directional High Crash (0.3 Mile) Spots Were Identified and Evaluated
- 5 Years (2014-2018) of Data Was Analyzed

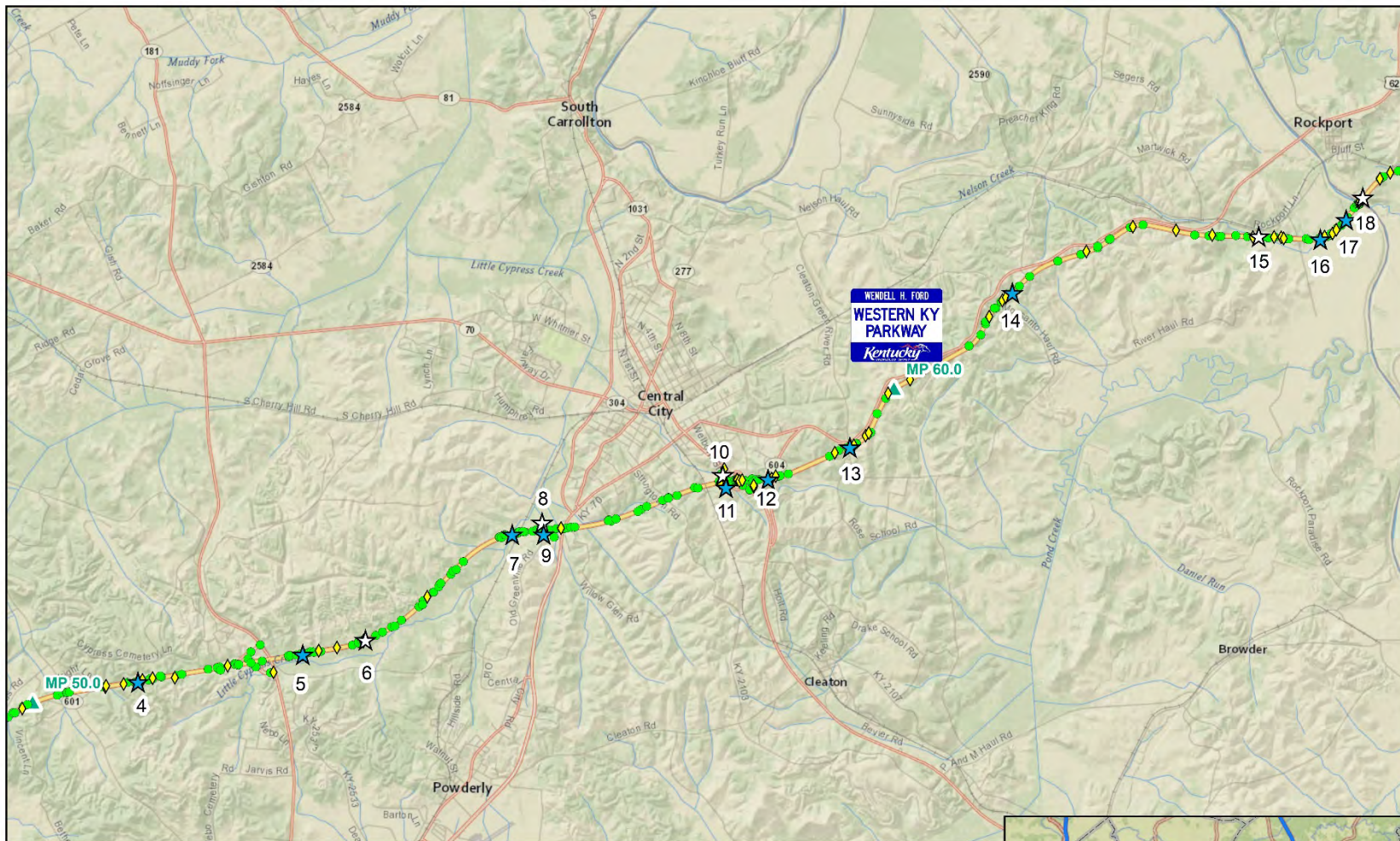




High Crash Spots (1/3)

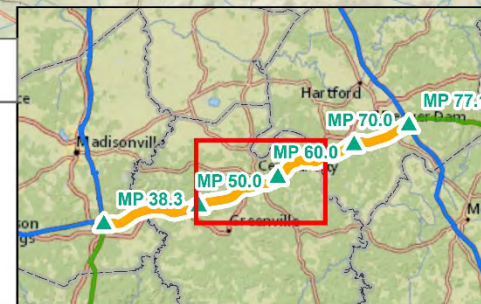
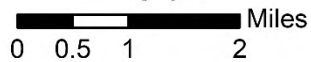
- | | | |
|-------|---|-----------------|
| CRF>1 | + | Fatality |
| ☆ | ◇ | Injury |
| ★ | ● | Property Damage |
| | ▲ | MP |

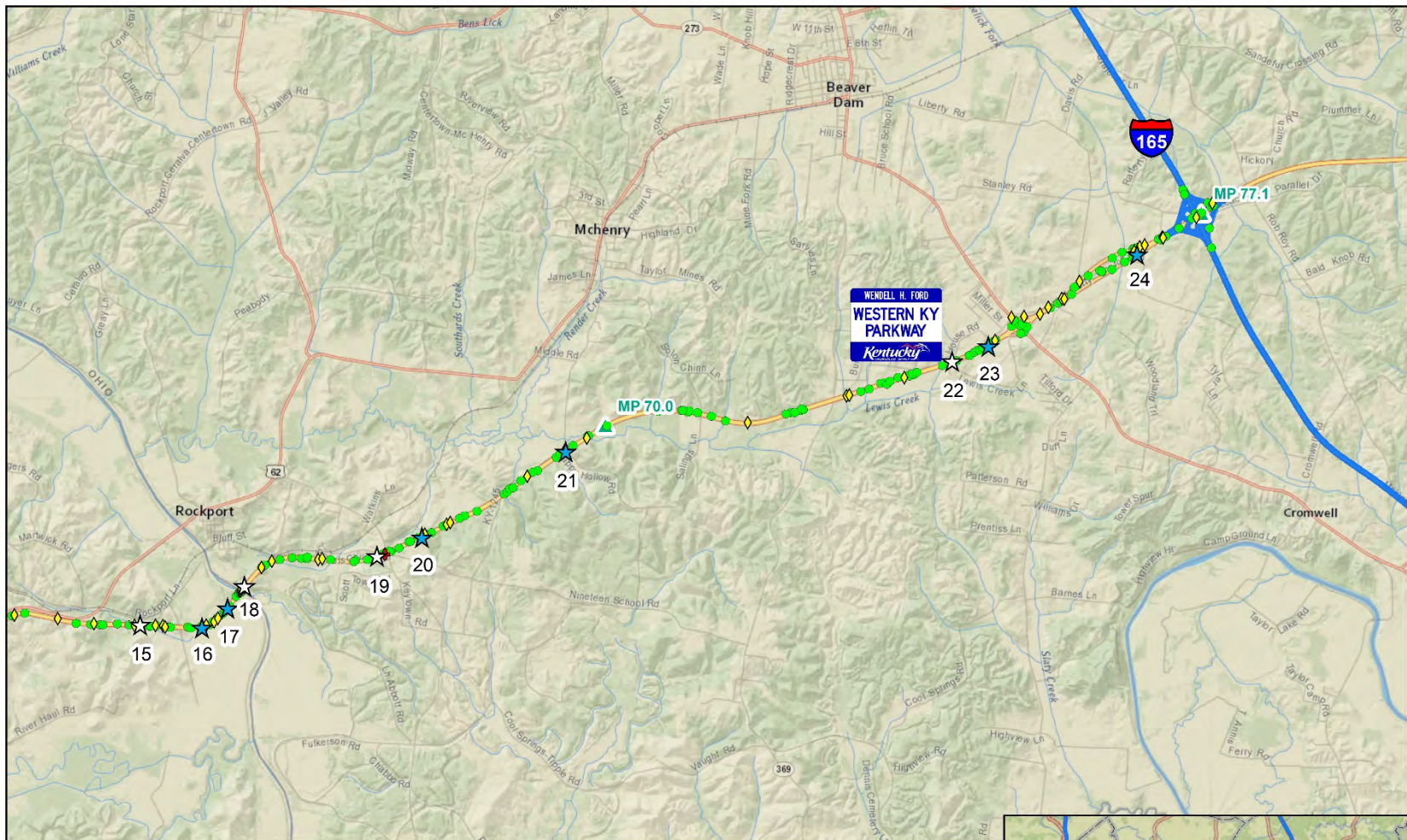




High Crash Spots (2/3)

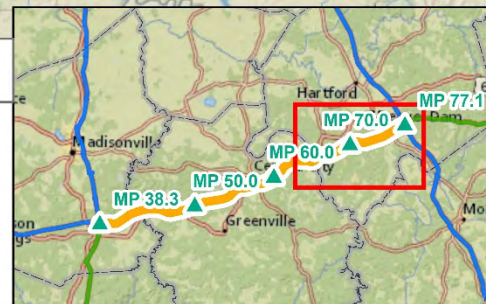
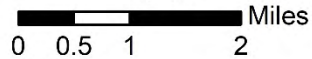
- CRF>1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

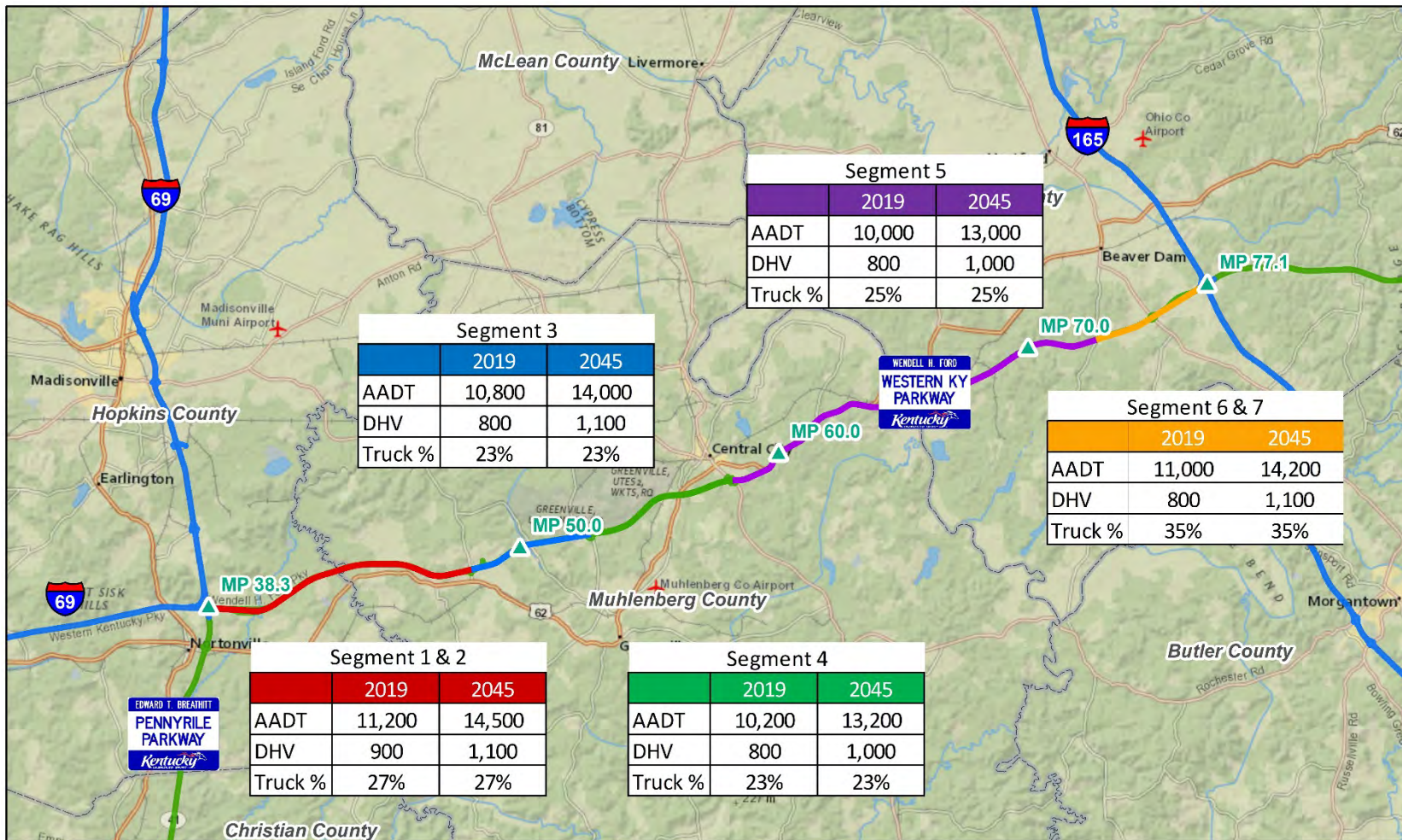




High Crash Spots (3/3)

- | | | |
|-------|---|-----------------|
| CRF>1 | + | Fatality |
| ☆ | ◇ | Injury |
| ★ | ● | Property Damage |
| | ▲ | MP |



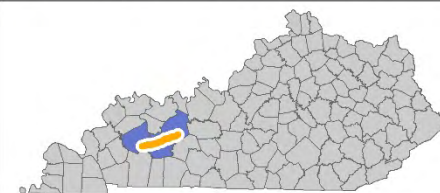
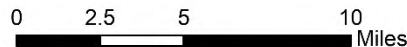


Existing and Future Traffic

Western Kentucky Parkway Study

- Segment**
- 4
 - 1 & 2
 - 3
 - 5
 - 6 & 7

Note: AADT - Average Annual Daily Traffic
 DHV - Design Hourly Volume



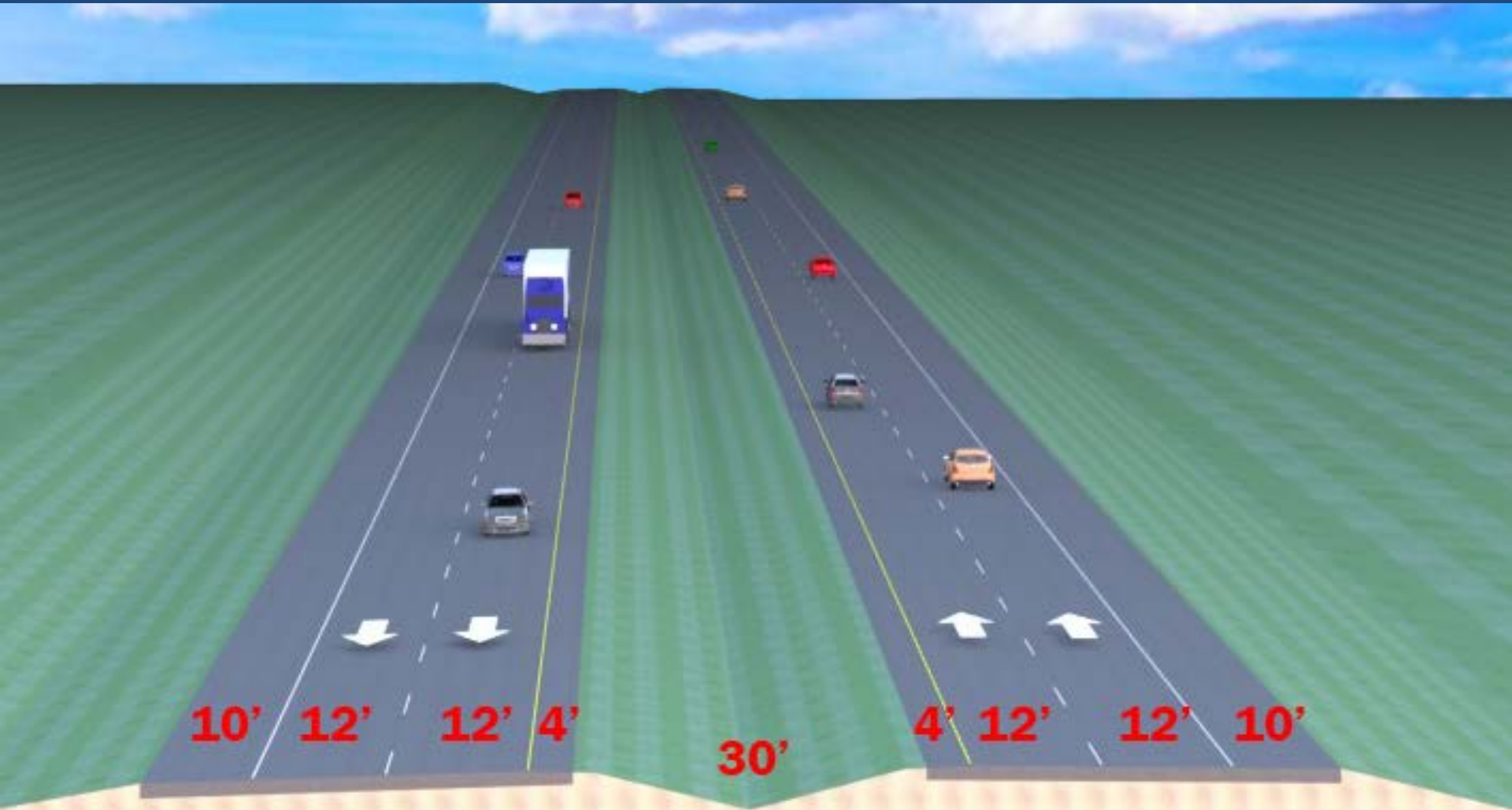
The Federal Highway Administration's (FHWA) 10 Controlling Criteria for Design

- Design Speed
- Lane Width
- Shoulder Width
- Horizontal Curve Radius
- Superelevation Rate
- Stopping Sight Distance
- Maximum Grade
- Cross Slope
- Vertical Clearance
- Design Loading Structural Capacity

Other Considerations

- Interchange Spacing
- Interchange Acceleration/Deceleration Lengths
- Level of Service
- Signing
- Access Control
- Clear Zone (Including Guardrail)
- Pier Protection/Crash Cushions at Bridges

Western Kentucky Parkway Typical Section

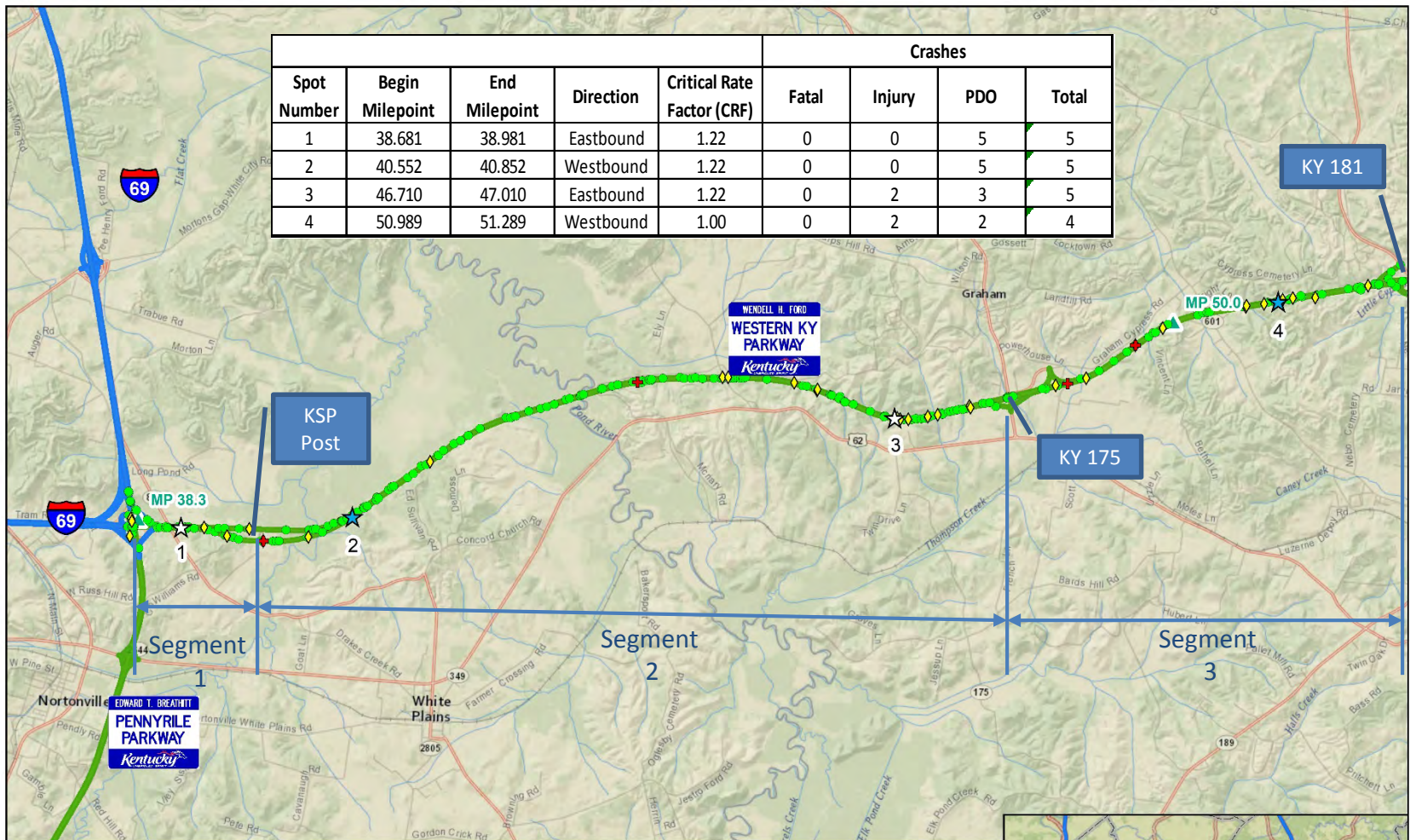


Segment 1 (I-69 to KSP Post)

MP 38.326 – 39.685

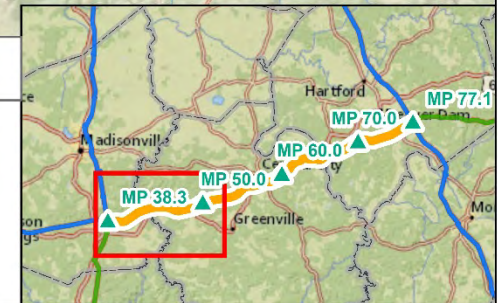
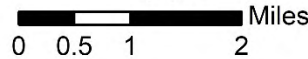
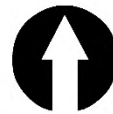
- 1.4 Mile segment
- 1 high crash spot
- Kentucky State Police (KSP) Post within the median is not typical
- 1 bridge doesn't meet vertical clearance
- Some signage along the Western Kentucky Parkway was upgraded as part of the Upgrade to I-69

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

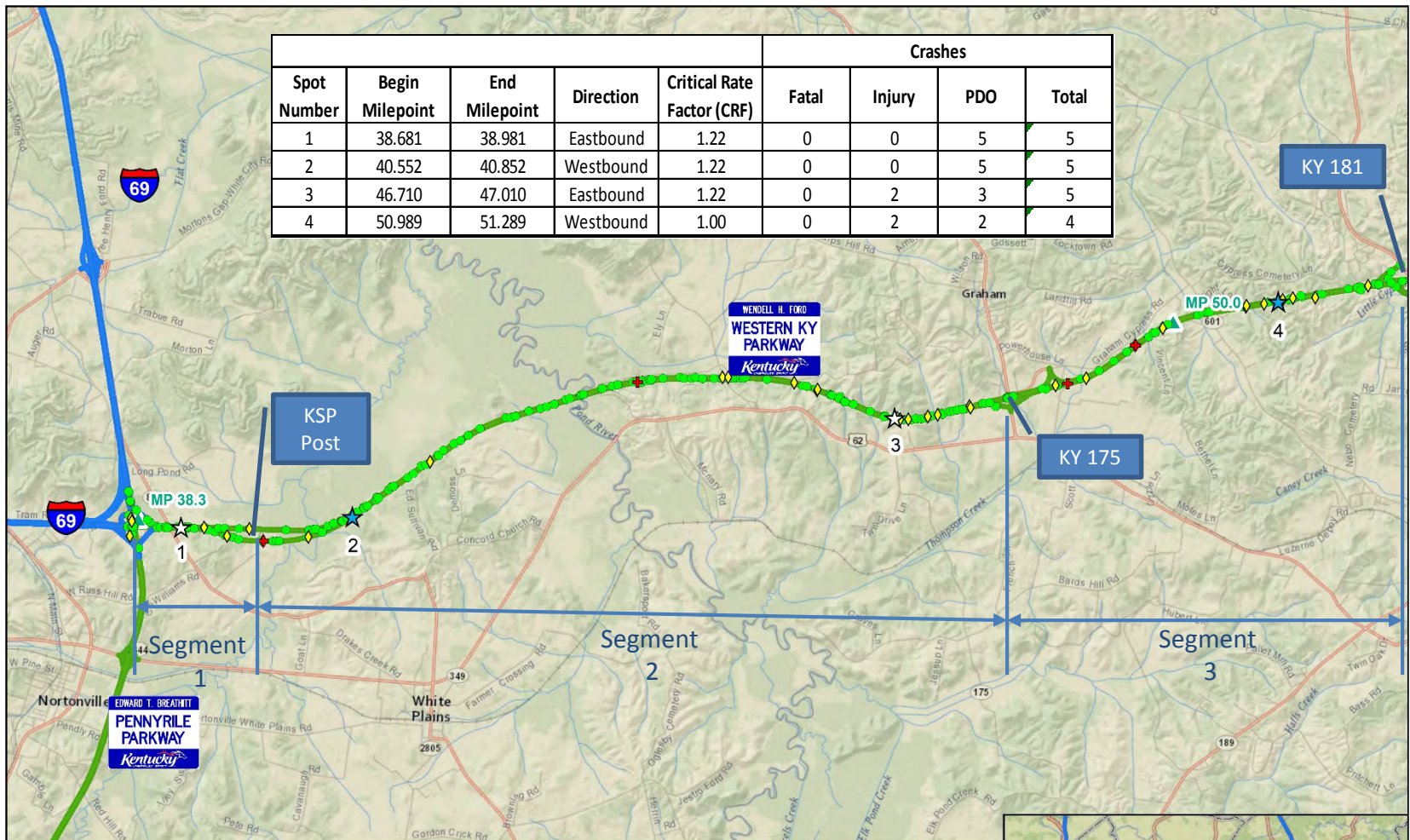


Segment 2 (KSP Post to KY 175)

MP 39.685 – 48.330

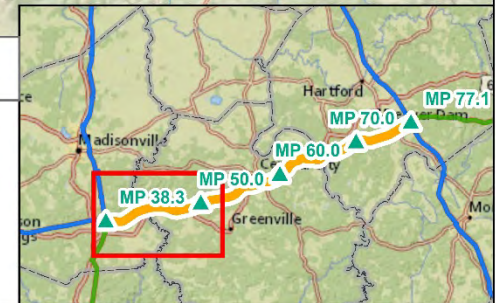
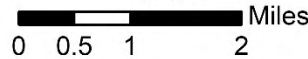
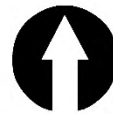
- 8.6 Mile segment
- 2 high crash spots
- 1 bridge doesn't meet vertical clearance
- 2 bridges are posted with weight restrictions

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

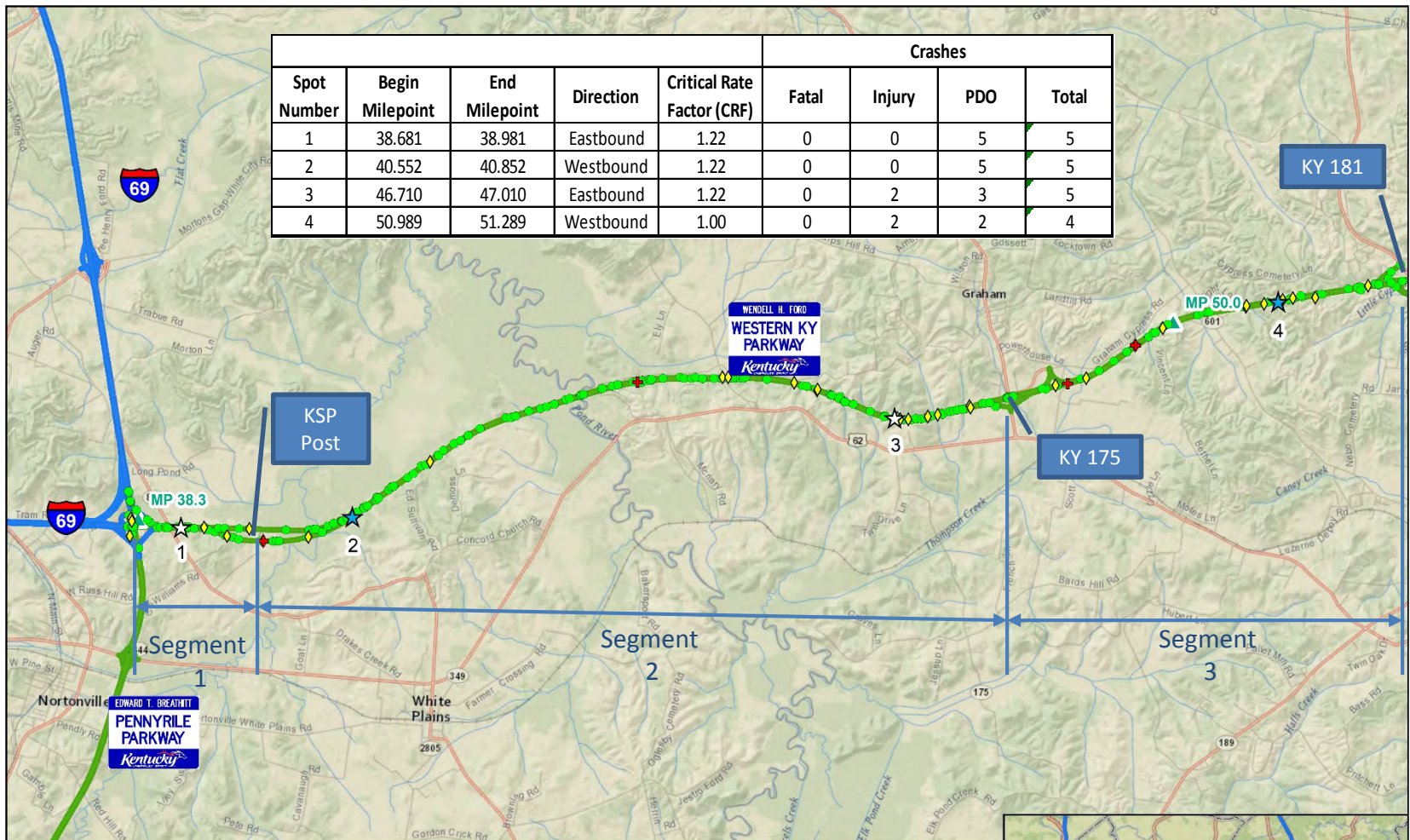


Segment 3 (KY 175 to KY 181)

MP 48.330 – 52.545

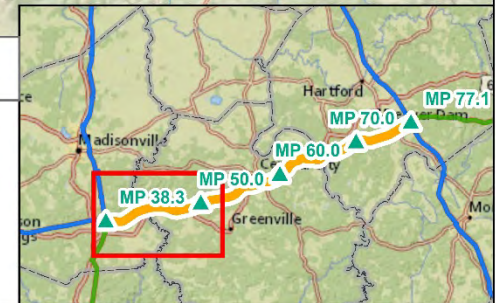
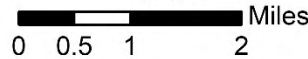
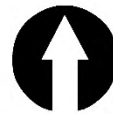
- 4.2 Mile segment
- 1 high crash spot
- 2 bridges are posted with weight restrictions
- Acceleration lengths for KY 175 ramps are less than desirable

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP



Segment 4 (KY 181 to US 431)

MP 52.545 – 57.970

- 5.4 Mile segment
- 7 high crash spots
- 2 bridges are posted with weight restrictions
- Reconstruction of the US 431 interchange will be evaluated as part of the study.

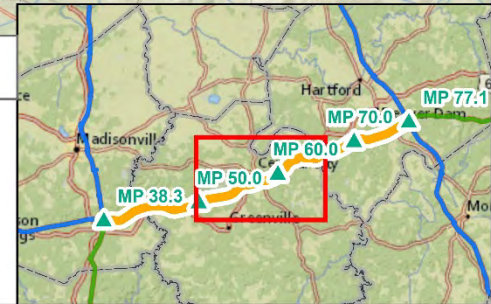
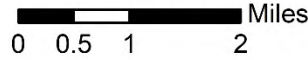
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					Fatal	Injury	PDO	Total
5	52.744	53.044	Westbound	1.03	0	0	4	4
6	53.432	53.732	Eastbound	1.03	0	2	2	4
7	55.366	55.666	Westbound	1.28	0	0	5	5
8	55.698	55.998	Eastbound	1.28	0	0	5	5
9	55.698	55.998	Westbound	1.03	0	0	4	4
10	57.718	58.018	Eastbound	1.03	0	2	2	4
11	57.718	58.018	Westbound	4.11	0	1	15	16



High Crash Spots (2/3)

High Crash Spots

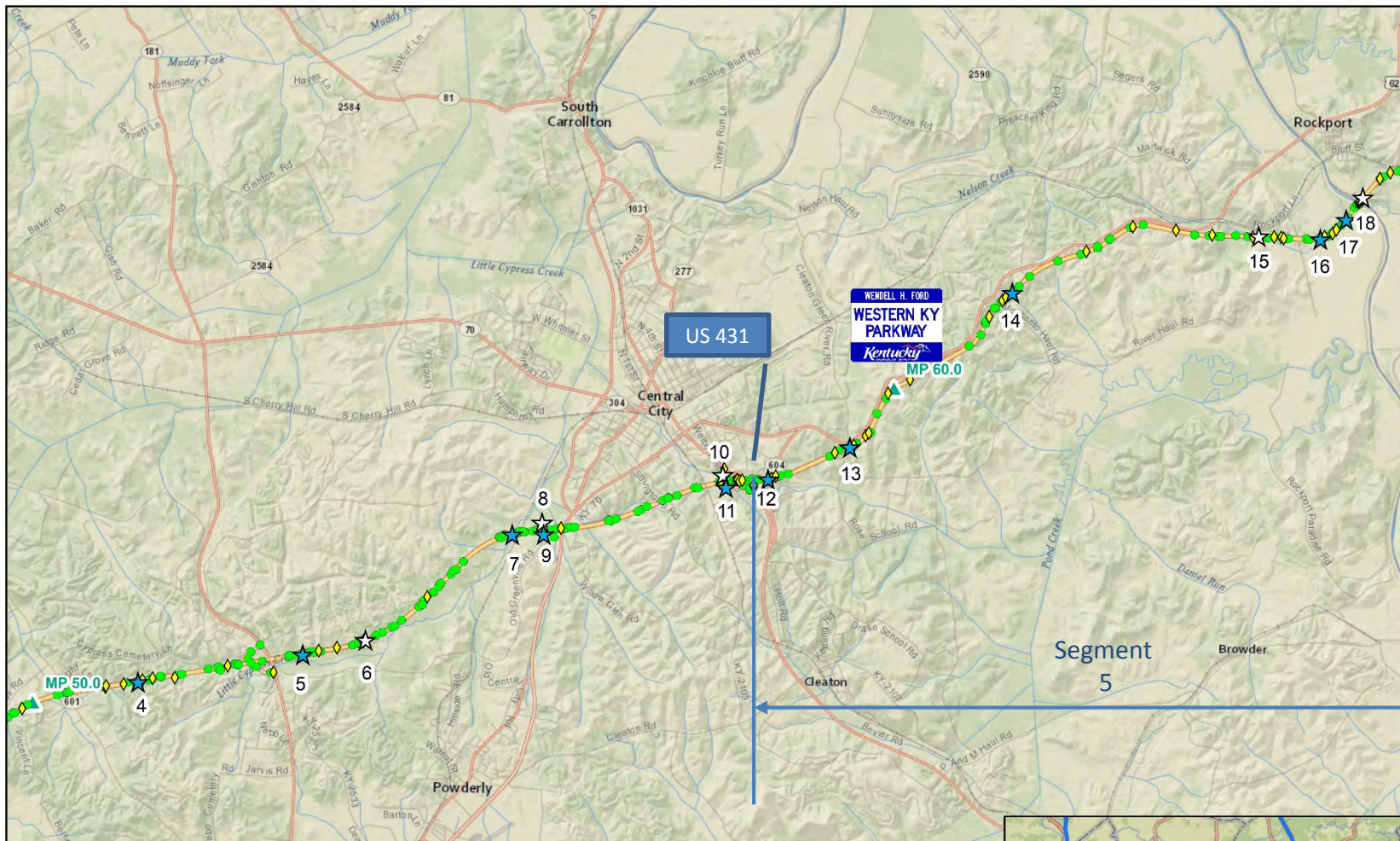
- CRF>1
- ☆ Eastbound
- ★ Westbound
- ◆ Injury
- Property Damage
- ▲ MP
- ✚ Fatality



Segment 5 (US 431 to US 231)

MP 57.970 – 74.580

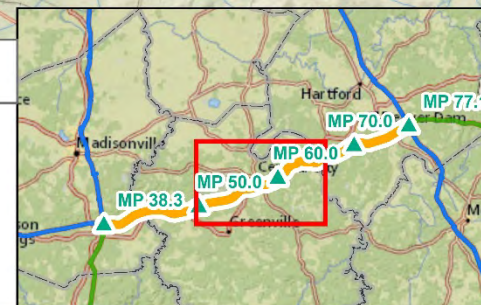
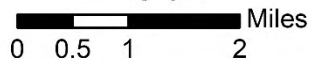
- 16.6 Mile segment
- 12 high crash spots
- 5 bridges don't meet vertical clearance
- 4 bridges are posted with weight restrictions



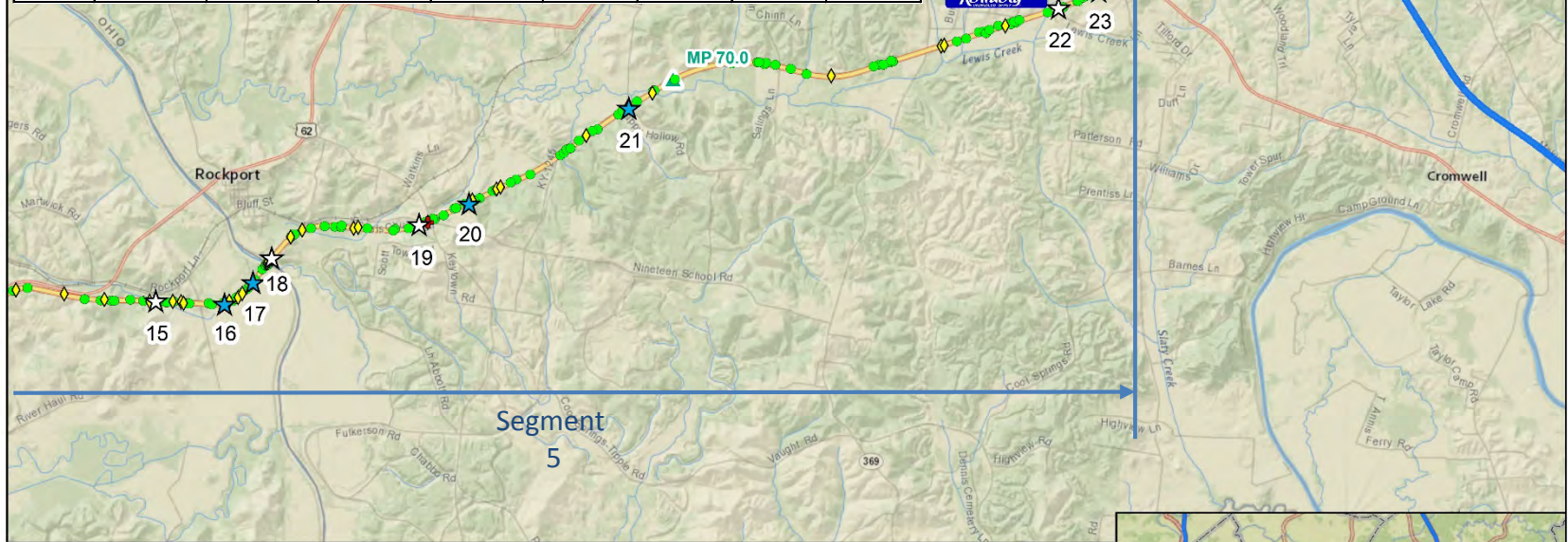
High Crash Spots (2/3)

High Crash Spots

- CRF>1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP



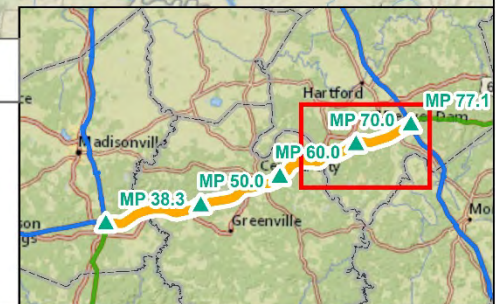
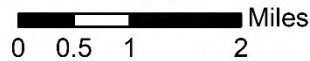
Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
12	58.134	58.434	Westbound	1.04	0	1	3	4
13	59.066	59.366	Westbound	1.04	0	1	3	4
14	61.496	61.796	Westbound	1.04	0	2	2	4
15	64.297	64.597	Eastbound	1.82	0	2	5	7
16	64.952	65.252	Westbound	1.04	0	1	3	4
17	65.290	65.590	Westbound	1.56	0	1	5	6
18	65.597	65.897	Eastbound	1.56	0	1	5	6
19	67.092	67.392	Eastbound	1.30	1	0	4	5
20	67.598	67.898	Westbound	1.04	0	1	3	4
21	69.357	69.657	Westbound	1.04	0	2	2	4
22	73.638	73.938	Eastbound	1.04	0	0	4	4
23	74.036	74.336	Westbound	1.04	0	1	3	4



High Crash Spots (3/3)

High Crash Spots

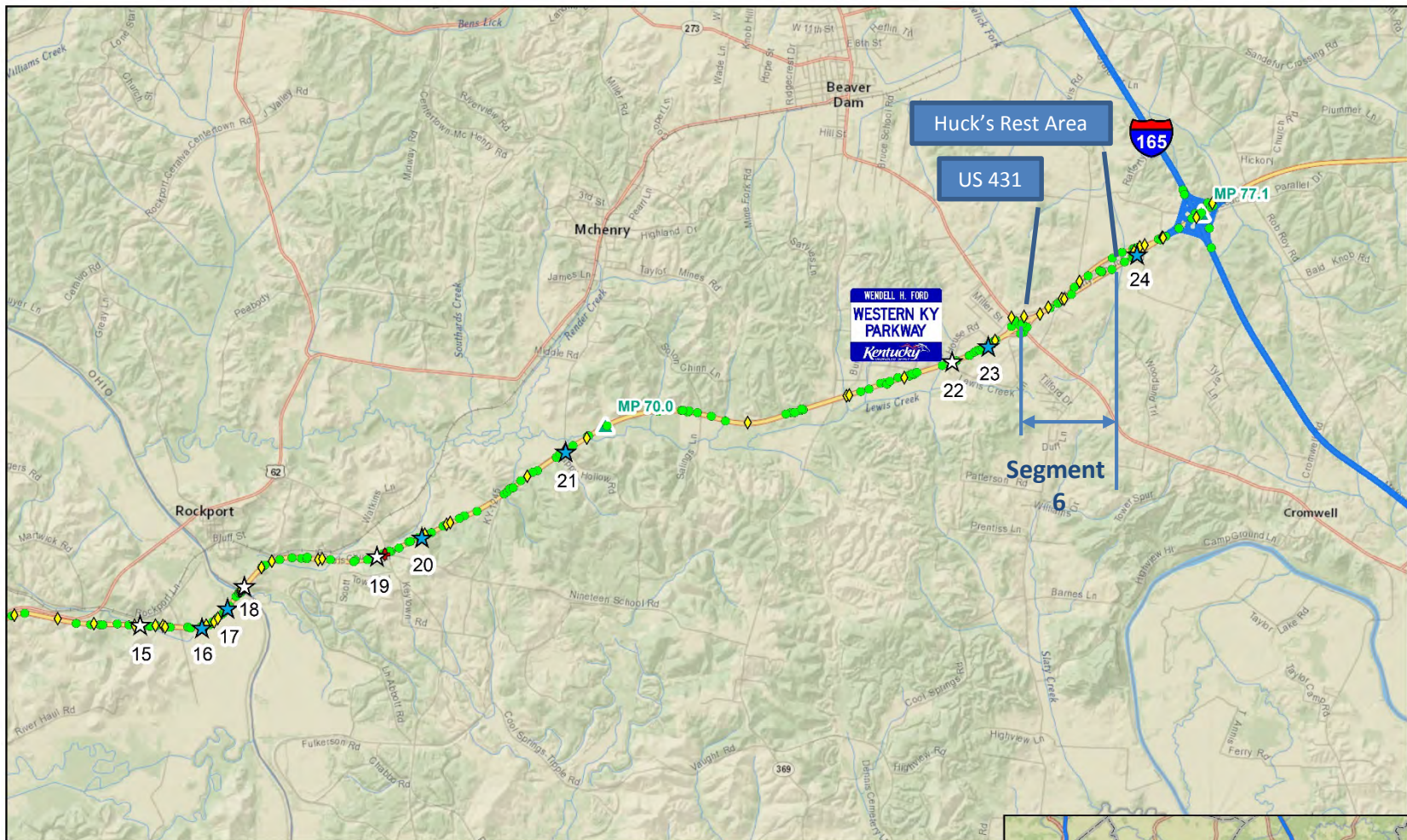
- CRF > 1 + Fatality
- ☆ Eastbound ◇ Injury
- ★ Westbound ● Property Damage
- ▲ MP



Segment 6 (US 231 to Huck's Rest Area)

MP 74.580 – 75.600

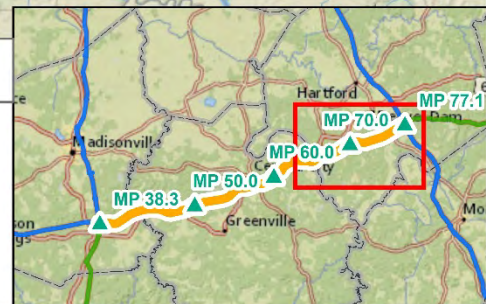
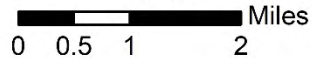
- 1 Mile Segment
- No high crash spots
- US 231 bridges are being replaced
- Rest area within the median is not typical



High Crash Spots (3/3)

High Crash Spots

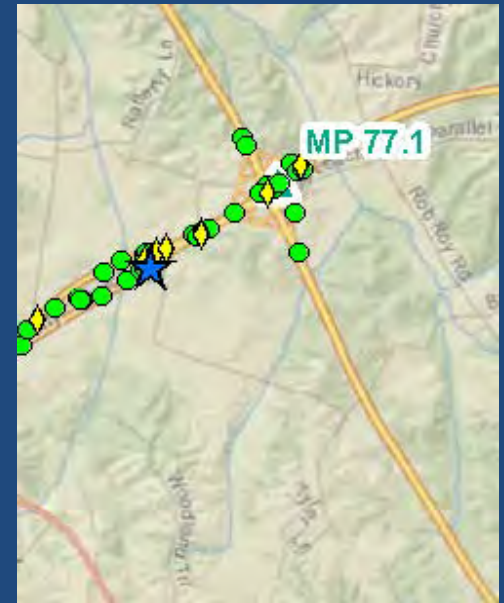
- | | | |
|-------|---|-----------------|
| CRF>1 | + | Fatality |
| ☆ | ☆ | Eastbound |
| ★ | ★ | Westbound |
| | ◇ | Injury |
| | ● | Property Damage |
| | ▲ | MP |

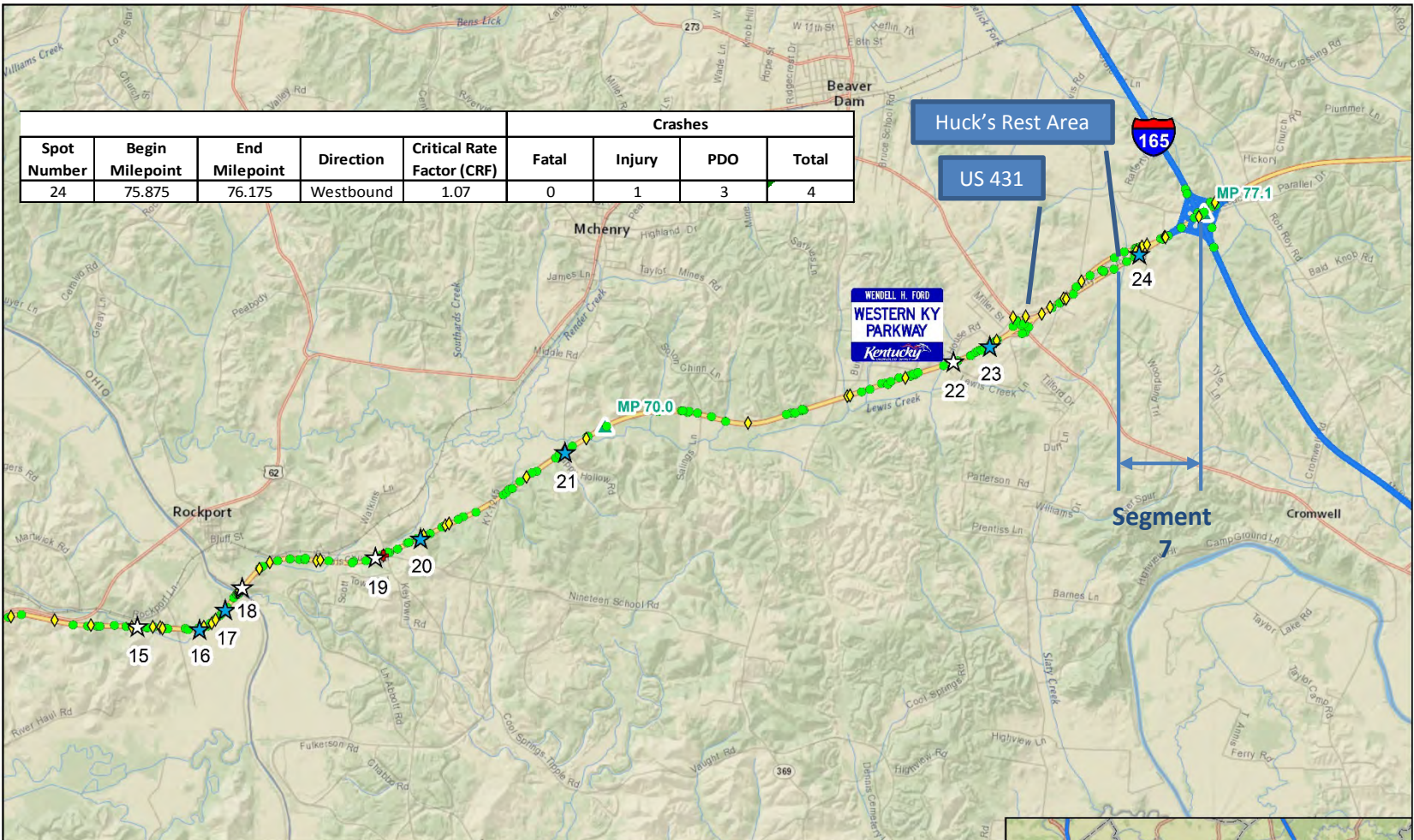


Segment 7 (Huck's Rest Area to I-165)

MP 75.600 – 77.143

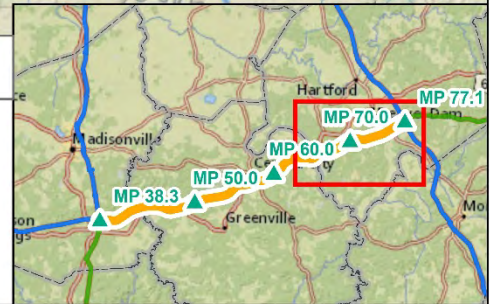
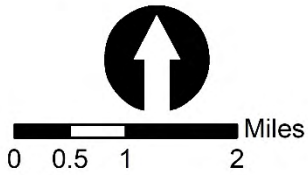
- 1.5 Mile segment
- 1 high crash spot
- Signage at the project termini was upgraded as part of the Natcher Parkway Upgrade to I-165





High Crash Spots (3/3)

- High Crash Spots**
- CRF > 1 + Fatality
 - ☆ Eastbound ◇ Injury
 - ★ Westbound ● Property Damage
 - ▲ MP



Project Schedule

- Study Initialized – April 2019
- 1st Stakeholder Meeting – August 19, 2019
- Develop Improvement Concepts – September 2019
- Develop Recommendations –
October/November 2019
- 2nd Stakeholder Meeting – Early December 2019
- Develop Draft Report – January 2020
- Study Completion – March 2020



Meeting Minutes

Project: Western Kentucky Parkway Upgrade Study
Subject: Stakeholder Meeting No. 1
Date: Monday, August 19, 2019, 1:30 PM
Location: Muhlenberg Alliance for Progress, Central City, Kentucky

Attendees:

Morgan Alvey	Senator Mitch McConnell's Office
Corey Elder	Congressman James Comer's Office
Jackie Sommers	KY Representative Melinda Prunty's Office
Ted Adkins	Hopkins County Joint Planning Commission
Paul Sandefur	City of Beaver Dam
George Chinn	City of Hartford
Leslie Cornette	City of Greenville
Curtis McGehee	Muhlenberg County
Darrin Benton	Muhlenberg County
David Johnston	Ohio County
Greg Brown	Kentucky State Police
Greg Stewart	Huck's / M&B Inc.
Gary Jones	Muhlenberg Alliance for Progress
Peggy Williams	Muhlenberg Alliance for Progress
Cindy Kelley	Madisonville Community College
Leslie Curneal	Hopkins County Regional Chamber
Chase Vincent	OCEDA
C. Josh Givens	Ledger News
Beth Niemann	KYTC Central Office, Division of Planning
Steve De Witte	KYTC Central Office, Division of Planning
Steve Ross	KYTC Central Office, Division of Planning
David Souleyrette	KYTC Central Office, Division of Planning
Tim Layson	KYTC Central Office, Division of Design
Corinne Willmerdinger	KYTC Central Office, Division of Design
Deneatra Henderson	KYTC District 2, Chief District Engineer
Nick Hall	KYTC District 2, Planning
Pamela Broadston	KYTC District 2, Environmental
Gina Boaz	GRADD
Craig Morris	PADD
Brad Johnson	HMB
Phillip Howard	HMB

1. The meeting began with introductions.
2. KYTC began the meeting with a brief introduction and then turned it over to HMB to present. An agenda, study area map and survey were provided to all attendees and HMB used a PowerPoint presentation to describe the study purpose, project background, existing conditions, and project schedule.
3. One attendee asked how the project would be funded. KYTC noted the project would be federally funded with a 20 percent state match.
4. HMB noted the interstate designation to I-569 was initially introduced as a stand-alone bill; however, it has since been rolled into the draft version of America's Transportation Infrastructure Act of 2019. Senator McConnell's Office clarified the Senate version of the bill, backed by Senator McConnell, passed out of committee unanimously on July 31st. The House version, backed by Representative Comer, is still in committee.
5. KYTC noted the "Future I-69 Spur" signs can be placed along the Parkway once the legislation is signed into law.
6. One stakeholder thanked KYTC for their efforts. He felt the interstate designation should enhance city and regional economic development for the area.
7. Another stakeholder felt there were no negatives to the project and felt all should support the project.
8. Staff person for Representative Prunty reiterated her support for the project.
9. A stakeholder asked if there were other examples of permitting facilities within the median of an interstate facility. HMB noted they weren't aware of any examples in Kentucky; however, there are likely examples in other states. HMB reiterated that draft legislation includes language permitting the Huck's rest area to be maintained and that it was KYTC's intent to work towards this end.
10. HMB reviewed the schedule noting the Project Team would return in early December to conduct another meeting with Stakeholders. Following completion of the study in March 2020 and assuming the project continues to proceed, KYTC will begin developing a Conversion Agreement with FHWA. This agreement will establish what improvements are required and the timeline for completing those improvements.
11. Following the meeting, the comment forms were summarized. Eleven forms were received back with all eleven respondents noting their support for the project. A representative for Huck's noted he was in favor of the project if the exemption for the rest area was granted.

Attachments:

Meeting Agenda

Sign-In Sheet

Comment Form

Presentation

AGENDA

Western Kentucky Parkway Upgrade Study

Stakeholder Meeting #1

August 19, 2019, 1:30 PM Central

Muhlenberg Alliance for Progress

Central City, Kentucky

- I. Introductions
- II. Study Purpose
- III. Project Background
- IV. Crash Summary
- V. Traffic Summary
- VI. Existing Conditions Review
 - A. FHWA's 10 Controlling Criteria for Design
 - B. Other Considerations
 - C. Typical Section
 - D. Segment Review
- VII. Next Steps/Project Schedule
- VIII. Discussion
- IX. Adjourn



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

STAKEHOLDERS

Name	Organization	Phone	Email
GARY JONES	Muhlenberg Alliance for Progress	(270) 543-1627	gary@mafpa.us
TED ADKINS	HOPKINS COUNTY JOINT PLANNING COMMISSION	270 825 4457	tadkins@hopkinscounty.net
Paul Sandefur	City Beaver Dam	270-256-2377	bdcitymayor@bellsouth.net
Greg Brown	Kentucky State Blvd 2	270-676-3313	gregory_brown@ky.gov
Curtis McGehee	Muhlenberg	270 338 2500	sheriffcurtis@gmail.com
GEORGE CHINN	CITY OF HARTFORD	270-298-3612	mayor@hartfordky.org
Greg Stewart	HUCK'S / MCB INC.	270-933-3251	gstewart@hucks.com
Pamela Braden	HMB		
Phillip Howard	HMB	502 695 9800	PHoward@HMBPE.com
Nick Hall	KYTC	270 824 7080	nick.hall@ky.gov
Cindy Kelley	Madisonville CC		cindy.kelley@ketcs.edu
Morgan Alvey	Senator McConnell	270-748-6113	morgan-alvey@mcconnellsenate.com
Liselle Cornette	City of Greenville	270-543-9439	admin@greenvilleky.gov
Corey Elder	Congressman Comer's office	270-804-5718	CoreyElder@McLhose.com
Derrin Benton	Muhlenberg County	270-543-0097	derrinbenton@ky.gov
Chase Vincent	OCEDA	270-256-3573	oceda@ohiountyky.gov



Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress

PROJECT TEAM

Name	Organization	Phone	Email
Gina Boaz	GRADD	270 926-4433	ginaboaz@gradd.com
Leslie Curneal	Hopkins Co. Agricul Chamber	270-821-3435	President@hopkinschamber.com
C Josh Givens	Leaders-News	270.754.3000	editor@ky-leadersnews.com
Tim Laysan	KYTC	502-564-3200	Tim.Laysan@ky.gov
corinne Willmerdinger	KYTC	502-782-4900	cwillmerdinger@ky.gov
Pamela Broadston	KYTC - D2 ENV.	270-824-7080	pamela.broadston@ky.gov
David Souleyrette	KYTC CO-Planning	515-708-1900	david.souleyrette@ky.gov
Steve Ross	KYTC CO-Planning	502-782-5850	steve.ross@ky.gov
BETH NICHMAN	" " PLANNING		elizabeth.nichman@ky.gov
Nick Hall	KYTC Planning		nick.hall@ky.gov
STEVE DEWITTE	KYTC CO PLANNING	502-782-5056	STEPHEN.DEWITTE@KY.GOV
Brad Williams	MAIP	2705436349	williams921@gmail.com
David Johnston	Ohio County	270.298-4400	j.m.sommers1@att.net
Jackie Sommers	for Rep. Melinda Gibbons Prunty	270-343-8823	melindagibbonsprunty@gmail.com
Brad Johnson	HMB	502-695-9800	bcjohnson@hmbpe.com



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: Greg Stewart Phone: 270-933-3251
 Address: 1311 A W. MAIN Street Huck's / Martin e Bayley Inc.
 City, State, Zip: Carmi, IL 62821

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Definitely in favor provided the exemption for the rest area is granted.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

Would like to see more frequent mowing/maintenance on the area maintained by the state. Also would like to consider extending overflow ramps to facility.

Do you have any additional information or comments concerning this project?

Would like to add logo signs on I-165 directing motorists to the available facilities provided at the rest area on the WKP



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: Leslie Curneal Phone: 270-821-3435
 Address: 5291 Rosemont Dr. (Home) 15 E. Center St. (work)
 City, State, Zip: Madisonville, KY 42431

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

No

Do you have any additional information or comments concerning this project?

If there is ever the opportunity to put "Madisonville" back on the large signs prior to the I69 / Dennyville Pkwy exit, we would certainly appreciate it.



**Western Kentucky Parkway Upgrade Study
 STAKEHOLDER MEETING #1
 August 19, 2019
 Muhlenberg Alliance for Progress**

(Please Print)

Name: Peggy Williams Phone: 270 543-6349
 Address: 278 Hickory Ln
 City, State, Zip: Greenville, Ky 42345

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Critical to our community for
economic development

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

Do you have any additional information or comments concerning this project?



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: GEORGE CHINN Phone: 270-298-3612, ext. 3

Address: 116 E. WASHINGTON ST.

City, State, Zip: HARTFORD, KY 42347

Are you in favor of this project? Yes / No. If no, please explain your concerns.

VERY DEFINITELY

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

NOT REALLY

Do you have any additional information or comments concerning this project?

NO



**Western Kentucky Parkway Upgrade Study
 STAKEHOLDER MEETING #1
 August 19, 2019
 Muhlenberg Alliance for Progress**

(Please Print)

Name: GARY JONES Phone: _____

Address: P.O. Box 636

City, State, Zip: Greenville, Ky. 42345

Are you in favor of this project? Yes No. If no, please explain your concerns.

Very important to regional economic development
 for West Kentucky.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

Do you have any additional information or comments concerning this project?



**Western Kentucky Parkway Upgrade Study
 STAKEHOLDER MEETING #1
 August 19, 2019
 Muhlenberg Alliance for Progress**

(Please Print)

Name: Darrin Benton Phone: 270-543-0097

Address: 1326 Corum Landing Road

City, State, Zip: Drakesboro Ky 42337

Are you in favor of this project? Yes / No. If no, please explain your concerns.

In an economically suppressed region we feel it
 would be a significant boost for the ED
 in our region

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

No

Do you have any additional information or comments concerning this project?



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: C. Josh Givens Phone: 270.754.3000

Address: 102 Thomas St.

City, State, Zip: Morgantown, Ky. 42261

Are you in favor of this project? Yes / No. If no, please explain your concerns.

yes.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

no.

Do you have any additional information or comments concerning this project?

Project is needed - support completion.



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: David Johnston Phone: 270-298-4400

Address: 130 E Washington ST

City, State, Zip: Hartford Ky. 42347

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

Do you have any additional information or comments concerning this project?



**Western Kentucky Parkway Upgrade Study
 STAKEHOLDER MEETING #1
 August 19, 2019
 Muhlenberg Alliance for Progress**

(Please Print)

Name: Lt. Greg Brown Phone: 270-676-3313

Address: 1800 Western Kentucky Parkway, Nortonville

City, State, Zip: Nortonville, KY 42422

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

no

Do you have any additional information or comments concerning this project?

no



**Western Kentucky Parkway Upgrade Study
STAKEHOLDER MEETING #1
August 19, 2019
Muhlenberg Alliance for Progress**

(Please Print)

Name: Curtis McGehee Phone: 270 338 2520

Address: PO Box 137

City, State, Zip: Greenville Ky 42345

Are you in favor of this project? Yes No. If no, please explain your concerns.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

NO

Do you have any additional information or comments concerning this project?

Very informative meeting! I appreciate everyone involved!



**Western Kentucky Parkway Upgrade Study
 STAKEHOLDER MEETING #1
 August 19, 2019
 Muhlenberg Alliance for Progress**

(Please Print)

Name: Cindy Kelley Phone: 270-824-8560

Address: 2000 ~~Campus~~ College Drive

City, State, Zip: Madisonville, KY 42431

Are you in favor of this project? Yes / No. If no, please explain your concerns.

Are there any issues, concerns or resources not discussed during the presentation that could be shared with KYTC?

No

Do you have any additional information or comments concerning this project?

No

Western Kentucky Parkway Upgrade Study

Hopkins, Muhlenberg and Ohio Counties

Stakeholder Meeting
Muhlenberg Alliance for Progress

August 19, 2019

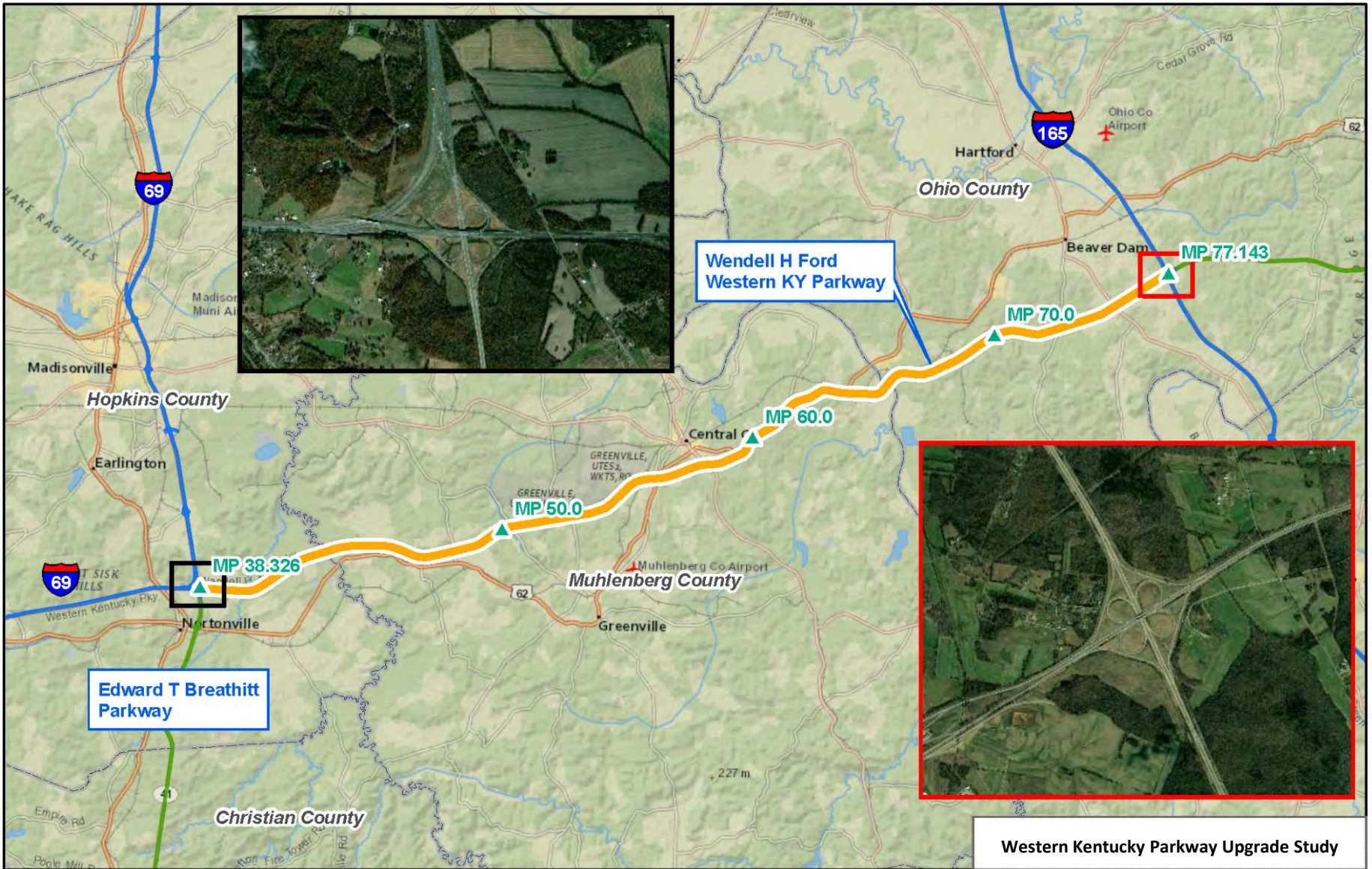



Study Purpose

Description: Conduct a planning study to identify and evaluate potential improvement options to upgrade a portion of the Western Kentucky Parkway to interstate standards for inclusion into the interstate system. The study area limits are from I-69 in Hopkins Co. to I-165 in Ohio County.

Project Length ~ 39 Miles

MP 38.326 to MP 77.143



-  Study Area
-  Interstate
-  Parkway



0 2.5 5 10 Miles



Study Background

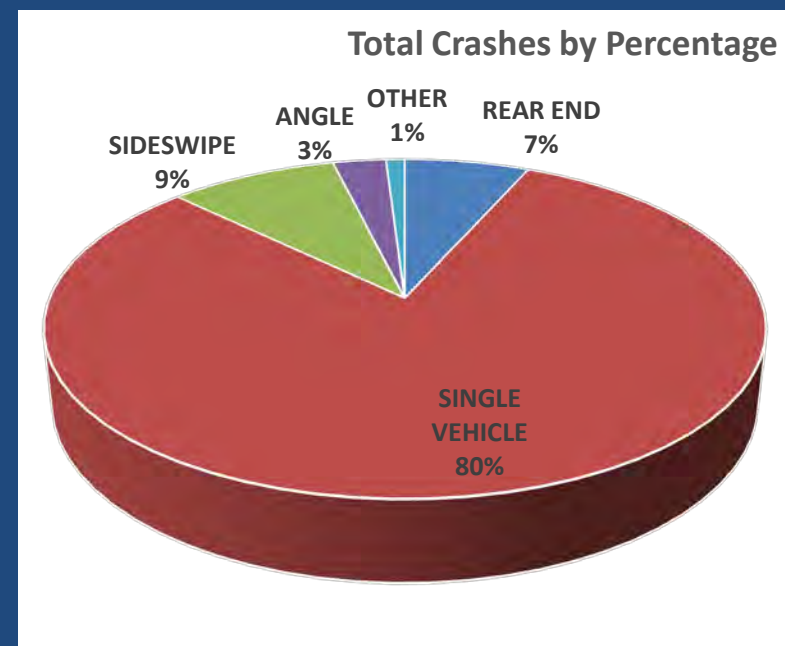
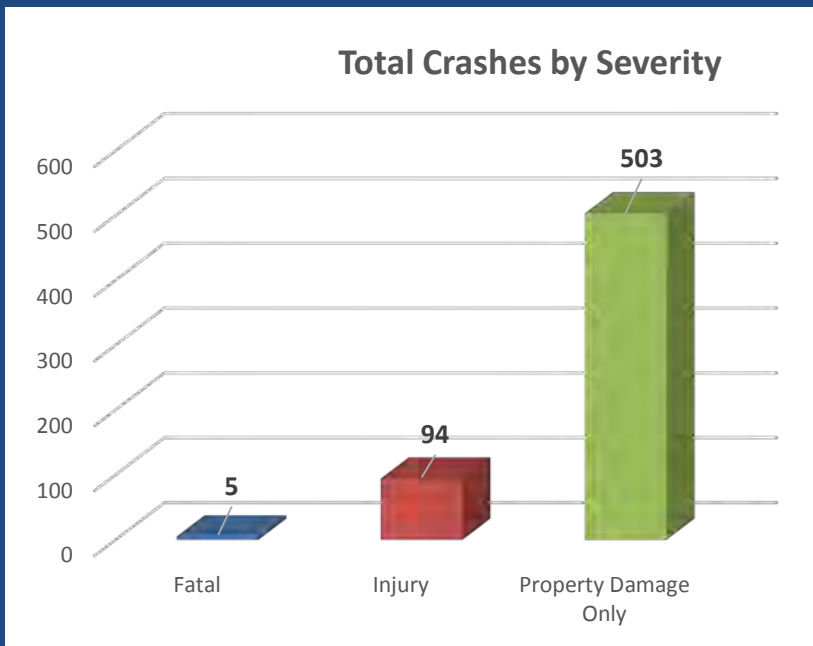
- Representative Comer Introduced a Federal Bill to Designate a Section of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569).
 - Bill May be Rolled into New Surface Transportation Bill
 - Operation of Rest Area Included in Draft Version as an Exemption.

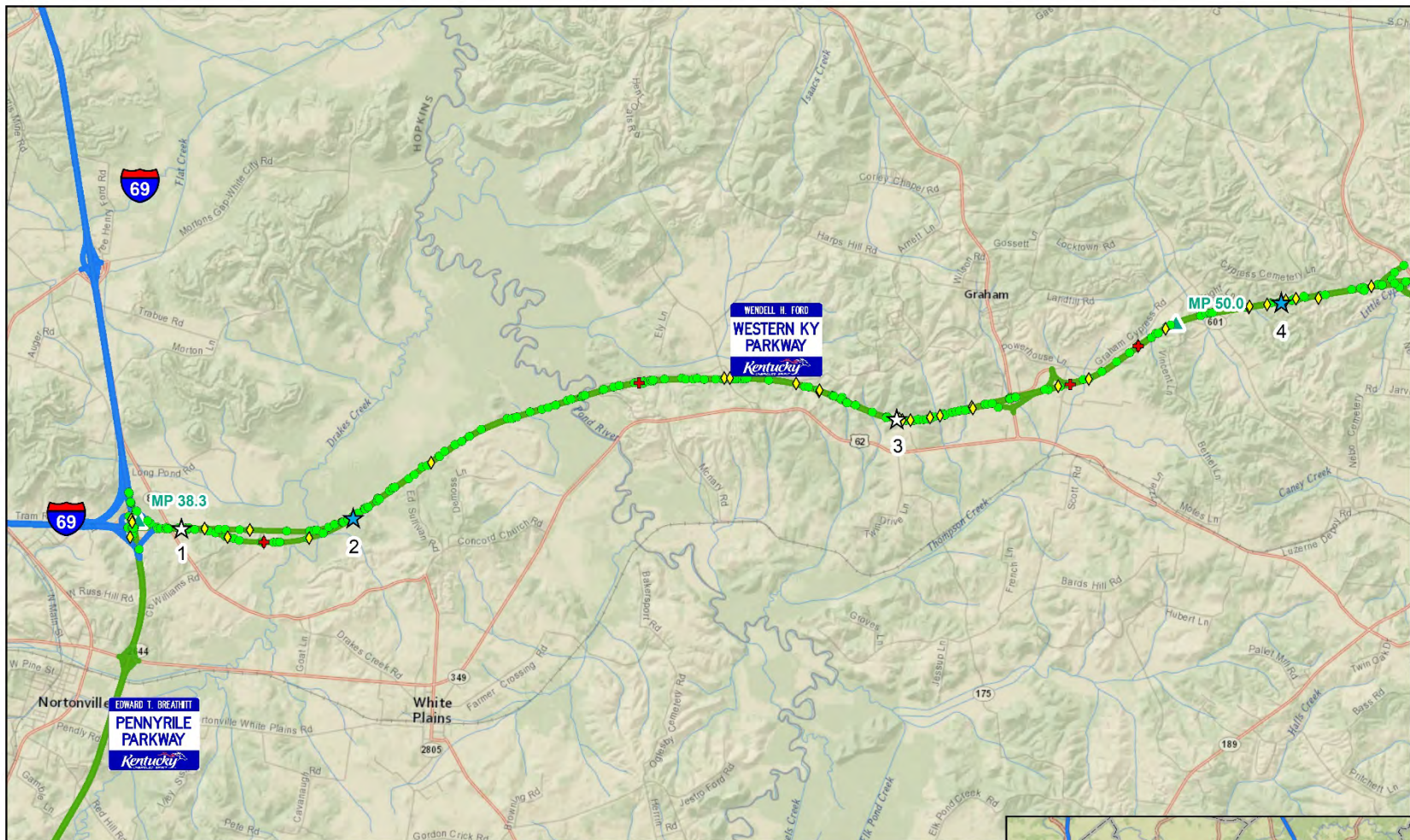
Six Year Plan Projects

- Item 2-20035 – Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 42.807 to MP 43.424 (Construction: 2024)
- Item 2-20036 - Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 43.424 to MP 45.950 (Construction: 2024)
- Item 2-20039 - Address Pavement Condition on Wendell H. Ford Western Kentucky Parkway from MP 65.680 to MP 83.300 (Construction: 2022)

Crash Analysis

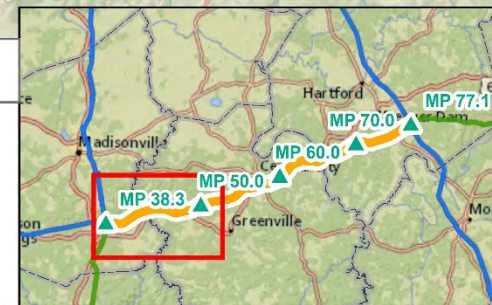
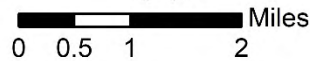
- 24 Directional High Crash (0.3 Mile) Spots Were Identified and Evaluated
- 5 Years (2014-2018) of Data Was Analyzed

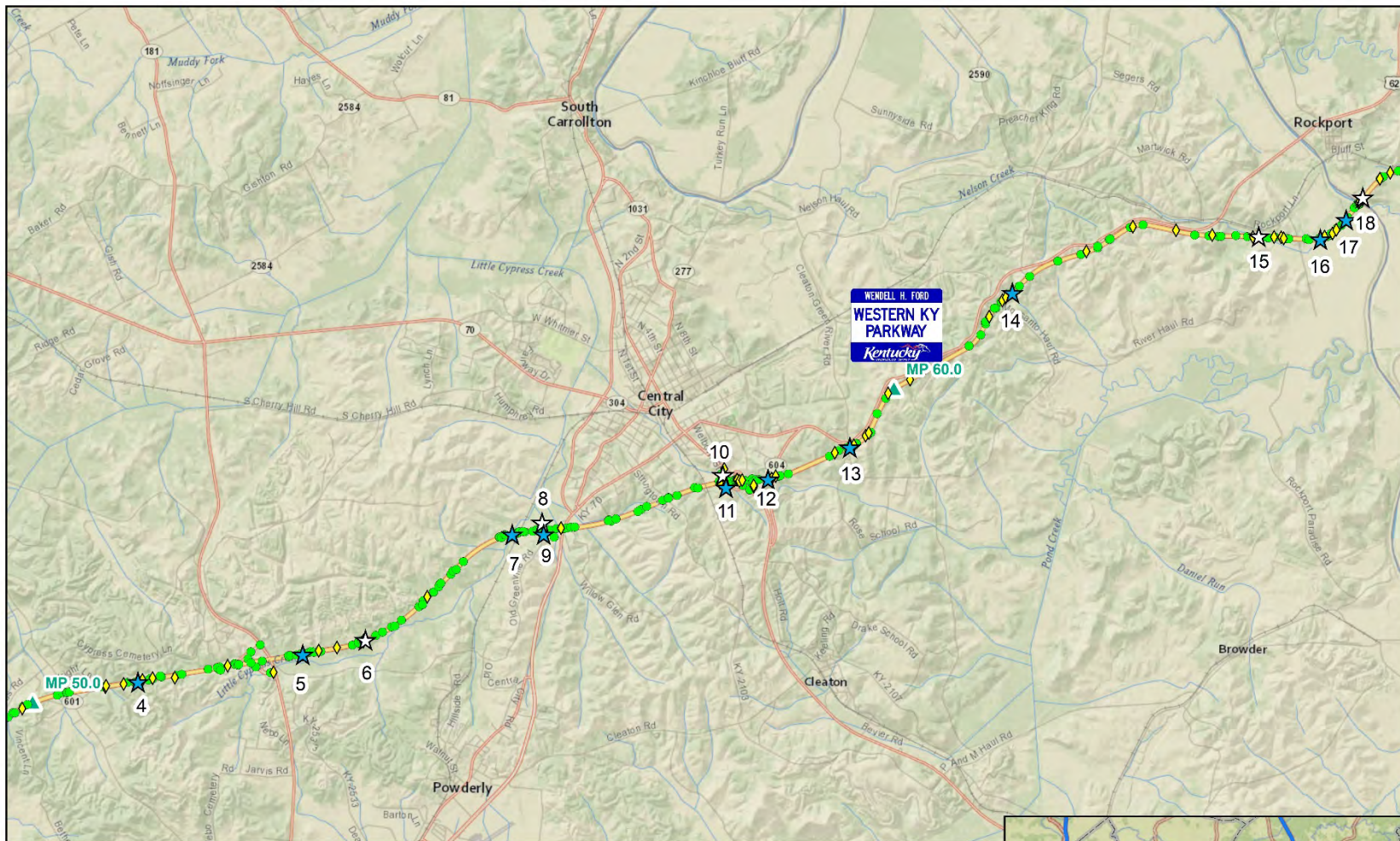




High Crash Spots (1/3)

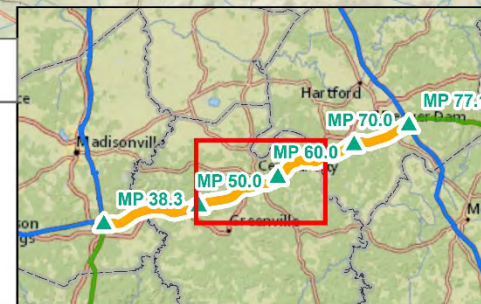
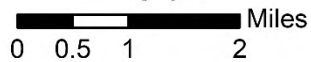
- | | | |
|---------|---|-----------------|
| CRF > 1 | + | Fatality |
| ☆ | ◇ | Injury |
| ★ | ● | Property Damage |
| | ▲ | MP |

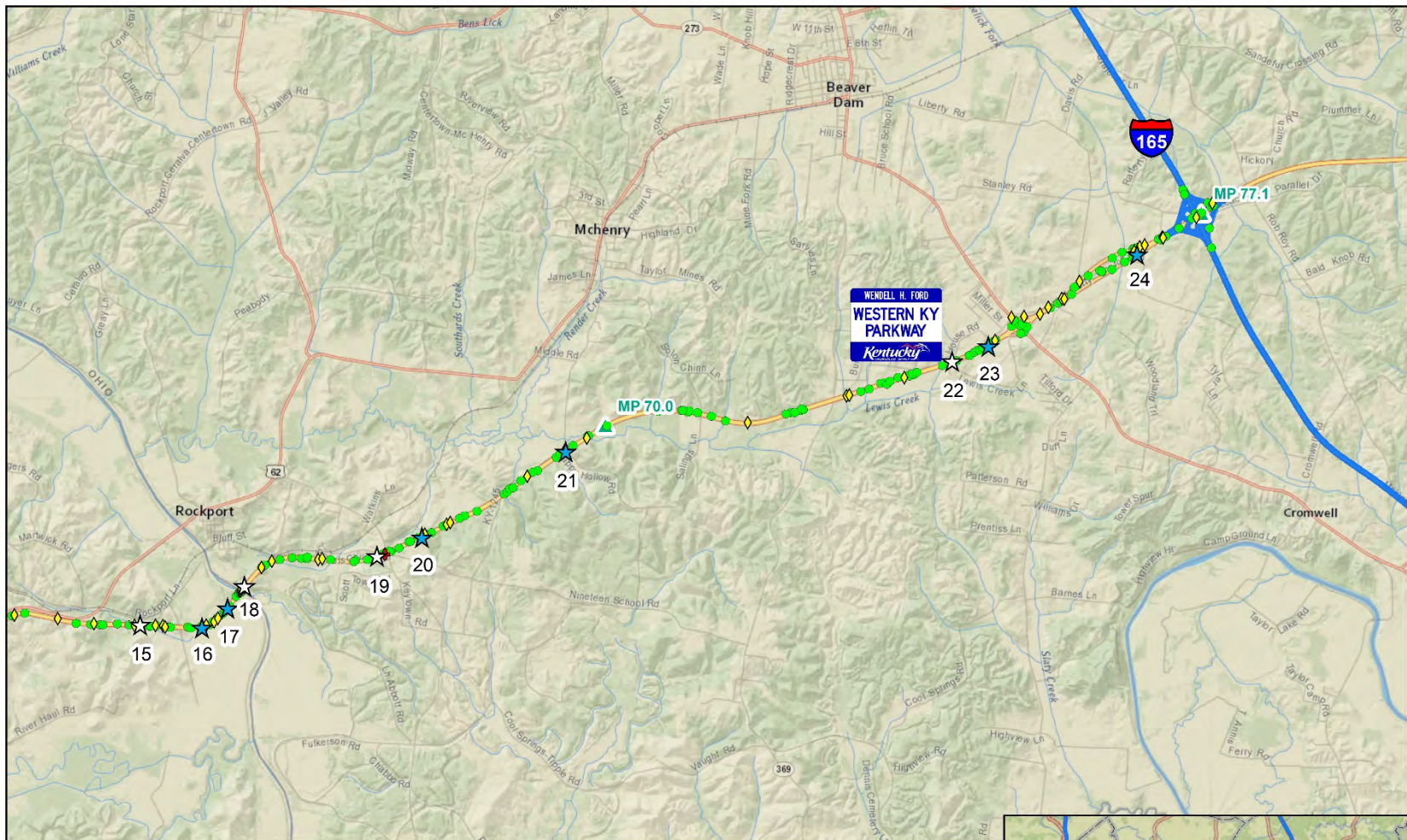




High Crash Spots (2/3)

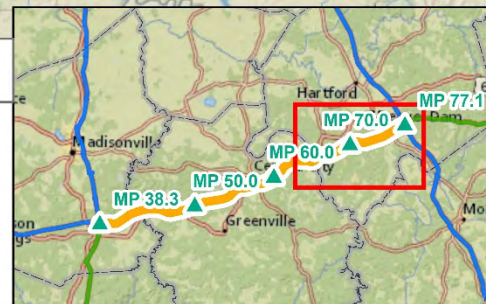
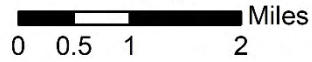
- CRF>1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

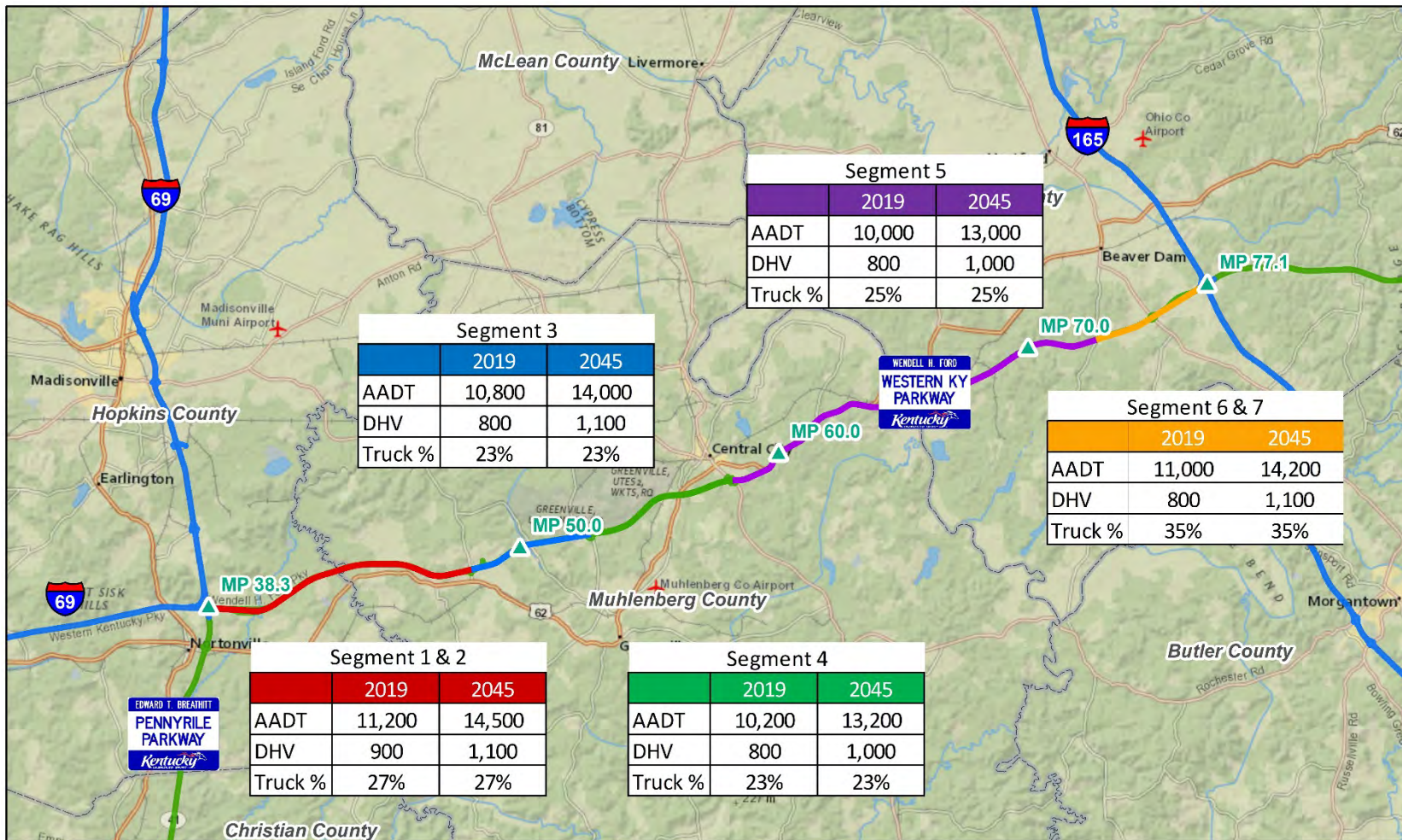




High Crash Spots (3/3)

- | | | |
|-------|---|-----------------|
| CRF>1 | + | Fatality |
| ☆ | ◇ | Injury |
| ★ | ● | Property Damage |
| | ▲ | MP |



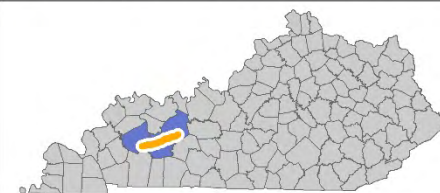
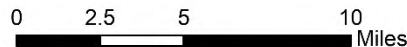


Existing and Future Traffic

Western Kentucky Parkway Study

- Segment**
- 4
 - 1 & 2
 - 3
 - 5
 - 6 & 7

Note: AADT - Average Annual Daily Traffic
 DHV - Design Hourly Volume



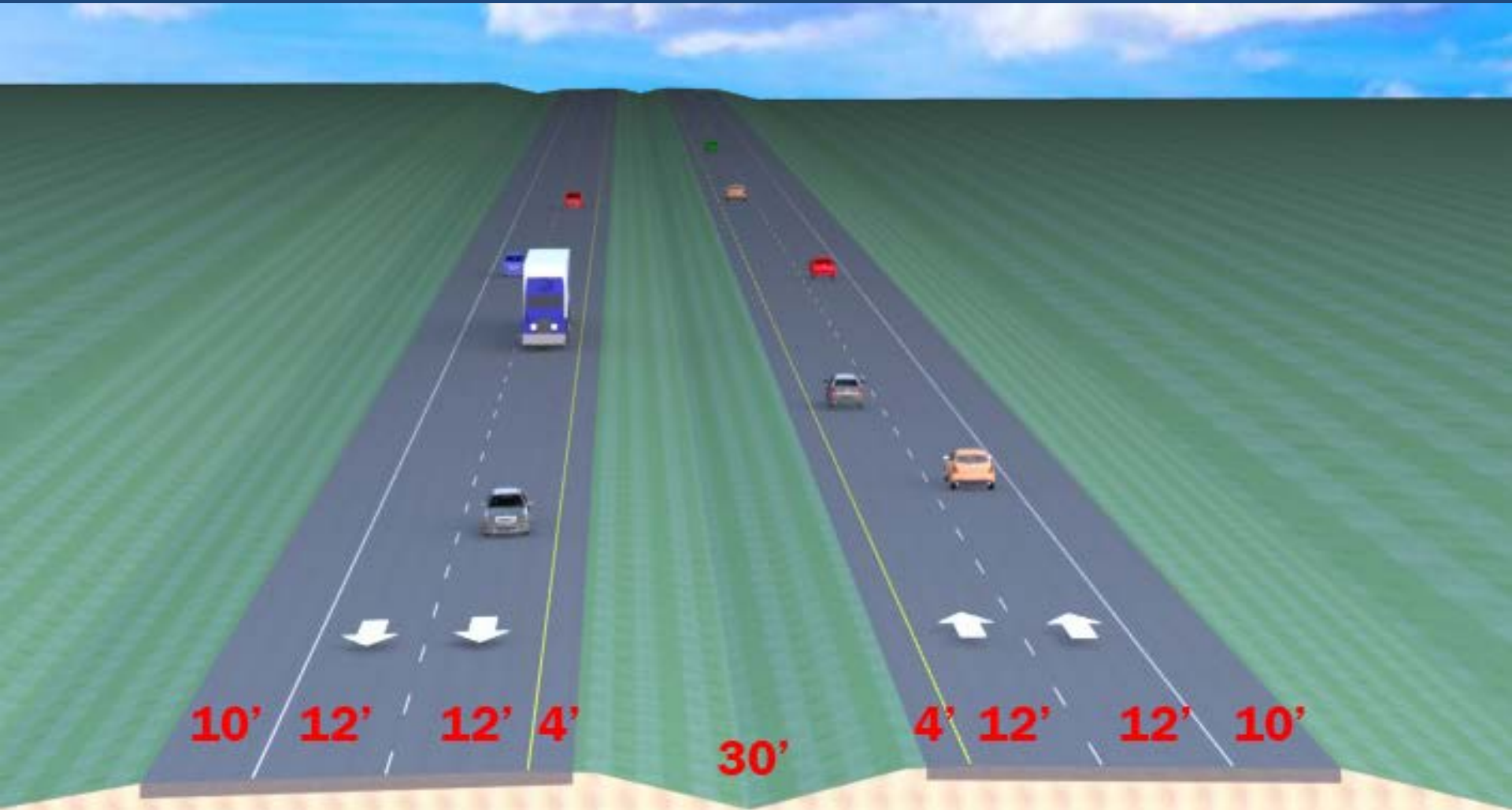
The Federal Highway Administration's (FHWA) 10 Controlling Criteria for Design

- Design Speed
- Lane Width
- Shoulder Width
- Horizontal Curve Radius
- Superelevation Rate
- Stopping Sight Distance
- Maximum Grade
- Cross Slope
- Vertical Clearance
- Design Loading Structural Capacity

Other Considerations

- Interchange Spacing
- Interchange Acceleration/Deceleration Lengths
- Level of Service
- Signing
- Access Control
- Clear Zone (Including Guardrail)
- Pier Protection/Crash Cushions at Bridges

Western Kentucky Parkway Typical Section

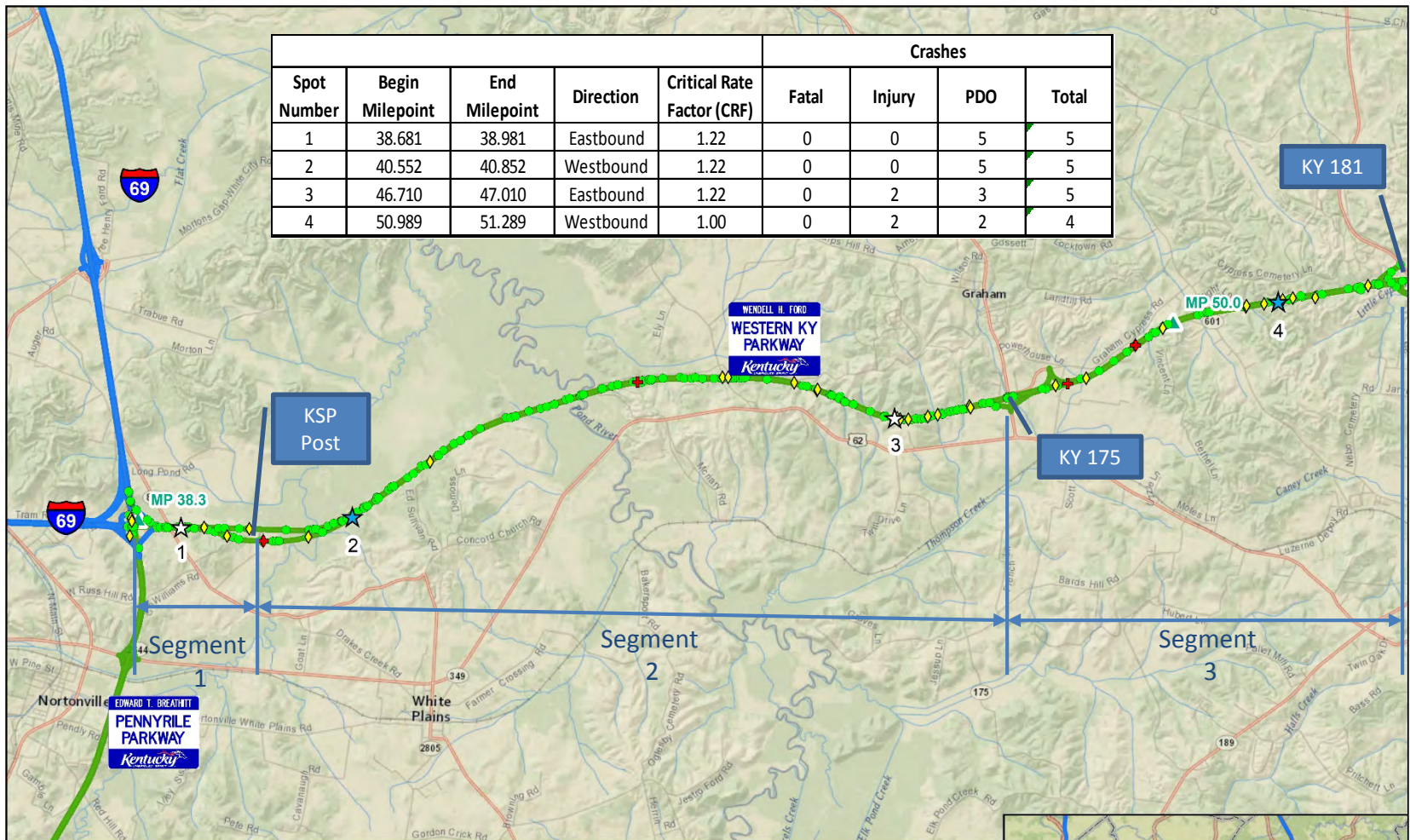


Segment 1 (I-69 to KSP Post)

MP 38.326 – 39.685

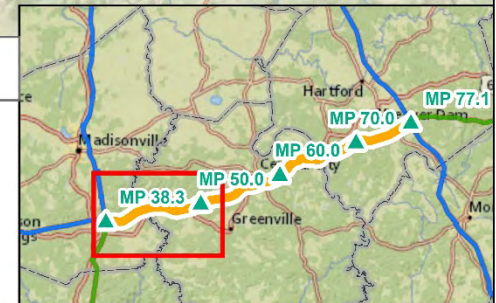
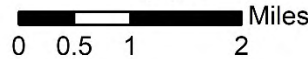
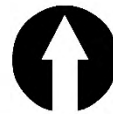
- 1.4 Mile segment
- 1 high crash spot
- Kentucky State Police (KSP) Post within the median is not typical
- 1 bridge doesn't meet vertical clearance
- Some signage along the Western Kentucky Parkway was upgraded as part of the Upgrade to I-69

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

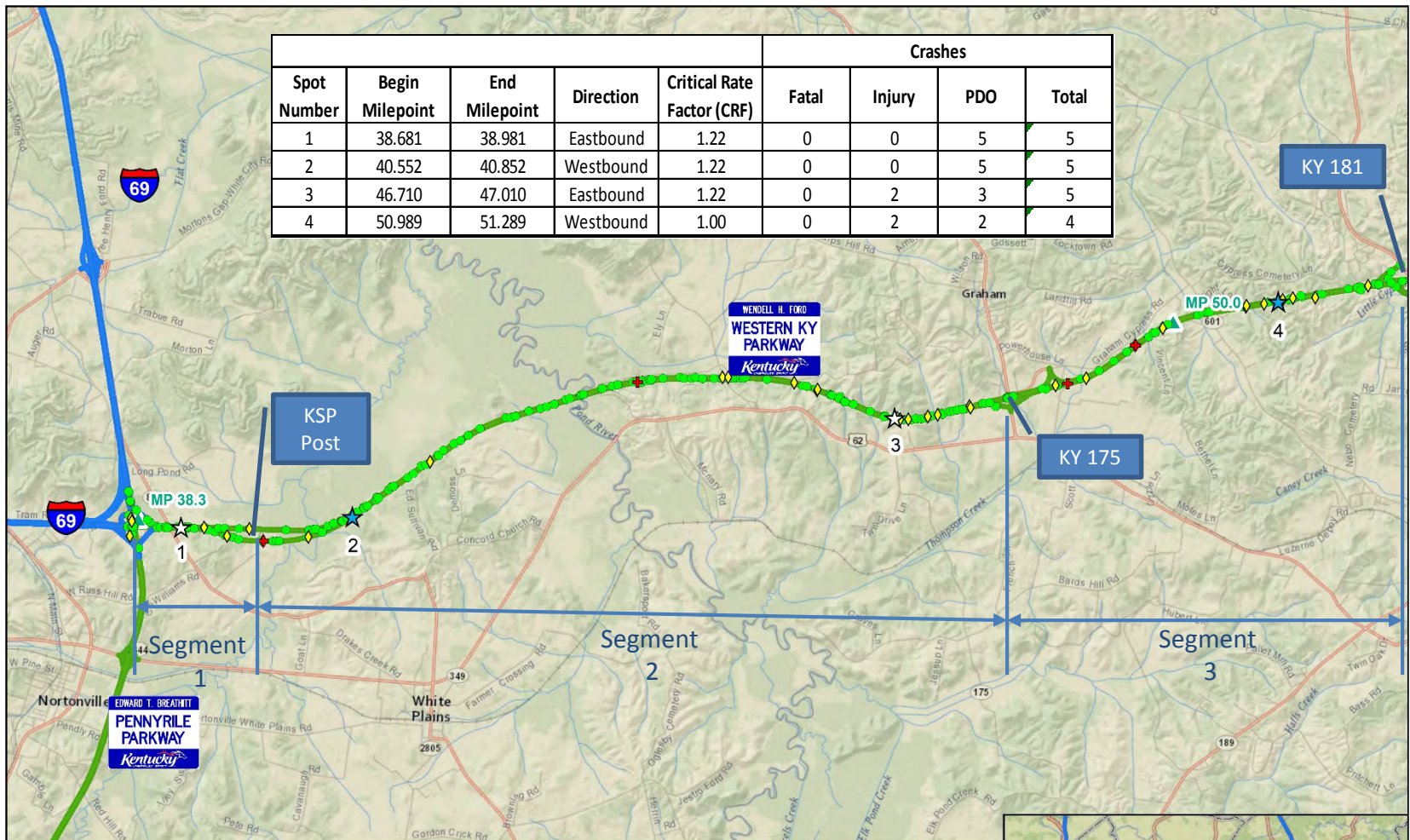


Segment 2 (KSP Post to KY 175)

MP 39.685 – 48.330

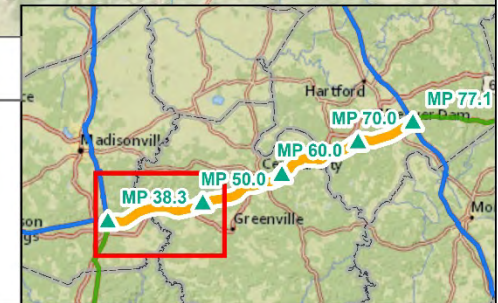
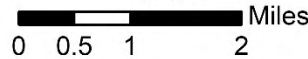
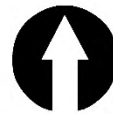
- 8.6 Mile segment
- 2 high crash spots
- 1 bridge doesn't meet vertical clearance
- 2 bridges are posted with weight restrictions

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

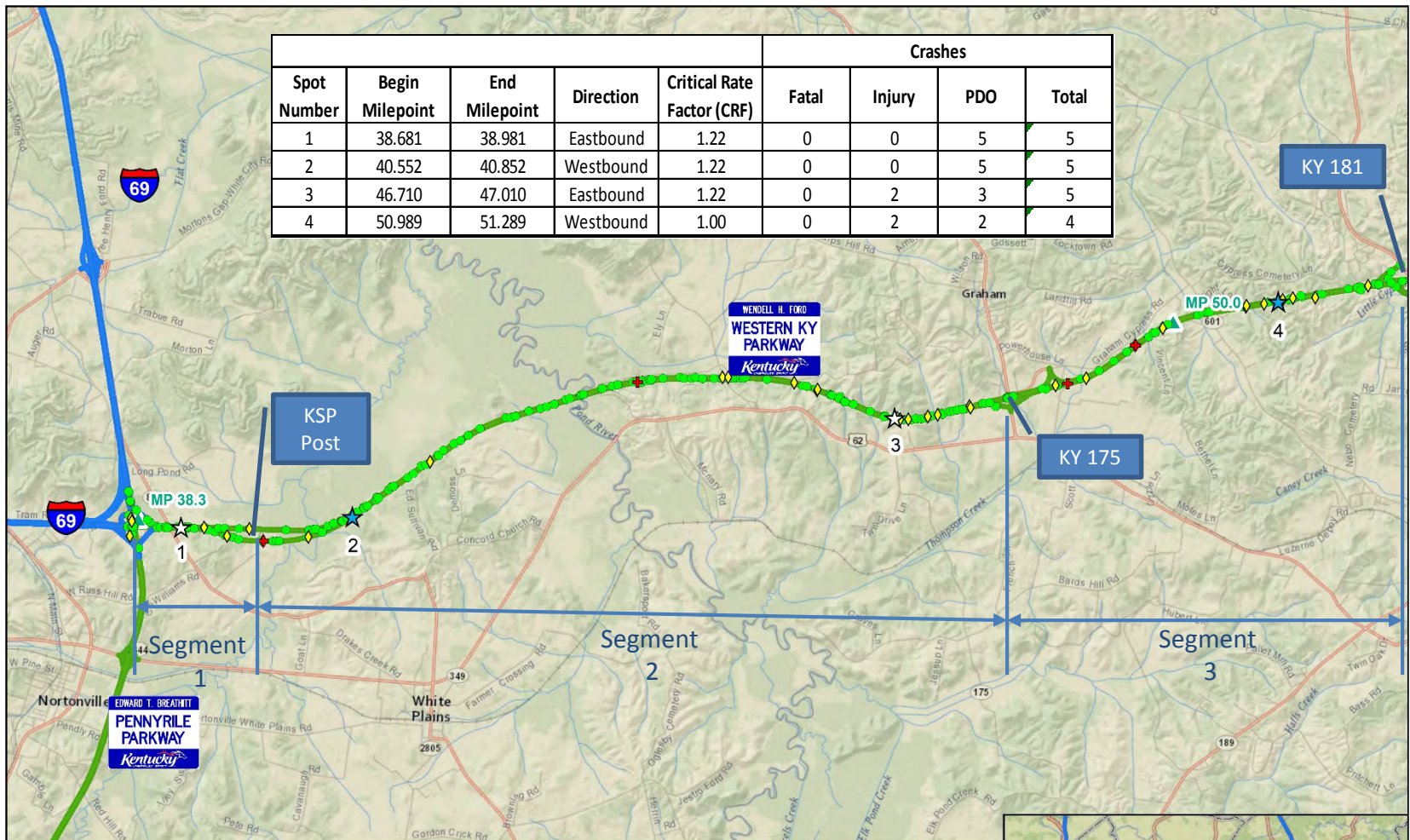


Segment 3 (KY 175 to KY 181)

MP 48.330 – 52.545

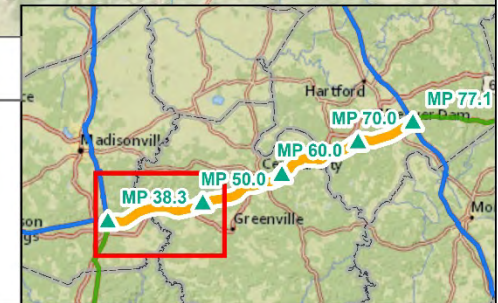
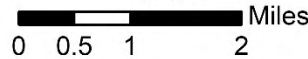
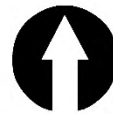
- 4.2 Mile segment
- 1 high crash spot
- 2 bridges are posted with weight restrictions
- Acceleration lengths for KY 175 ramps are less than desirable

Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
1	38.681	38.981	Eastbound	1.22	0	0	5	5
2	40.552	40.852	Westbound	1.22	0	0	5	5
3	46.710	47.010	Eastbound	1.22	0	2	3	5
4	50.989	51.289	Westbound	1.00	0	2	2	4



High Crash Spots (1/3)

- CRF > 1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP



Segment 4 (KY 181 to US 431)

MP 52.545 – 57.970

- 5.4 Mile segment
- 7 high crash spots
- 2 bridges are posted with weight restrictions
- Reconstruction of the US 431 interchange will be evaluated as part of the study.

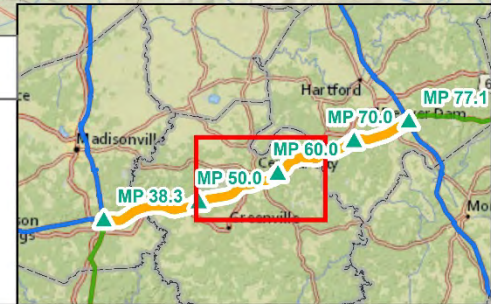
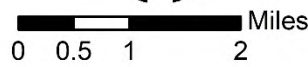
Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
5	52.744	53.044	Westbound	1.03	0	0	4	4
6	53.432	53.732	Eastbound	1.03	0	2	2	4
7	55.366	55.666	Westbound	1.28	0	0	5	5
8	55.698	55.998	Eastbound	1.28	0	0	5	5
9	55.698	55.998	Westbound	1.03	0	0	4	4
10	57.718	58.018	Eastbound	1.03	0	2	2	4
11	57.718	58.018	Westbound	4.11	0	1	15	16



High Crash Spots (2/3)

High Crash Spots

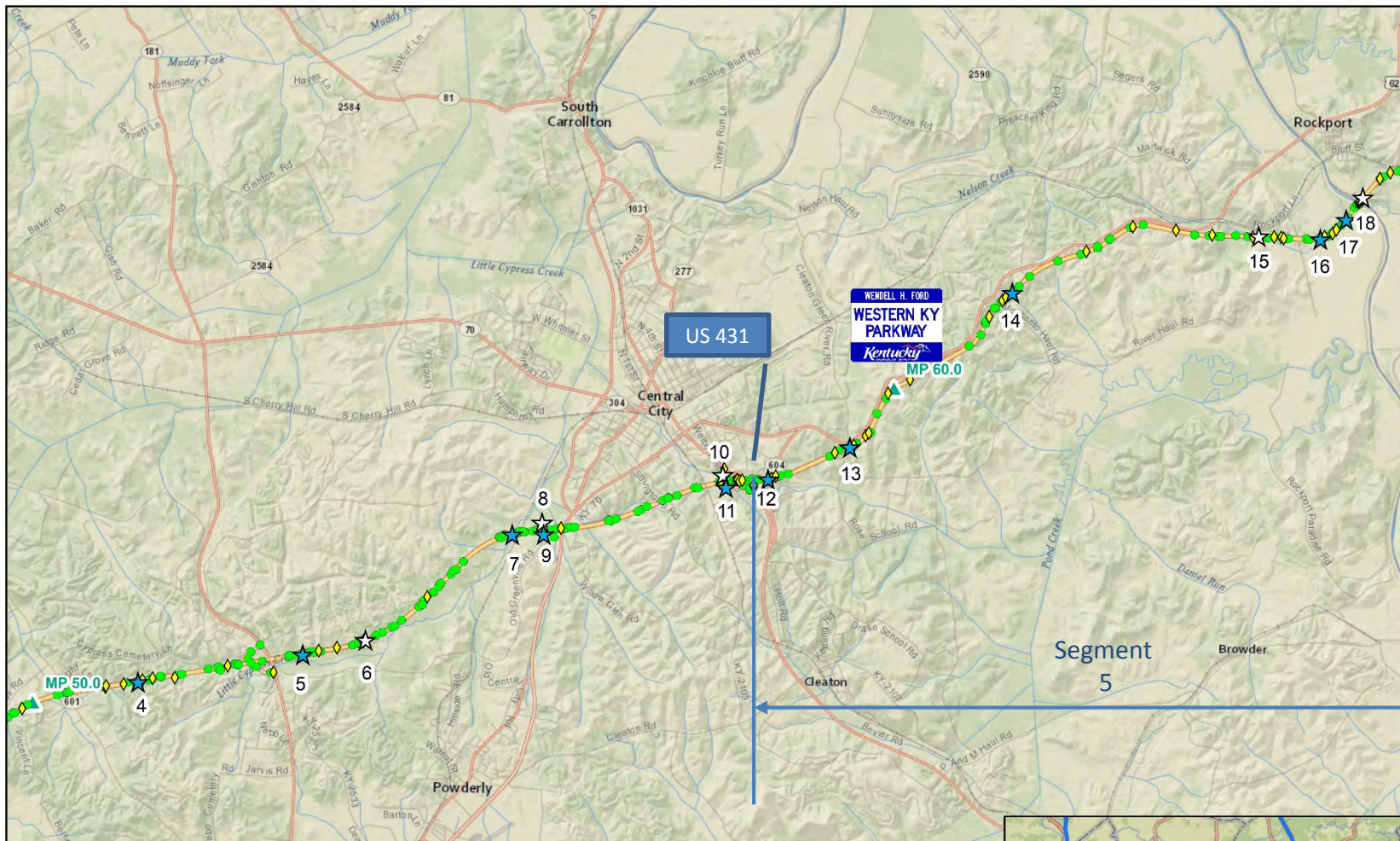
- CRF>1
- ☆ Eastbound
- ★ Westbound
- ◆ Injury
- Property Damage
- ▲ MP
- ✚ Fatality



Segment 5 (US 431 to US 231)

MP 57.970 – 74.580

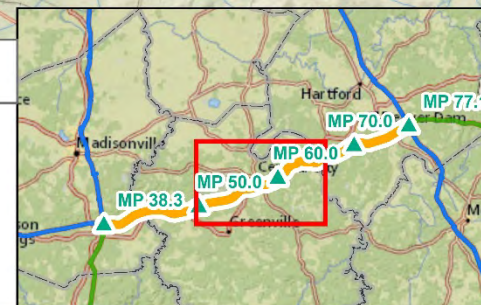
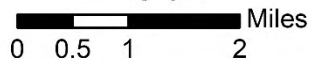
- 16.6 Mile segment
- 12 high crash spots
- 5 bridges don't meet vertical clearance
- 4 bridges are posted with weight restrictions



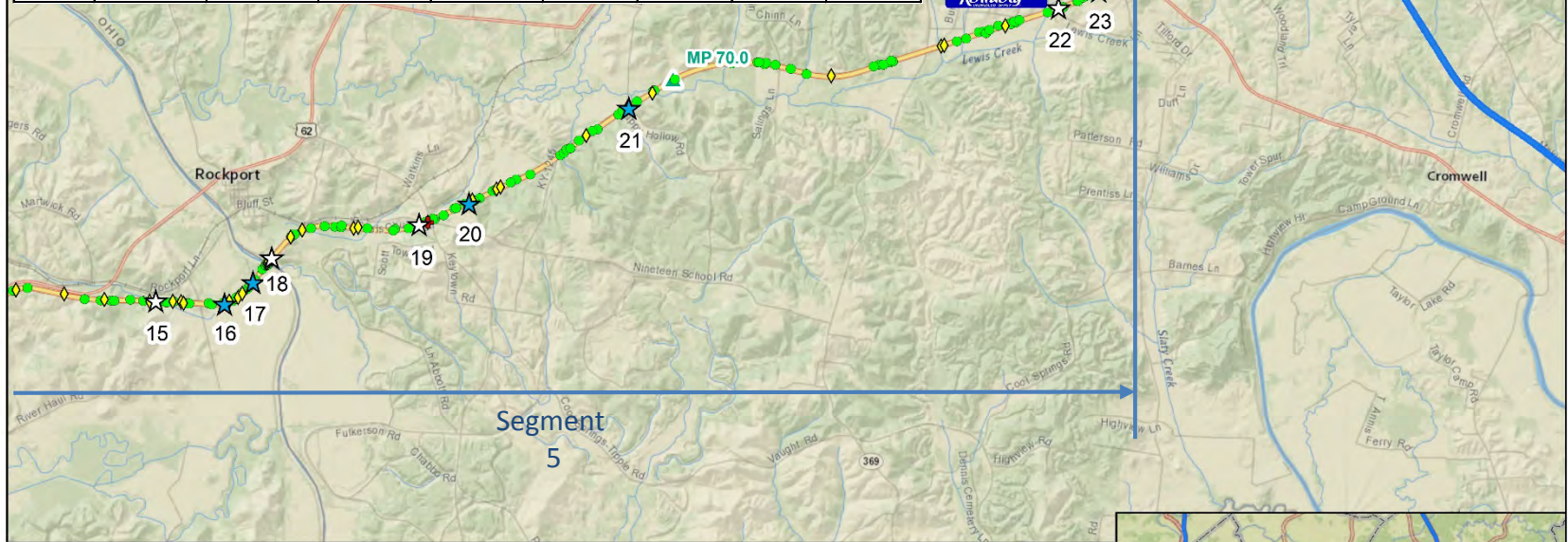
High Crash Spots (2/3)

High Crash Spots

- CRF>1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP



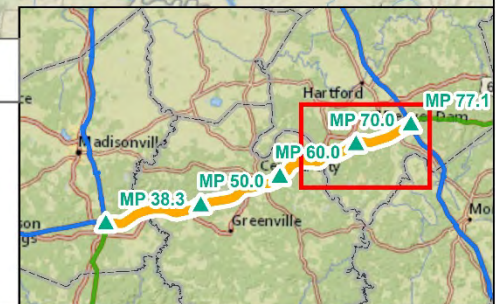
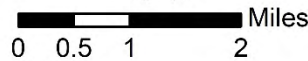
Spot Number	Begin Milepoint	End Milepoint	Direction	Critical Rate Factor (CRF)	Crashes			
					Fatal	Injury	PDO	Total
12	58.134	58.434	Westbound	1.04	0	1	3	4
13	59.066	59.366	Westbound	1.04	0	1	3	4
14	61.496	61.796	Westbound	1.04	0	2	2	4
15	64.297	64.597	Eastbound	1.82	0	2	5	7
16	64.952	65.252	Westbound	1.04	0	1	3	4
17	65.290	65.590	Westbound	1.56	0	1	5	6
18	65.597	65.897	Eastbound	1.56	0	1	5	6
19	67.092	67.392	Eastbound	1.30	1	0	4	5
20	67.598	67.898	Westbound	1.04	0	1	3	4
21	69.357	69.657	Westbound	1.04	0	2	2	4
22	73.638	73.938	Eastbound	1.04	0	0	4	4
23	74.036	74.336	Westbound	1.04	0	1	3	4



High Crash Spots (3/3)

High Crash Spots

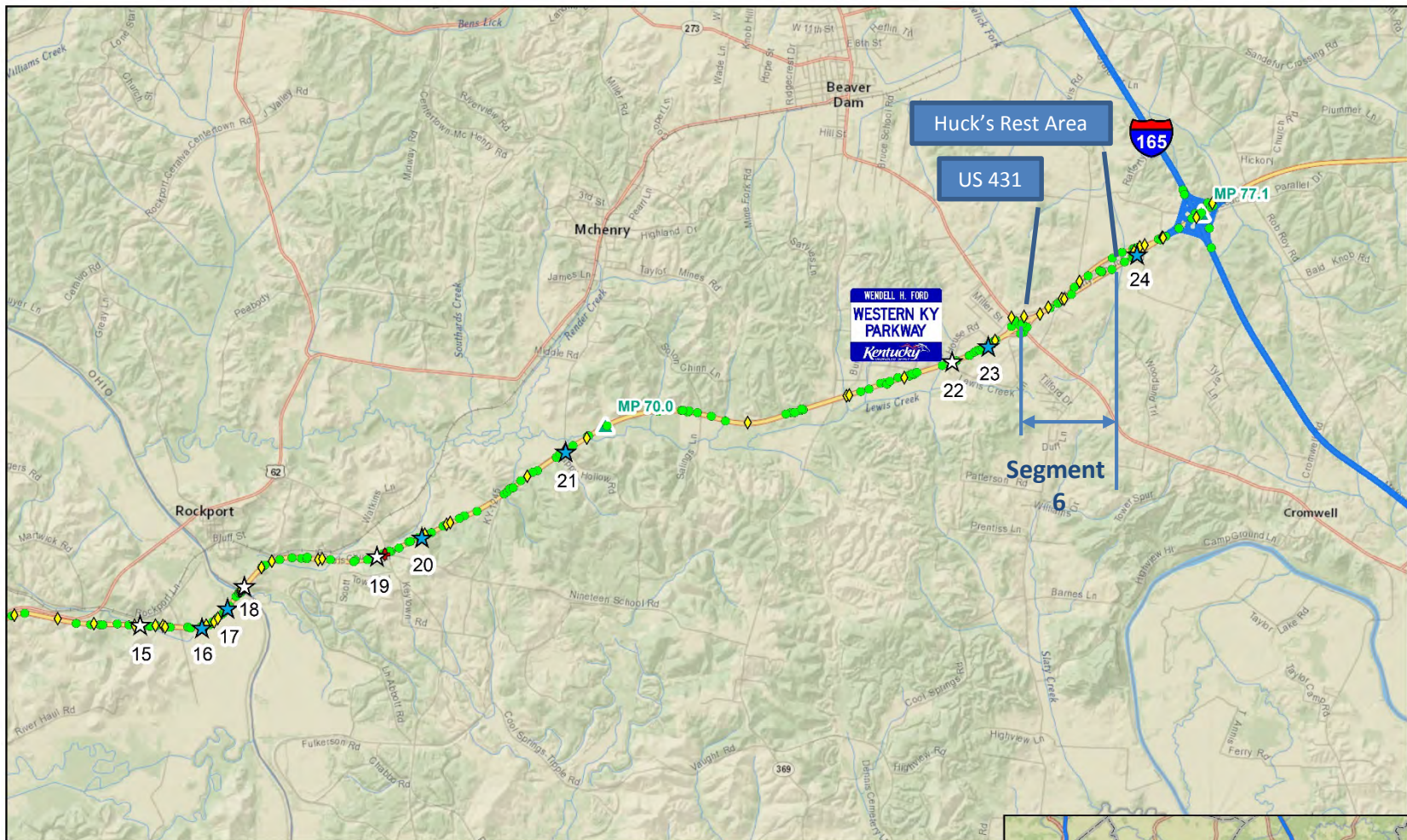
- CRF > 1 + Fatality
- ☆ Eastbound ◇ Injury
- ★ Westbound ● Property Damage
- ▲ MP



Segment 6 (US 231 to Huck's Rest Area)

MP 74.580 – 75.600

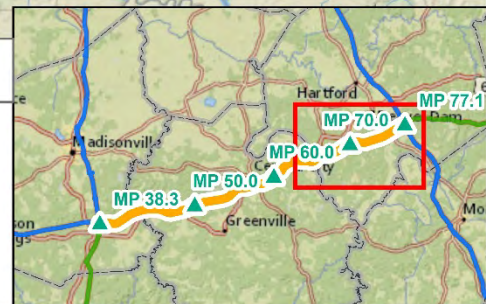
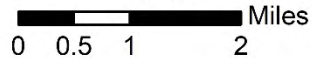
- 1 Mile Segment
- No high crash spots
- US 231 bridges are being replaced
- Rest area within the median is not typical



High Crash Spots (3/3)

High Crash Spots

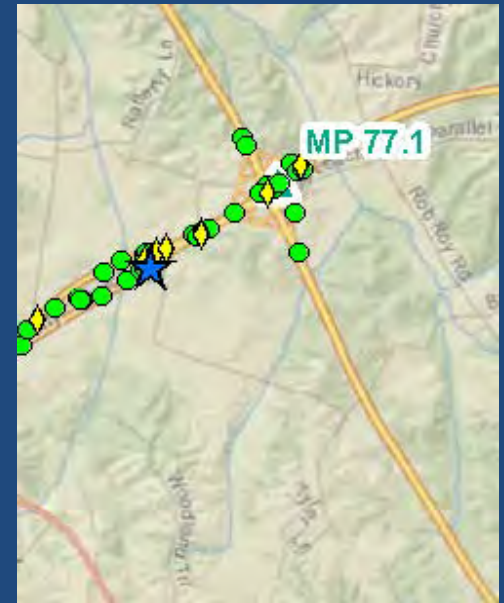
- CRF>1
- ☆ Eastbound
- ★ Westbound
- ✚ Fatality
- ◇ Injury
- Property Damage
- ▲ MP

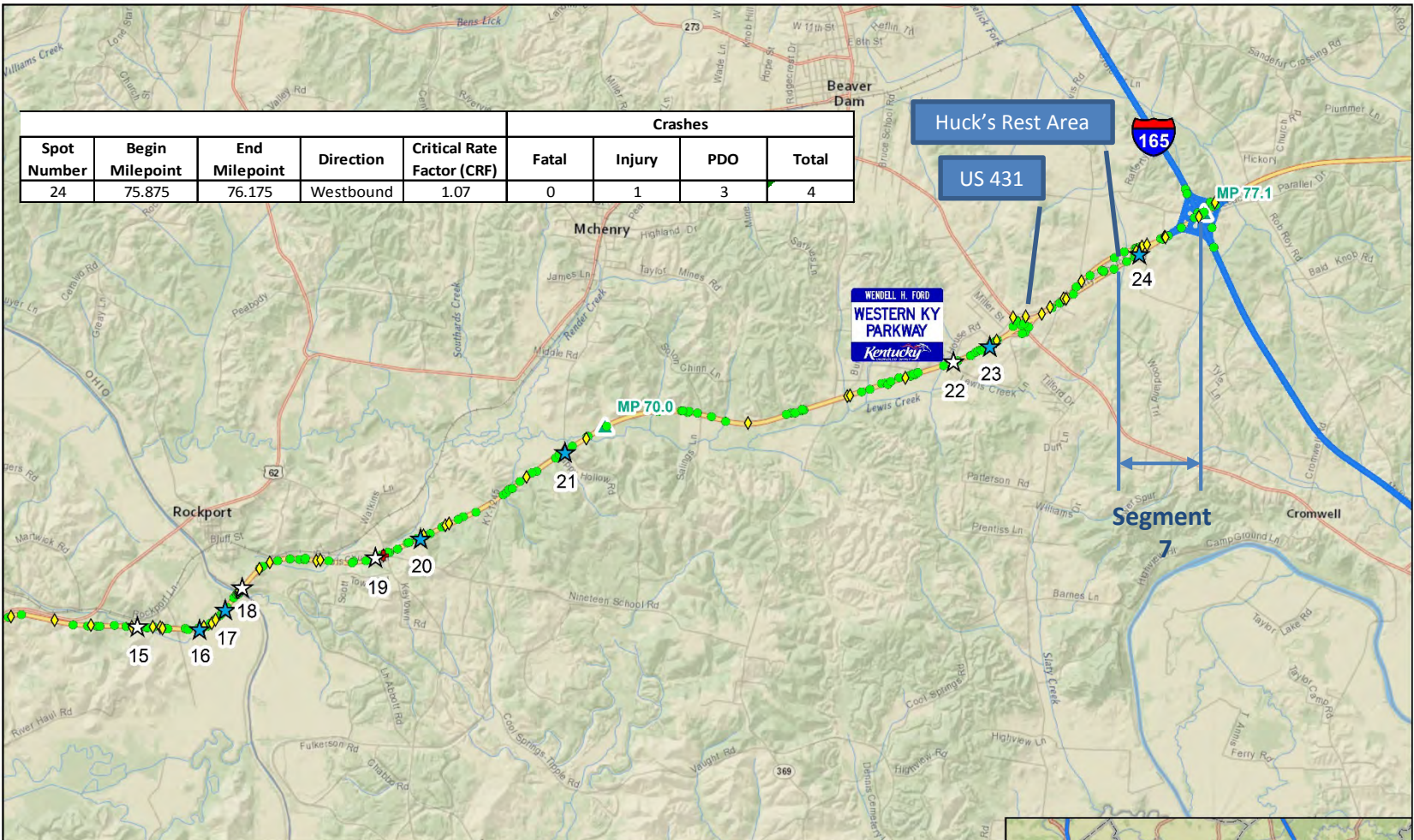


Segment 7 (Huck's Rest Area to I-165)

MP 75.600 – 77.143

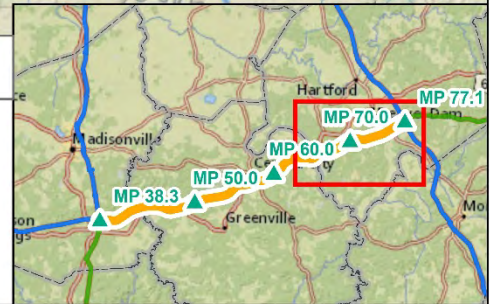
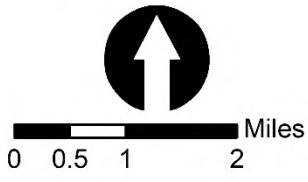
- 1.5 Mile segment
- 1 high crash spot
- Signage at the project termini was upgraded as part of the Natcher Parkway Upgrade to I-165





High Crash Spots (3/3)

- High Crash Spots**
- CRF > 1 + Fatality
 - ☆ Eastbound ◇ Injury
 - ★ Westbound ● Property Damage
 - ▲ MP



Project Schedule

- Study Initialized – April 2019
- 1st Stakeholder Meeting – August 19, 2019
- Develop Improvement Concepts – September 2019
- Develop Recommendations –
October/November 2019
- 2nd Stakeholder Meeting – Early December 2019
- Develop Draft Report – January 2020
- Study Completion – March 2020



FINAL Meeting Minutes

Project: Western Kentucky Parkway Upgrade Study
Subject: Project Team Meeting No. 2
Date: Monday, November 25, 2019, 10:30 AM (Central Time)
Location: KYTC District 2 Office

Attendees:

Beth Niemann	KYTC Central Office, Division of Planning
Steve De Witte	KYTC Central Office, Division of Planning
Steve Ross	KYTC Central Office, Division of Planning
Jacob Huber*	KYTC Central Office, Division of Planning
David Souleyrette*	KYTC Central Office, Division of Planning
Mikael Pelfrey*	KYTC Central Office, Division of Planning
Jay Balaji*	KYTC Central Office, Division of Planning
Tim Layson*	KYTC Central Office, Division of Design
Marshall Carrier*	KYTC Central Office, Project Development
Deneatra Henderson	KYTC District 2, Chief District Engineer
Larry Krueger	KYTC District 2, Project Development Branch Manager
Nick Hall	KYTC District 2, Planning Supervisor
Keirsten Jagers	KYTC District 2, Public Information Officer
Gina Boaz	GRADD
Craig Morris	Pennyrile ADD
Brad Johnson	HMB
John Meyer	HMB
Lindsay Walker	HMB
Phillip Howard	HMB

* denotes attendee participated in meeting via videoconference from KYTC Central Office.

Agenda / Handouts:

To facilitate the meeting the following materials were provided as handouts and are included as an attachment to these meeting minutes.

- Agenda
- Work Items Summary Map
- Work Items Summary Table
- Crash Analysis Map (Kentucky State Police Post Location)
- Crash Analysis Map (Exit 75 to Exit 77 Huck's Gas Station)

- Example Access Control Map
- Exit 58 Conceptual Improvement Map

Meeting Comments / Summary:

The meeting began with introductions. The following are comments / discussion items for each agenda item.

I. Project Overview

- Items covered included the study background and study area.
- It was noted that initially introduced as a stand-alone bill, the designation of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569) has been rolled into the draft version of America's Transportation Infrastructure Act (ATIA) of 2019 (Senate Bill 2302, Section 1517 and 1519). No update on the current status of the bills was provided.

II. Purpose and Need

- At this meeting, the study purpose was noted as: "Conduct a planning study to identify and evaluate potential improvement options to upgrade a portion of the Western Kentucky Parkway to interstate standards for inclusion into the interstate system. The study area limits are from I-69 in Hopkins County to I-165 in Ohio County."
- Comments on a revised Purpose and Need submitted by HMB have been provided by KYTC Central Office Planning to HMB just prior to the meeting. Further clarification and modification will occur to distinguish between the objective of the study and the purpose and need of a project.

III. Traffic Forecast Review

- HMB presented the traffic data previously compiled for the first Project Team meeting. Since then additional count information and revisions were provided to HMB by KYTC Central Office Planning. These include data from three additional stations of which it was noted that one showed a decline in volumes, one was in-line with previously compiled data, and one appeared to have a bad data point causing the results to be inconclusive. HMB will provide KYTC with the bad data point for further investigation. HMB will update the traffic forecast map per KYTC revisions (including truck volumes instead of percentages) for the second Local Officials / Stakeholder (LO/S) meeting. HMB will prepare a traffic forecast report and submit to KYTC Central Office Planning prior to the final Project Team meeting (or prior to submitting full documentation if a final Project Team meeting is not held).

V. Crash Analysis Review

- HMB presented the crash analysis noting numbers and severity of crashes.
- A KMZ file was presented that displays the location, manner of collision and severity of each crash along with general details.
- As requested at the first Project Team meeting, animal collisions were added back into the crash analysis. The reasoning for this is to provide direct comparative analysis as the Kentucky Transportation Center (KTC) statewide rates include animal collisions in their analysis.
- It was noted by HMB that animal collisions were approximately one-third of the total crashes during the five-year period. With such a high percentage, KYTC posed the question of whether measures could be proposed to address these crashes. It was discussed that while not required for the conversion, a safety project could be included in the report such as additional signage and / or improved clear zone for sight distance relative to wildlife.
- HMB noted that several of the crashes at the Huck's gas station occurred in the parking lot. KYTC noted these could be removed from the analysis at this location.
- HMB noted that detailed crash reports have not been obtained at this point in the study. To help determine / confirm proposed projects for key locations with identified high crash rates, detailed reports should be obtained for the following locations: Huck's gas station, KSP Post, and Green River Bridge. Detailed reports should also be obtained for the following types: crossover and fatal. HMB will provide a list to KYTC who will obtain the reports and send back to HMB.

VI. Work Items

- HMB provided a review of the ten controlling criteria for design and presented work items / costs for each category.
- HMB noted that level and wedging of pavement should take care of horizontal curvature deficiencies and no realignments are required based on the information collected.
- HMB noted that 90% of guardrail is below 29 inches and 10% is either 29 or 30 inches. The new standard is 31 inches.
- HMB noted that the median width is 30 feet. Cost estimates were provided for both cable barrier and double face guardrail. The cost for both is similar. Discussion will need to occur with FHWA when design exceptions are being requested to determine if a barrier is required and, if so, what type. KYTC noted that other parkways that have been studied for conversion have had a similar median width (30 feet) and FHWA has not required a median barrier.

- KYTC noted that pavement rehabilitation that was scheduled within the study area for this year was put on hold in order to address a more critical need. It should be rescheduled for next year (FY 2021) and would eliminate some of the median crossovers. KYTC requested HMB evaluate which crossovers could be eliminated based on spacing and minimum needed for emergency management and make a recommendation to KYTC such that it can be included in the pavement rehabilitation project.
- HMB noted that the vertical clearance criteria for structures is a big issue within the study area with some locations (bridges) being a foot shy of the 16 foot recommended clearance. KYTC asked how many bridges had deficient vertical clearances. HMB responded that there were 13 that did not meet the design criteria for clearance distance of 16 feet. HMB presented the removal of the abandoned railroad bridge as a work item to address one of the vertical clearance issues. It was determined that further clarification is necessary to determine the ownership and status of the bridge. KYTC noted that a mining agreement was established between MP 61.2 – 61.4 which includes a bridge; however, the structure in question does not fall within these limits. HMB will provide the MP of the structure to KYTC who will then verify the ownership and status.
- HMB provided cost estimates for both upgrades and superstructure replacement related to bridge barrier / width compliance. KYTC requested inspection reports to be reviewed and based on age identify structures that would be more cost-efficient long-term to replace superstructure as part of the conversion.
- HMB noted four interchanges that would require measures to comply with access control requirements. An example of conceptual improvements was provided for the Exit 75 location. Cost estimates were presented based on initial conceptual improvements. Further consideration will be necessary during the next phase of project development to further develop / refine necessary work as determined through identified items by FHWA.
- The Central City “toll booth” interchange will need to be improved if the parkway upgrade moves forward. The interchange improvement has been identified in the SHIFT program by KYTC District 2 as a stand-alone project. HMB developed and presented a conceptual layout for the reconfiguration along with a cost estimate (\$10,546,600). The cost estimate currently in the KYTC database for the interchange is \$8,197,000. KYTC can update the cost in SHIFT for this project prior to the finalization of the next Highway Plan.
- HMB noted that while the KYTC salt dome / maintenance garage located adjacent to the KSP Post does not currently fall within a high crash location, the interaction of heavy loaded trucks turning into and out of the facility

could pose a safety issue in the future. Additional consideration should be given to this location including possible removal. KYTC has recently constructed a new maintenance facility in Christian County and will provide an estimate to HMB to include as a possible relocation cost.

VI. Materials for Local Officials / Stakeholder Meeting No. 2

- HMB will prepare a presentation for the Local Officials / Stakeholder (LO/S) Meeting No. 2 on December 13, 2019.
- Included in the presentation will be graphical depictions of work item locations (separated by type) along with the cost estimate. Cost estimates should be rounded.
- Access control conceptual locations only will be shown – actual improvements will be further defined and developed during the next phase of project development.
- A conceptual design will be shown (and labeled accordingly) for the Central City interchange.
- Handouts will consist of an agenda, work item location summary map and table, crash analysis maps for Huck’s gas station and KSP Post, and conceptual improvements for the Central City interchange.
- No formal comment form / survey will be provided at this meeting as the purpose of the meeting is to inform the attendees rather than solicit input. Comments made during the meeting will be included in meeting minutes.
- The Pennyrile ADD requested information be provided at the end of the presentation on next steps following the completion of the study. KYTC will include and present at the LO/S meeting.

VII. Next Steps / Wrap Up

- Report documentation should include detailed tables of costs per improvement project for each category (i.e. a breakdown of all horizontal and vertical curve improvements by deficient location). These can be included in an appendix.
- The total cost for full compliance without design exceptions should be presented. A secondary list should be presented of work items that FHWA has required as part of previous conversion agreements. Design exceptions will be determined during subsequent conversations with FHWA.
- The cost for conversion of the Central City interchange should be included in the full cost estimate for compliance.
- Additional projects identified to address high crash locations but not required for compliance should be identified in an additional cost table / figure / documentation.

The meeting concluded at approximately 12:30 PM (Central Time).

List of Follow-Up / Action Items by Responsible Party:

A list of follow-up / action items from Project Team Meeting No. 2 include:

- HMB to provide KYTC (Jay Balaji) with bad traffic forecast data point.
- HMB to update traffic forecast map and provide to KYTC (Jay Balaji) for review prior to LO/S Meeting No. 2.
- HMB to prepare Traffic Forecast Report for review by KYTC (Jay Balaji) at least one or two weeks before the final Project Team meeting to review and comment or prior to submittal of Draft document if no additional Project Team meetings are held.
- HMB to provide list of crashes (crashes at Huck's gas station, KSP Post, Green River bridge, fatal crashes, and crossover crashes) to KYTC (Beth Niemann). KYTC (Beth Niemann) will request detailed reports and provide to HMB.
- HMB to review median crossover locations and provide recommendation as part of this study on which could be eliminated.
- HMB to provide MP of the railroad bridge proposed for removal. KYTC (Beth Niemann) will contact KYTC's Rail Coordinator (Allen Rust) to verify ownership / status.
- HMB/KYTC to verify the vertical clearance requirement.
- HMB to review bridge inspection reports and identify structures that would be more cost-efficient to replace the superstructure.
- KYTC (Deneatra Henderson) will provide cost for construction of new maintenance facility in Christian County for application to removal of salt dome for this study.

Note: KYTC Items are noted in Red.

Attachments:

Meeting Agenda

Handouts

Presentation

AGENDA

Western Kentucky Parkway Upgrade Study

Project Team Meeting #2

















November 25, 2019, 10:30 AM Central

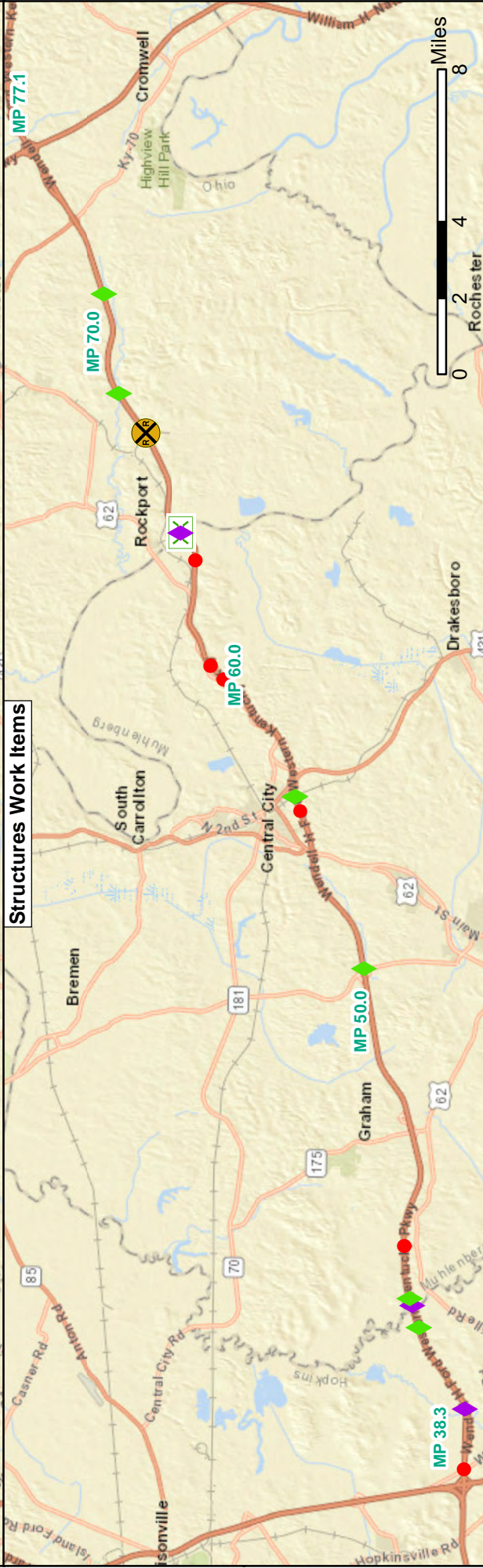
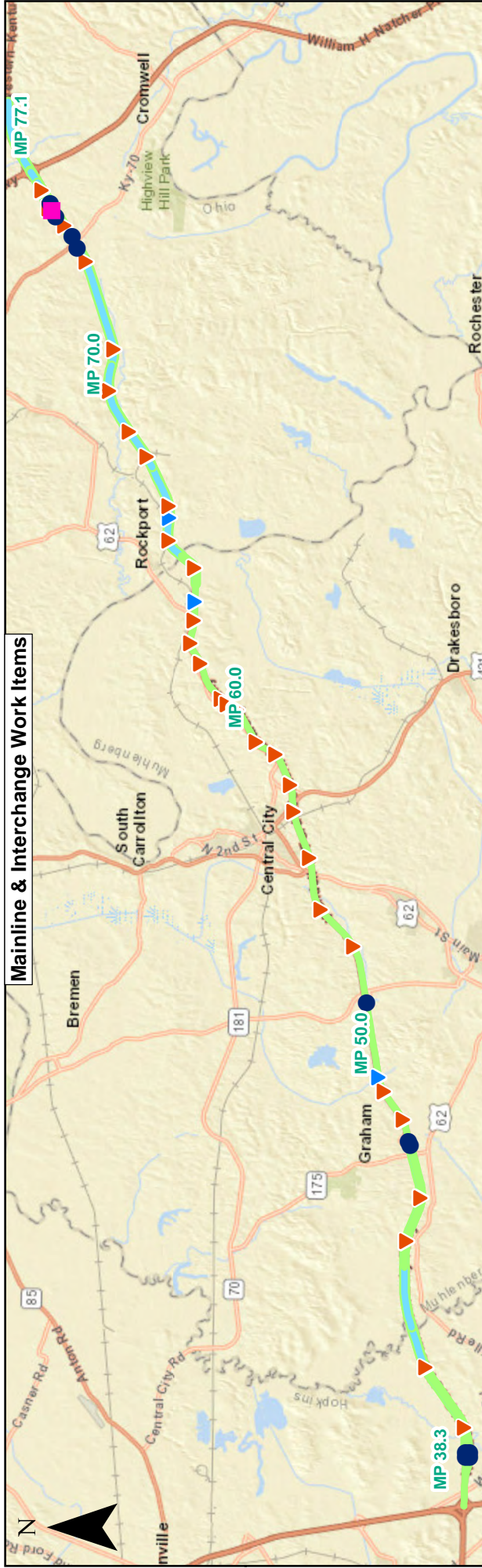
KYTC District 2

Madisonville, Kentucky

- I. Project Overview
- II. Purpose and Need
- III. Traffic Forecast Review
- IV. Crash Analysis Review
 - Deficient horizontal and vertical curves
 - KSP Post/Huck's
 - Median turn arounds
 - Deficient bridges
- V. Work Items
 - 10 ft inside shoulder (MP 75.1 to MP 76.3)
 - Horizontal curve design speed improvement
 - Vertical curve length for headlight stopping distance
 - Guard rail replacement
 - Clear zone deficiencies
 - Cross slopes flatter than 1.5%
 - Median width (cable barrier/double face guardrail) / median crossovers
 - Vertical clearance
 - Bridge barrier upgrade/bridge width
 - Access control
 - Interchange ramp deficiencies (acceleration/deceleration)
 - Central City interchange concept
- VI. Materials for Stakeholder / Local Officials Meeting #2 (scheduled for December 13th)
- VII. Next steps / wrap up

Western Kentucky Parkway Work Items Summary

Map Symbol	Upgrade/Improvement Categories and Options	No. Locations or Milepoints	Work Item Cost	Design Exception	Design Variance	Other Considerations
MAINLINE						
	Inside Shoulder Widening - Huck's Gas Station	75.08 - 76.42	\$ 1,095,900	✓		
	Horizontal Curves					
	In high crash locations	18	\$ 5,678,000	✓		
	Not in high crash locations	8	\$ 2,704,400	✓		
	Vertical Curves	1	\$ 232,300	✓		
	Cross Slopes (Flatter than 1.5%)	TBD	TBD	✓		
	Guardrail and Guardrail End Treatments (100%)					
		38.33 - 42.81	\$ 670,000		✓	
	(Future Pavement Rehab Location)	42.81 - 45.95	\$ 441,800		✓	
		45.95 - 65.68	\$ 2,409,500		✓	
	(Future Pavement Rehab Location)	65.68 - 77.14	\$ 1,408,200		✓	
	Clear Zones (Less than 30')	113				
	Re-grading		\$ 8,922,100		✓	
	Guardrail		\$ 2,766,700		✓	
	Median Width (Cable Barrier or Dbl. Face Guardrail)					
	Cable Barrier		\$ 5,621,800		✓	
	Double Face Guardrail		\$ 5,661,390		✓	
	Median Turn Arouds (23 total)	TBD	TBD			✓
	Green River Bridge					
	Lighting		\$ 346,860			✓
	Advanced Warning Signing		\$ 8,000			✓
STRUCTURES						
	Vertical Clearances	13				
	Taper at 1" - 100'		\$ 9,532,100	✓		
	Taper at 1" - 50'		\$ 4,837,800	✓		
	Bridge Jacking		\$ 7,277,300	✓		
	Remove Railroad Bridge		\$ 150,000	✓		
	Bridge Barrier/Width Compliance					
	Length <= 200' (Widening)		\$ 3,388,900	✓		
	Length <= 200' (Superstructure Replacement)		\$ 7,926,700	✓		
	Length > 200' (Widening)		\$ 5,473,700	✓		
	Bridge Barrier Retrofit (Lewis Creek & Green River)		\$ 483,300	✓		
INTERCHANGES						
	Access Control Compliance					
	Exit 48		\$ 125,000		✓	
	Exit 53		\$ 20,000		✓	
	Exit 58		\$ 20,000		✓	
	Exit 75		\$ 3,000,000		✓	
	Exit 58 - Interchange Reconfiguration		\$ 10,546,600			✓
	Acceleration / Deceleration Lanes	11	\$ 2,283,500		✓	
	Subtotal		\$ -	\$ -	\$ -	\$ -
	Estimated Design and Environmental (15%)		\$ -	\$ -	\$ -	\$ -
	Miscellaneous (15%)		\$ -	\$ -	\$ -	\$ -
	TOTAL		\$ -	\$ -	\$ -	\$ -



Mainline & Interchange Work Items

Structures Work Items

Upper Map - Mainline & Interchange Work Items

- Inside Shoulder Widening - Huck's Gas Station
- Acceleration / Deceleration Lane Upgrades
- ▲ Deficient Horizontal Curve Upgrades
- ▼ Deficient Vertical Curve Upgrades
- Guardrail Upgrades
- Guardrail Upgrades (Future Pavement Rehab Location)

Lower Map - Structures Work Items

- Bridge Vertical Clearance Upgrades
- Green River Bridge - Lighting/Signing Upgrades
- X Railroad Bridge Removal
- ◆ Bridge Barrier and Shoulder Widening Upgrades
- ◆ <= 200' Length
- ◆ > 200' Length

Western Kentucky Parkway Upgrade Study

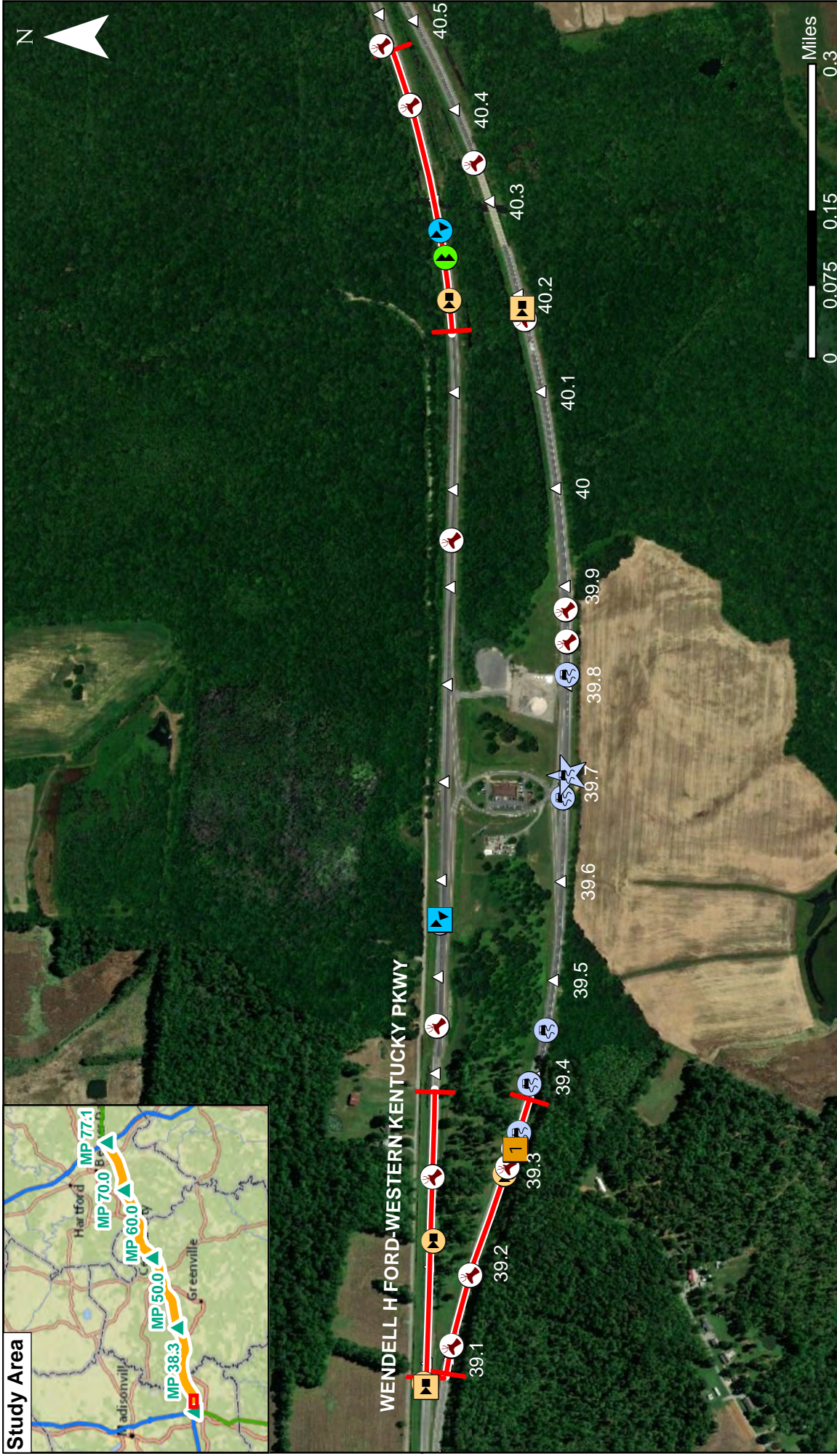
Work Items Summary Map



Study Area



WENDELL H FORD-WESTERN KENTUCKY PKWY

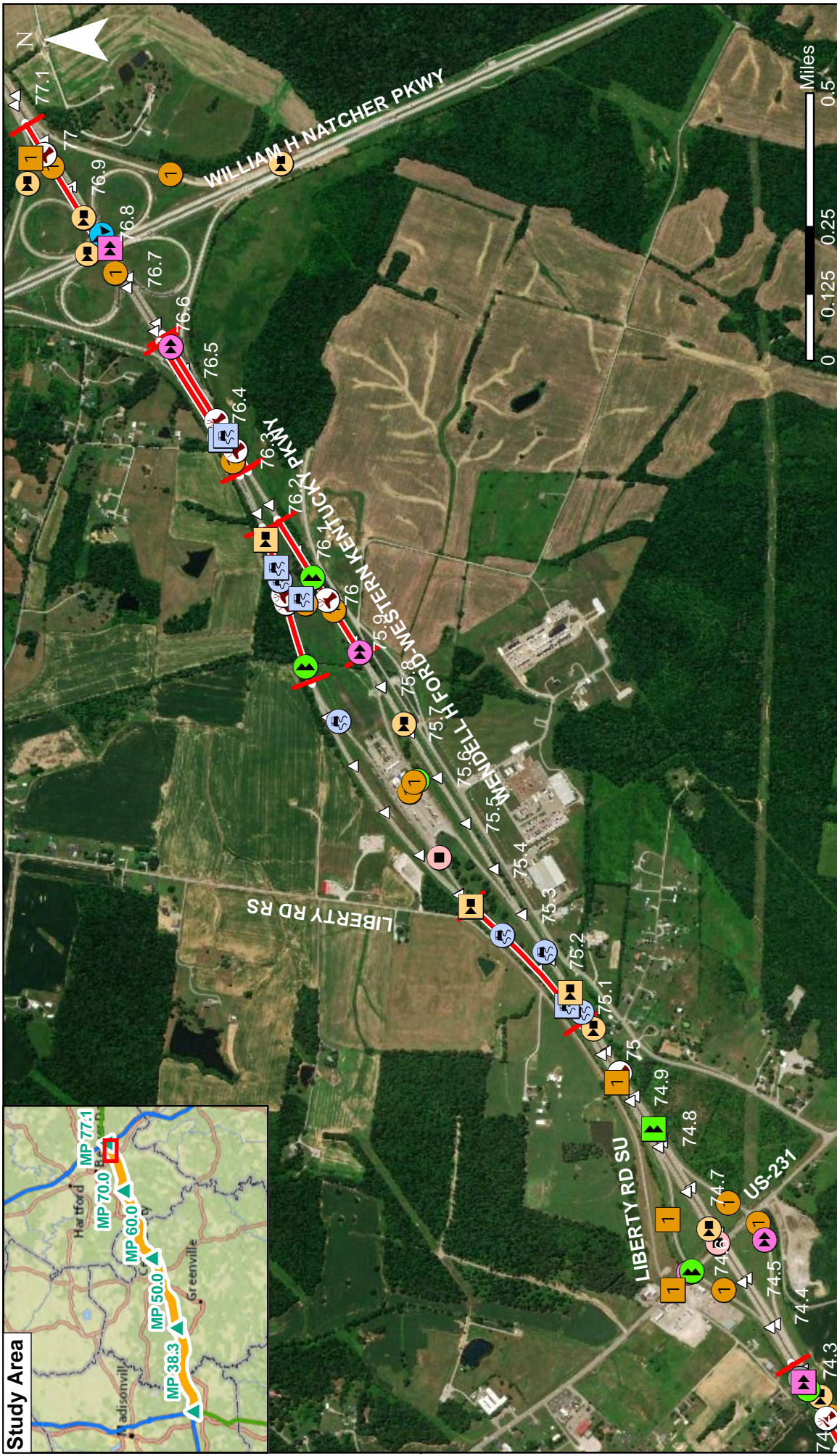


**Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)**

Kentucky State Police Post Location



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Vehicle Type	Crash Type
○ Property Damage Only	▶ Angle	▣ Fixed Object	◀ Rear to Rear	▬ High CRF 0.3 Mile Segments
□ Injury Collision	▶ Animal	▣ Head On	▶ Sideswipe - Opposite Direction	△ Milepoints
★ Fatality	▶ Backing	▣ Opposing Left Turn	▶ Sideswipe - Same Direction	
	▶ Cross-Over	▣ Ran Off Roadway	1 Single Vehicle - Other	
		▣ Rear End		



Western Kentucky Parkway Upgrade
 Crash Analysis (Jan 2014 - Dec 2018)

Exit 75 to Exit 77 (Huck's Gas Station)



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	High CRF 0.3 Mile Segments
○ Property Damage Only	▶ Angle	▣ Fixed Object	▬ High CRF 0.3 Mile Segments
□ Injury Collision	▶ Animal	▣ Head On	△ Milepoints
☆ Fatality	▶ Backing	▣ Opposing Left Turn	
	▶ Cross-Over	▣ Ran Off Roadway	
		▣ Rear to Rear	
		▣ Sideswipe - Opposite Direction	
		▣ Sideswipe - Same Direction	
		▣ Single Vehicle - Other	
		▣ Rear End	

County	Item No.
OHIO	-



SCALE 1"=200'

WEST KENTUCKY PARKWAY
EXIT 75 WB RAMPS
ACCESS CONTROL

County	Item No.
MUHLENBERG	-



SCALE 1"=500'

WEST KENTUCKY PARKWAY
EXIT 58
ACCESS CONTROL

Western Kentucky Parkway Upgrade Study

Hopkins, Muhlenberg and Ohio Counties

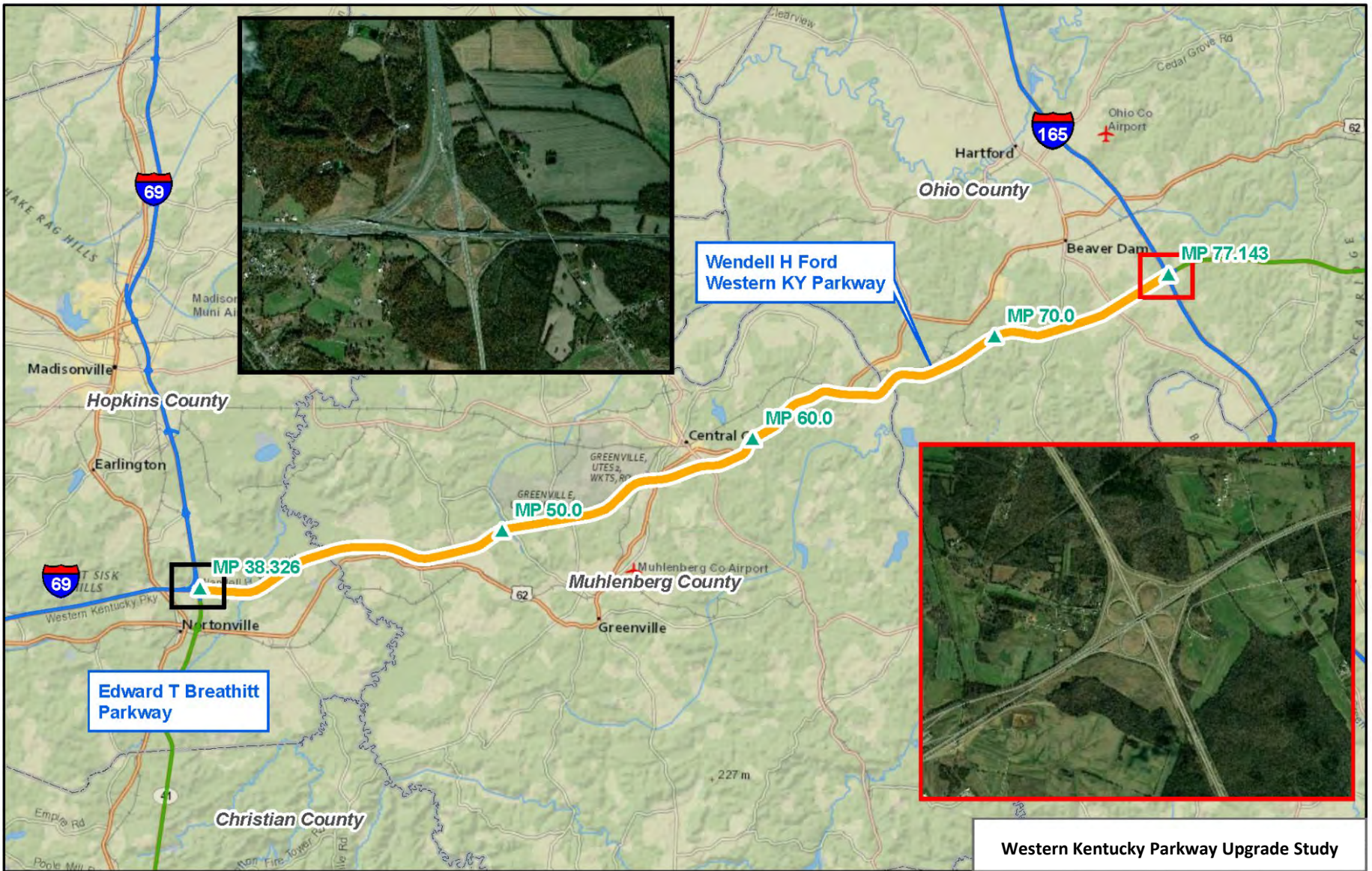
Project Team Meeting #2




November 25, 2019

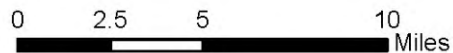


Study Background

- Representative Comer and Senator McConnell Introduced Federal Bills to Designate a Section of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569).
- Operation of Rest Area Included in Draft Version as an Exemption.



-  Study Area
-  Interstate
-  Parkway

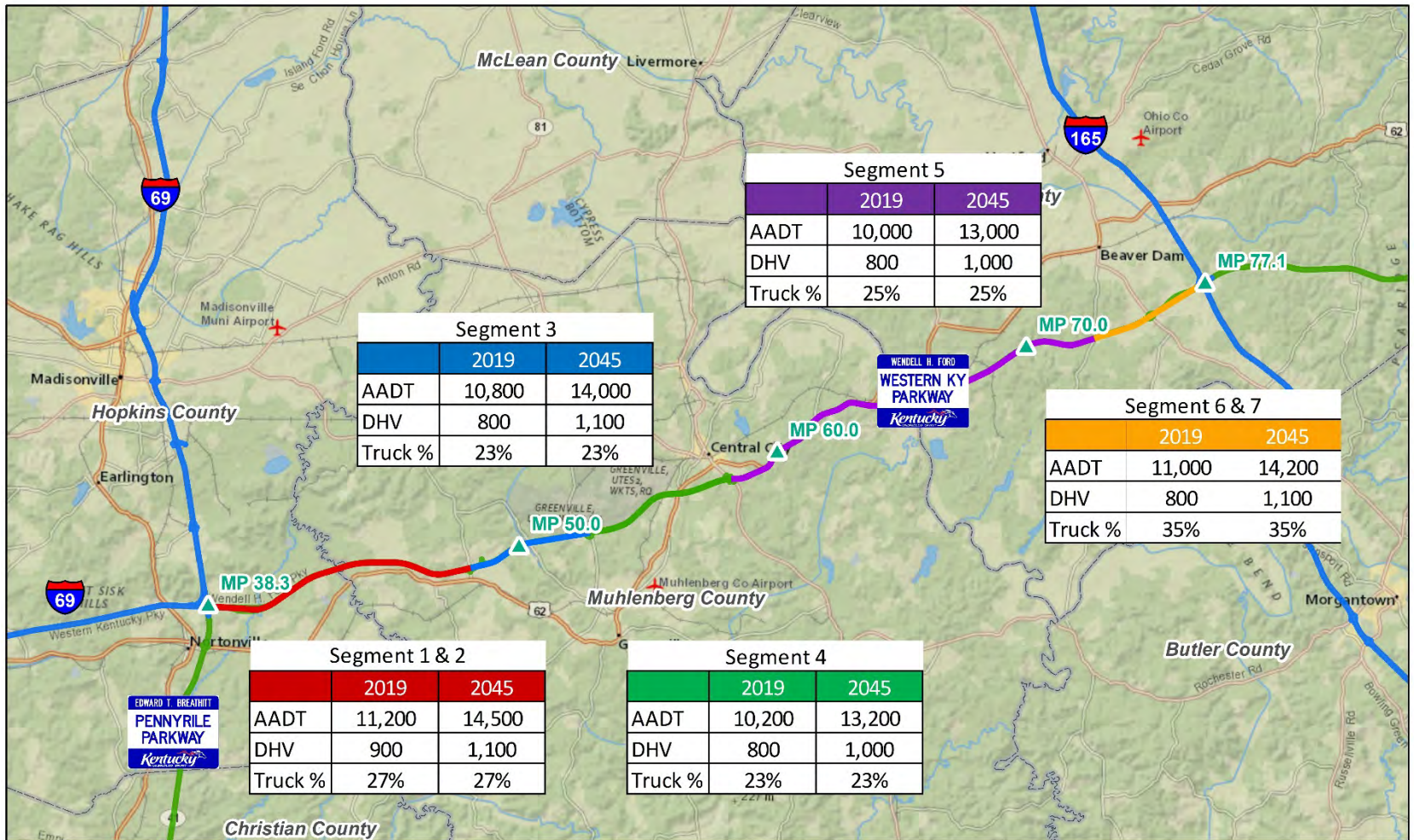


Study Purpose

Description: Conduct a planning study to identify and evaluate potential improvement options to upgrade a portion of the Western Kentucky Parkway to interstate standards for inclusion into the interstate system. The study area limits are from I-69 in Hopkins Co. to I-165 in Ohio County.

Project Length ~ 39 Miles

MP 38.326 to MP 77.143

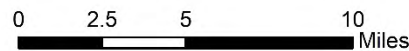


Existing and Future Traffic

Western Kentucky Parkway Study

- Segment**
- █ 4
 - █ 1 & 2
 - █ 3
 - █ 5
 - █ 6 & 7

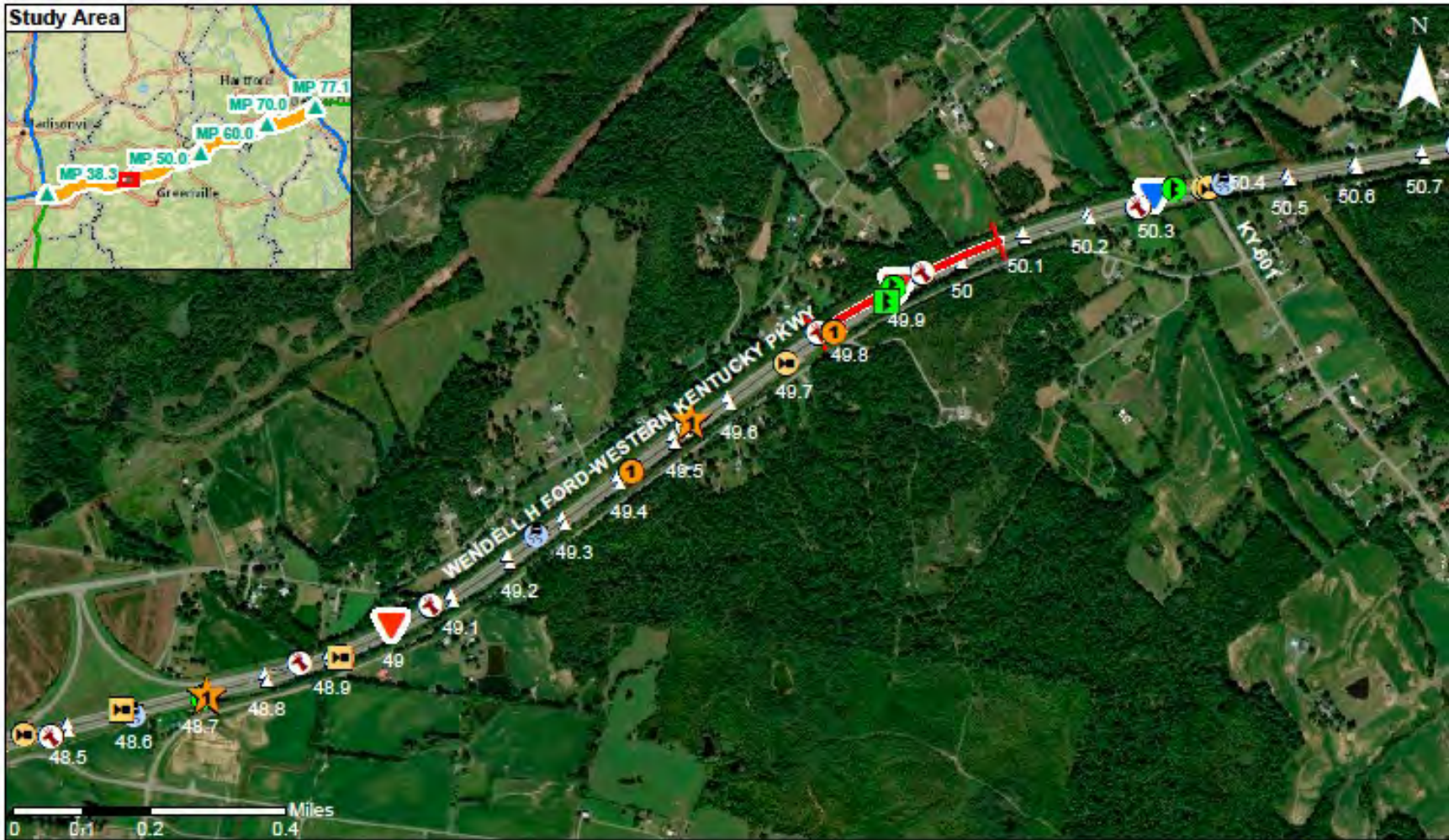
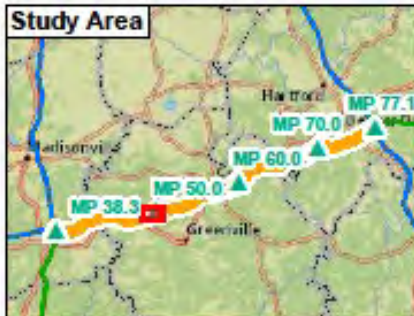
Note: AADT - Average Annual Daily Traffic
 DHV - Design Hourly Volume



Crash Analysis

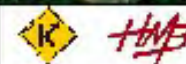
- 5 Years (2014-2018) of Data Was Analyzed
- 659 Crashes
 - 550 Property Damage Only
 - 104 Injury
 - 5 Fatality
- 72 Directional High Crash (0.3 Mile) Spots

Study Area



**Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)**

MP 48.5 - 50.7



Collision Severity (Shape)

- Property Damage Only
- Injury Collision
- ☆ Fatality

Manner of Collision (Color)

- ▲ Angle
- ▲ Animal
- Backing
- Cross-Over

Fixed Object

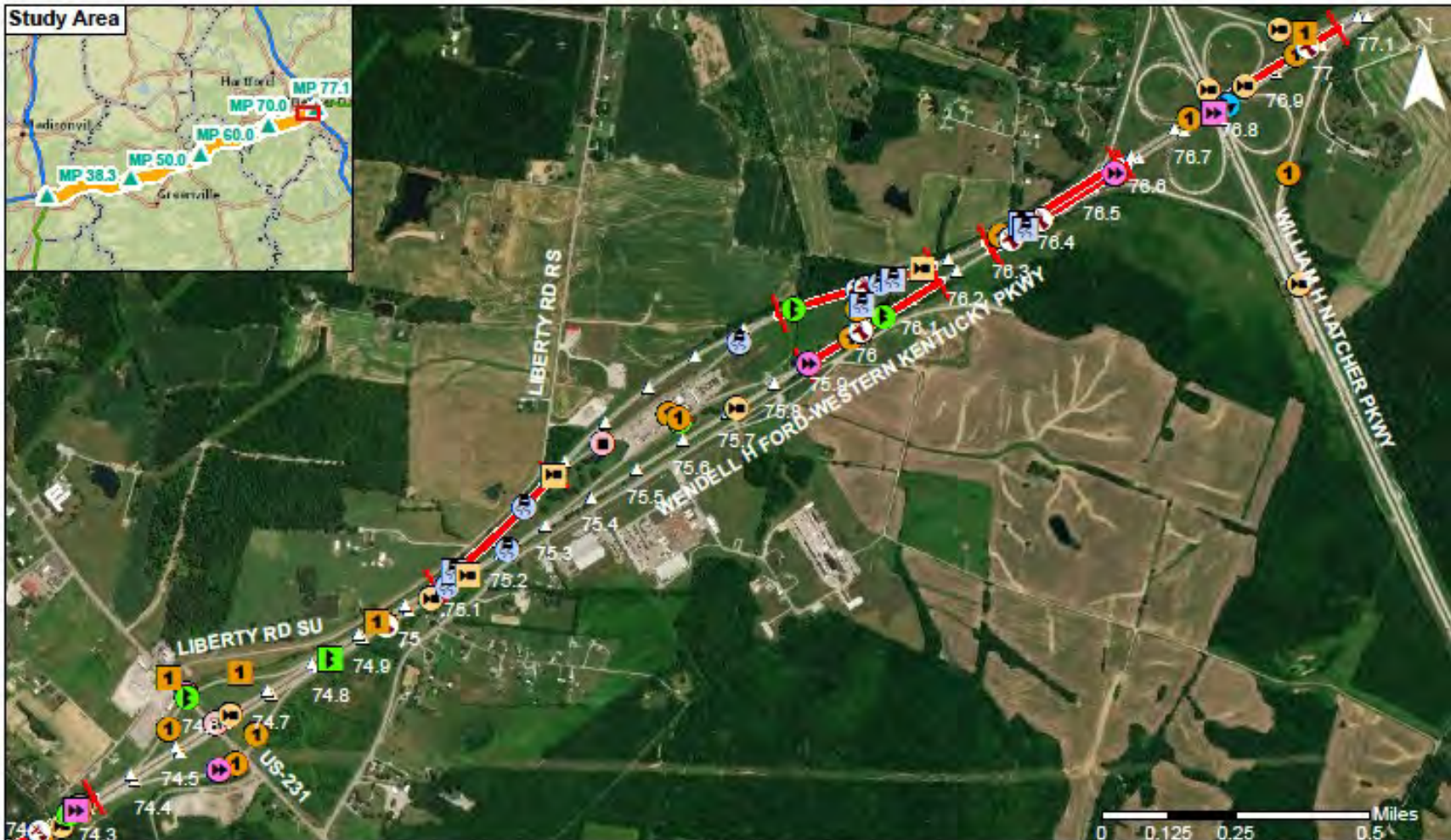
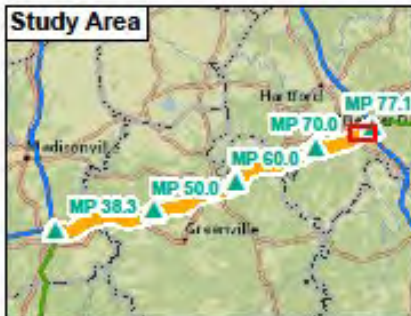
- Fixed Object
- Head On
- Opposing Left Turn
- Ran Off Roadway
- Rear End

Rear to Rear

- Rear to Rear
- Sideswipe - Opposite Direction
- Sideswipe - Same Direction
- Single Vehicle - Other

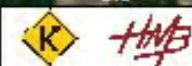
Deficient Horizontal Curve

- ▼ Deficient Horizontal Curve
- ▼ Deficient Vertical Curve
- High CRF 0.3 Mile Segments
- ▲ Milepoints

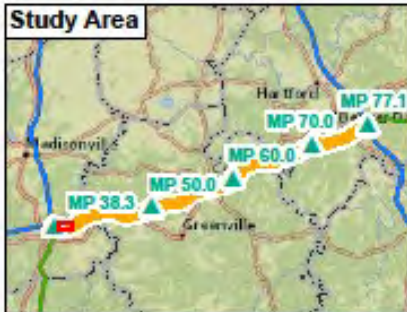


**Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)**

Exit 75 to Exit 77 (Huck's Gas Station)

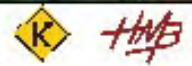


Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	High CRF 0.3 Mile Segments
○ Property Damage Only	👤 Angle	🚗 Fixed Object	🚗 Rear to Rear	📏 High CRF 0.3 Mile Segments
□ Injury Collision	🐾 Animal	🚗 Head On	🚗 Sideswipe - Opposite Direction	📏 Milepoints
★ Fatality	🚗 Backing	🚗 Opposing Left Turn	🚗 Sideswipe - Same Direction	
	🚗 Cross-Over	🚗 Ran Off Roadway	🚗 Single Vehicle - Other	
		🚗 Rear End		



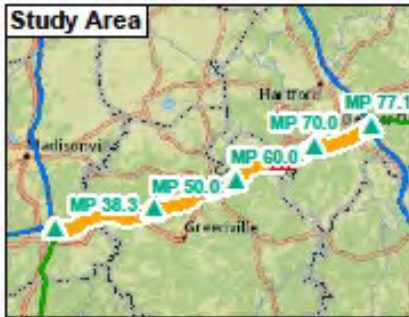
Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)

Kentucky State Police Post Location



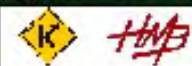
Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	High CRF 0.3 Mile Segments
○ Property Damage Only	▲ Angle	■ Head On	■ Sideswipe - Opposite Direction	△ Milepoints
□ Injury Collision	▲ Animal	■ Opposing Left Turn	■ Sideswipe - Same Direction	
☆ Fatality	■ Backing	■ Ran Off Roadway	■ Single Vehicle - Other	
	■ Cross-Over	■ Rear End		

Study Area



**Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)**

MP 65.0 - 67.3



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	Deficient Horizontal Curve
○ Property Damage Only	↘ Angle	🚚 Fixed Object	🚗 Rear to Rear	🔴 Deficient Horizontal Curve
□ Injury Collision	🐾 Animal	🚗 Head On	🟢 Sideswipe - Opposite Direction	🔵 Deficient Vertical Curve
★ Fatality	🚗 Backing	🚗 Opposing Left Turn	🟢 Sideswipe - Same Direction	🔴 High CRF 0.3 Mile Segments
	⊕ Cross-Over	🚗 Ran Off Roadway	🟡 Single Vehicle - Other	△ Milepoints
		🚗 Rear End		

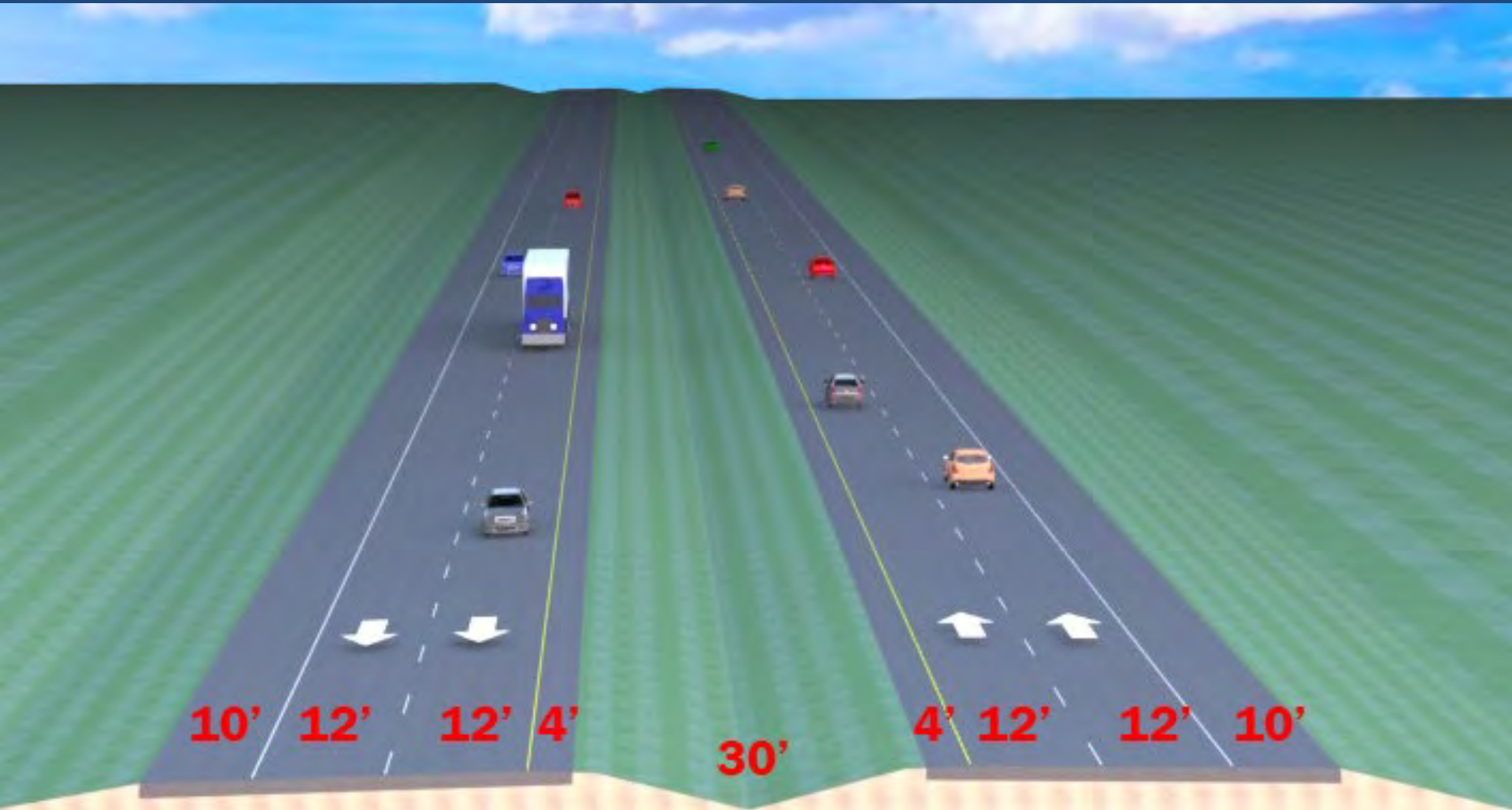
The Federal Highway Administration's (FHWA) 10 Controlling Criteria for Design

- Design Speed
- Lane Width
- Shoulder Width
- Horizontal Curve Radius
- Superelevation Rate
- Stopping Sight Distance
- Maximum Grade
- Cross Slope
- Vertical Clearance
- Design Loading Structural Capacity

Other Considerations

- Interchange Spacing
- Interchange Acceleration/Deceleration Lengths
- Level of Service
- Signing
- Access Control
- Clear Zone (Including Guardrail)
- Pier Protection/Crash Cushions at Bridges

Western Kentucky Parkway Typical Section



Project Schedule

- Study Initialized – April 2019
- 1st Stakeholder Meeting – August 19, 2019
- Develop Improvement Concepts – September 2019
- Develop Recommendations – October/November 2019
- 2nd Project Team Meeting – November 25, 2019
- 2nd Stakeholder Meeting – December 13, 2019
- 3rd Project Team Meeting - ???
- Develop Draft Report – February 1, 2020
- Study Completion – March 31, 2020



FINAL Meeting Minutes

Project: Western Kentucky Parkway Upgrade Study
Subject: Local Officials / Stakeholder Meeting No. 2
Date: Friday, December 13, 2019, 1:30 PM (Central Time)
Location: Ohio County Community Center, Hartford, Kentucky

Attendees:

Eric Hickman	City of Madisonville
Ted Adkins	Hopkins County Joint Planning Commission
Gary Jones	Muhlenberg Alliance for Progress
Jackie Sommers	KY Representative Melinda Prunty's Office
Jodi Ashby	OCEDA
David Johnston	Ohio County
Paul Sandefur	City of Beaver Dam
Corey Elder	Congressman James Comer's Office
Timothy Gilliam	Senator Mitch McConnell's Office
Curtis McGehee	Muhlenberg County
Jody Flener	Ohio County Tourism
Leslie Cornette	City of Greenville
Beth Niemann	KYTC Central Office, Division of Planning
Tim Layson	KYTC Central Office, Division of Design
Marshall Carrier	KYTC Central Office, Project Development
Deneatra Henderson	KYTC District 2, Chief District Engineer
Larry Krueger	KYTC District 2, Project Development Branch Manager
Nick Hall	KYTC District 2, Planning Supervisor
Keirsten Jagers	KYTC District 2, Public Information Officer
Keith Todd	KYTC District 1, Public Information Officer
Joanna Shake	GRADD
Craig Morris	PADD
Brad Johnson	HMB
John Meyer	HMB
Lindsay Walker	HMB

Agenda / Handouts:

To facilitate the meeting the following materials were provided as handouts and are included as an attachment to these meeting minutes.

- Agenda
- Work Items Summary Map
- Work Items Summary Table
- Exit 58 Conceptual Improvement Map

Meeting Comments / Summary:

The meeting began with introductions facilitated by KYTC (District 2). KYTC turned the meeting over to HMB to go through their prepared presentation. The presentation included a review of the study background, identified work items, and project schedule. KYTC District 2 completed the presentation by presenting next steps following completion of this study.

The following are comments / discussion items from the attendees.

- HMB asked at the beginning of the meeting how many in attendance had attended the first local officials / stakeholder meeting. About half of the audience raised their hand.
- When presenting the study background related to the federal bill, HMB asked if anyone had additional knowledge regarding the status of the bill. The representative from Senator Mitch McConnell's Office noted that nothing has been decided on the outcome to date, but it was being included in the final packages for the upcoming legislative session.
- Related to the crash maps presented, a question was asked if weather was a contributing factor to the number of crashes occurring near the Green River Bridge. HMB noted that weather was identified as a factor for some of the collisions, along with the lighting conditions and curvature on the approaches.
- As a follow-up to the presentation of the conceptual layout for the Exit 58 interchange, a question was asked if the concept falls within the existing right-of-way. HMB's response was that for this conceptual layout most of the proposed interchange fell within the existing right-of-way.

To conclude the meeting, KYTC District 2 noted that this study was authorized earlier than expected. KYTC Central Office allocated money for this planning study through their statewide contract. Following completion of the study, KYTC will need to have a conversation with FHWA to determine the work items that will be required for conversion of this section of parkway to interstate. However, in the hierarchy of projects related to parkway conversions in Kentucky, this section of Western Kentucky Parkway is behind two parkways previously studied. Three interchange projects associated with the conversion of the William H. Natcher Parkway conversion still need to be completed. The FHWA allowed the William H. Natcher Parkway to be signed as I-165 as a courtesy to KYTC with the promise by KYTC that these projects would be

completed as soon as possible. The Pennyrile Parkway has undergone a study and KYTC is currently in discussion with FHWA to complete a conversion agreement. A commitment has been made to complete the conversion of the Pennyrile Parkway before the conversion of this portion of the Western Kentucky Parkway is discussed. In addition to these commitments, funding will need to be obtained for the agreed-upon improvements once the conversion agreement is developed with FHWA. A question was asked from the audience on what the local officials / stakeholders could do to help with this process. The response was to continue to show support for the project.

The meeting concluded at approximately 2:30 PM Central Time.

Attachments:

Meeting Agenda

Handouts

Presentation

AGENDA

Western Kentucky Parkway Upgrade Study

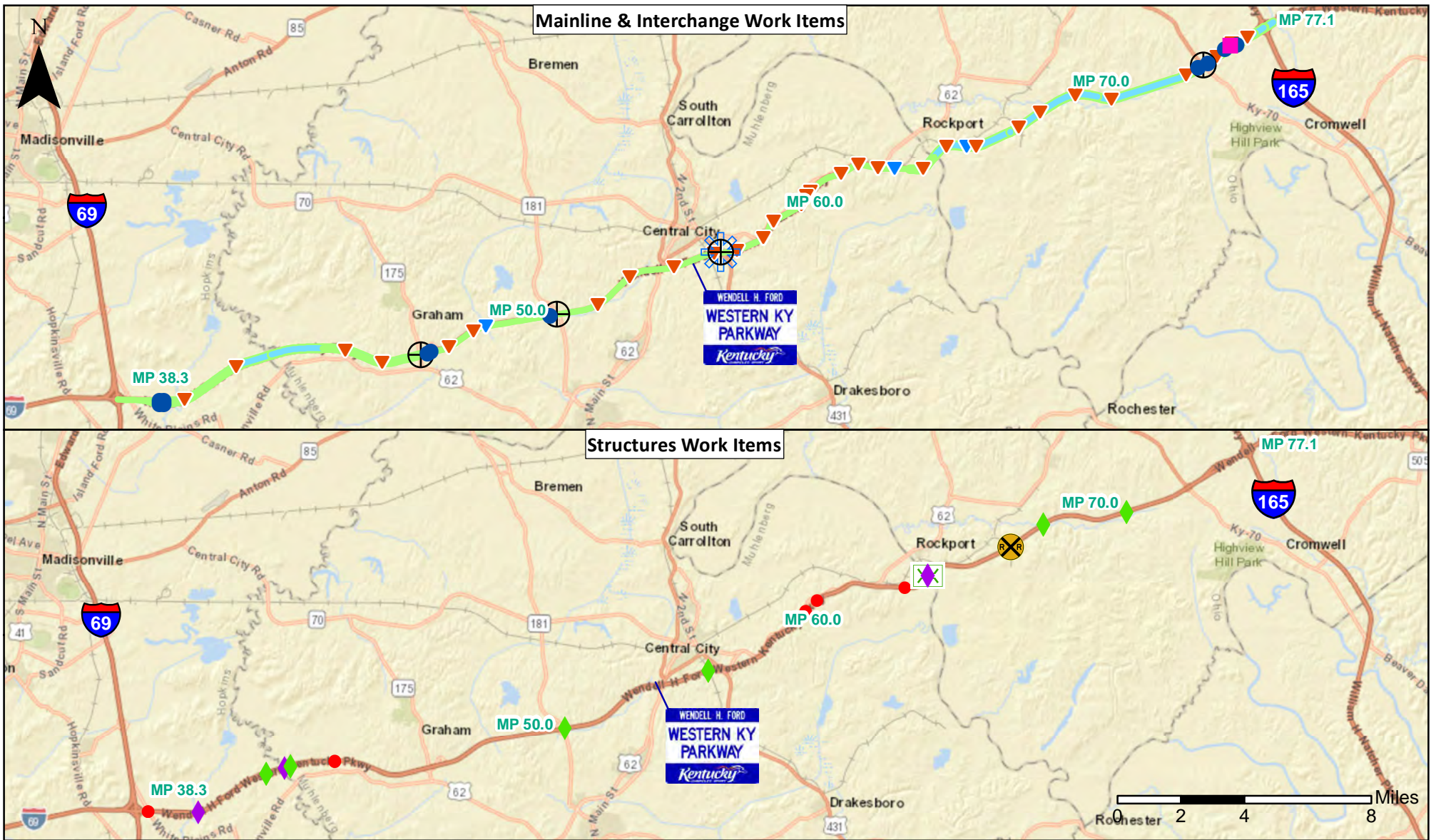
Local Official / Stakeholder Meeting No. 2

December 13, 2019, 1:30 PM Central

Ohio County Community Center

Hartford, Kentucky

- I. Introductions
- II. Study Background
- III. Study Objective and Goals
- IV. Review of Traffic Operations
- V. Review of Crash Analysis
- VI. Work Items
 - A. Mainline
 - B. Structures
 - C. Interchanges
- VII. Project Schedule
- VIII. Conversion Process
- IX. Discussion / Questions
- X. Adjourn



Upper Map - Mainline & Interchange Work Items

- Inside Shoulder Widening - Huck's Gas Station
- Acceleration / Deceleration Lane Upgrades
- ⊕ Access Control Upgrades
- ▼ Deficient Horizontal Curve Upgrades
- ▼ Deficient Vertical Curve Upgrades
- Guardrail Upgrades
- Guardrail Upgrades (Future Pavement Rehab Location)

- ⊗ Exit 58 Interchange Reconfiguration

Lower Map - Structures Work Items



















- Bridge Vertical Clearance Upgrades
- ▭ Green River Bridge - Lighting/Signing Upgrades
- ⊗ Railroad Bridge Removal
- Bridge Barrier and Shoulder Widening Upgrades**
- ◆ ≤ 200' Length
- ◆ > 200' Length

**Western Kentucky Parkway
Upgrade Study**

Work Items Summary Map



Western Kentucky Parkway Work Items Summary

Map Symbol	Upgrade/Improvement Categories and Options	No. Locations or Milepoints	Work Item Cost	Design Exception	Design Variance	Other Considerations
MAINLINE						
	Inside Shoulder Widening - Huck's Gas Station	75.08 - 76.42	\$ 1,096,000			✓
	Horizontal Curves					
	In high crash locations	18	\$ 5,678,000	✓		
	Not in high crash locations	8	\$ 2,704,400	✓		
	Vertical Curves	1	\$ 476,800	✓		
	Cross Slopes (Flatter than 1.5%)	TBD	TBD	✓		
	Guardrail and Guardrail End Treatments (100%)					
		38.33 - 42.81	\$ 670,000		✓	
	(Future Pavement Rehab Location)	42.81 - 45.95	\$ 441,800		✓	
		45.95 - 65.68	\$ 2,409,600		✓	
	(Future Pavement Rehab Location)	65.68 - 77.14	\$ 1,408,300		✓	
	Clear Zones (Less than 30')	113				
	Re-grading		\$ 8,922,100		✓	
	Guardrail		\$ 2,766,700		✓	
	Median Width (Barrier Installation)	38.326 - 77.143				
	Cable Barrier (Option 1)		\$ 5,621,800		✓	
	Double Face Guardrail (Option 2)		\$ 5,661,400		✓	
	Median Turn Arouds (23 total)	TBD	TBD			✓
	Green River Bridge					
	Lighting		\$ 375,900			✓
	Advanced Warning Signing		\$ 8,000			✓
STRUCTURES						
	Vertical Clearances	9				
	Taper at 1" - 100' (Option 1)		\$ 4,991,900	✓		
	Taper at 1" - 50' (Option 2)		\$ 2,533,500	✓		
	Bridge Jacking (Option 3)		\$ 4,625,800	✓		
	Railroad Bridge MP 68.57		\$ 150,000	✓		
	Bridge Barrier/Width Compliance					
	Length <= 200' Widening (Option 1)	11	\$ 3,681,600	✓		
	Length <= 200' Superstructure Replacement (Option 2)	11	\$ 7,926,700	✓		
	Length > 200' Widening	4	\$ 5,181,000	✓		
	Bridge Barrier Retrofit (Lewis Creek & Green River)	2	\$ 483,300	✓		
INTERCHANGES						
	Access Control Compliance (Exits 48, 53, 58, 75)	4	\$ 3,165,000		✓	
	Exit 58 - Interchange Reconfiguration	1	\$ 10,546,600			✓
	Acceleration / Deceleration Lanes	11	\$ 2,283,500		✓	
	Subtotal			\$47,868,500 - \$61,863,000		
	Estimated Design and Environmental (15%)			\$7,180,300 - \$9,279,500		
	Miscellaneous (15%)			\$7,180,300 - \$9,279,500		
	TOTAL			\$62,229,100 - \$80,422,000		

PROGRAMMATIC AGREEMENT WITH KYTC AND FHWA MAY NOT ENCOMPASS ALL WORK ITEMS

CONCEPT ONLY

County
MUHLENBERG



SCALE 1"=500'

WESTERN KENTUCKY PARKWAY
UPGRADE STUDY
EXIT 58

Western Kentucky Parkway Upgrade Study

Hopkins, Muhlenberg and Ohio Counties

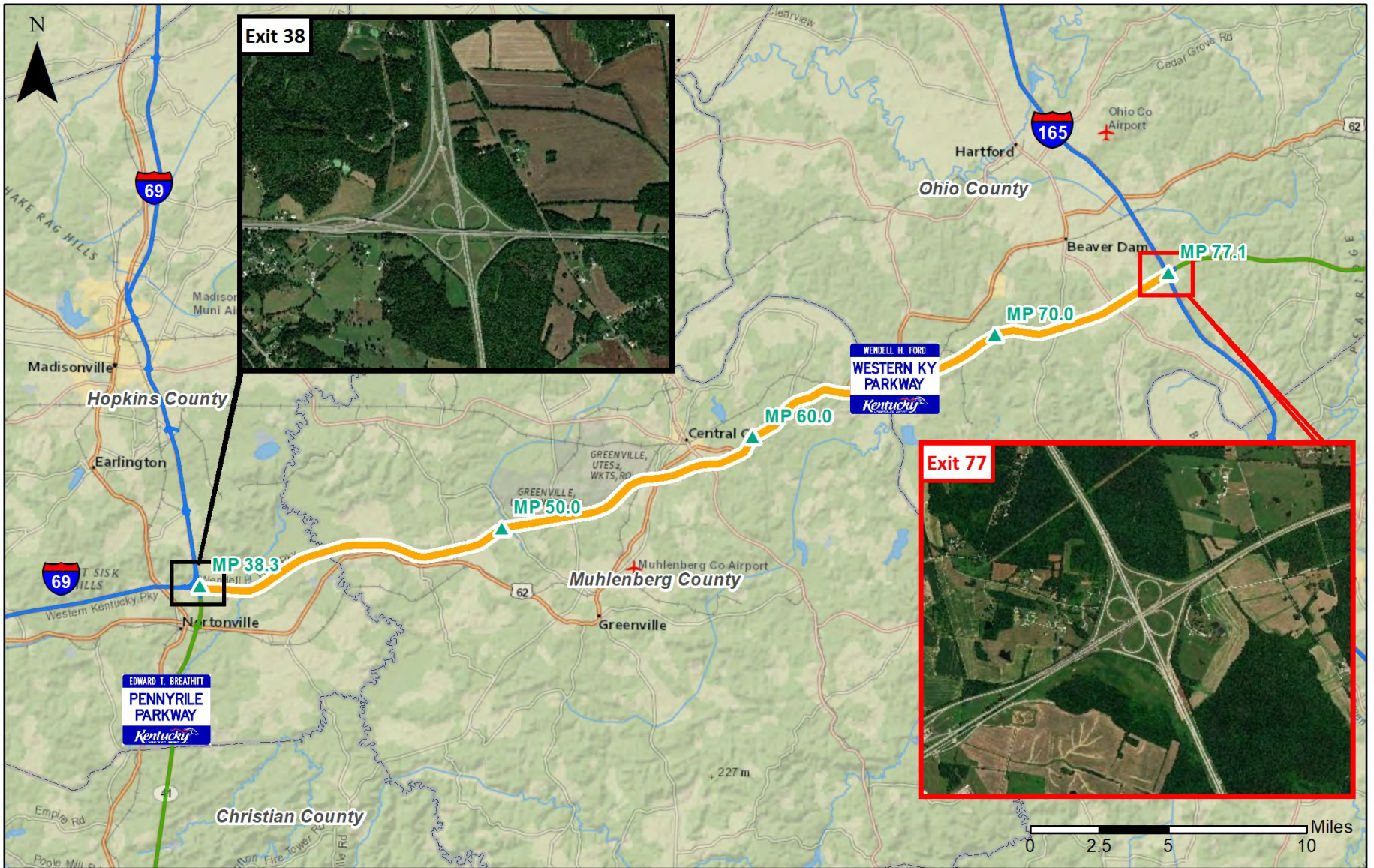
Local Official / Stakeholder Meeting No. 2




December 13, 2019

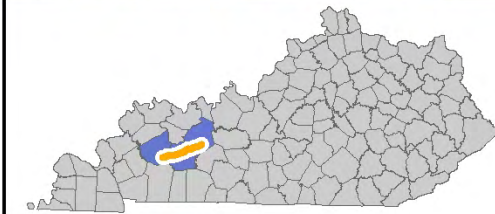


Study Background

- Representative Comer and Senator McConnell Introduced Federal Bills to designate a section of the Western Kentucky Parkway between I-69 and I-165 as a spur of I-69 (I-569).
- Operation of Huck's within the rest area included in the Draft Version of the Bill as an Exemption.



-  Study Area
-  Interstate
-  Parkway



Western Kentucky Parkway Upgrade Study



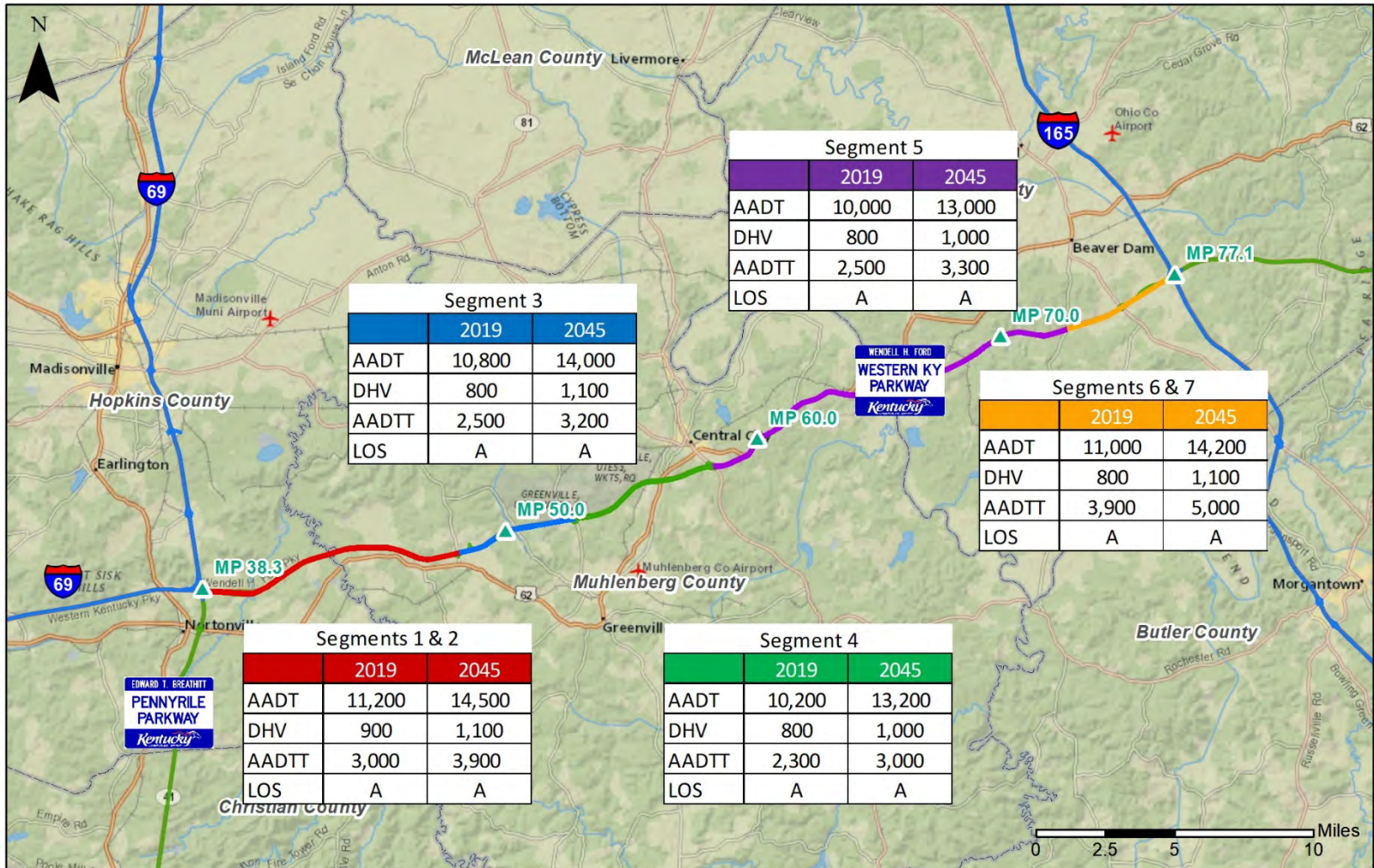
Study Objective

The *Objective* of the Western Kentucky Parkway Upgrade Study is to identify and evaluate potential improvement options to upgrade a portion of the Wendell H. Ford Western Kentucky Parkway (WKP) to interstate standards for inclusion into the interstate system. The study limits are between I-69 in Hopkins County (MP 38.326) and I-165 in Ohio County (MP 77.143).

Study Goals

- Consider System Linkage – Connectivity between I-69 and I-165
- Evaluate Safety
- Identify Roadway Deficiencies – Per Interstate Standards
- Prepare Upgrade Options and Cost Estimates

Traffic Operations



Segments — 3 — 5
— 1 & 2 — 4 — 6 & 7

Note: AADT - Average Annual Daily Traffic AADTT - Average Annual Daily Truck Traffic
 DHV - Design Hourly Volume LOS - Level of Service



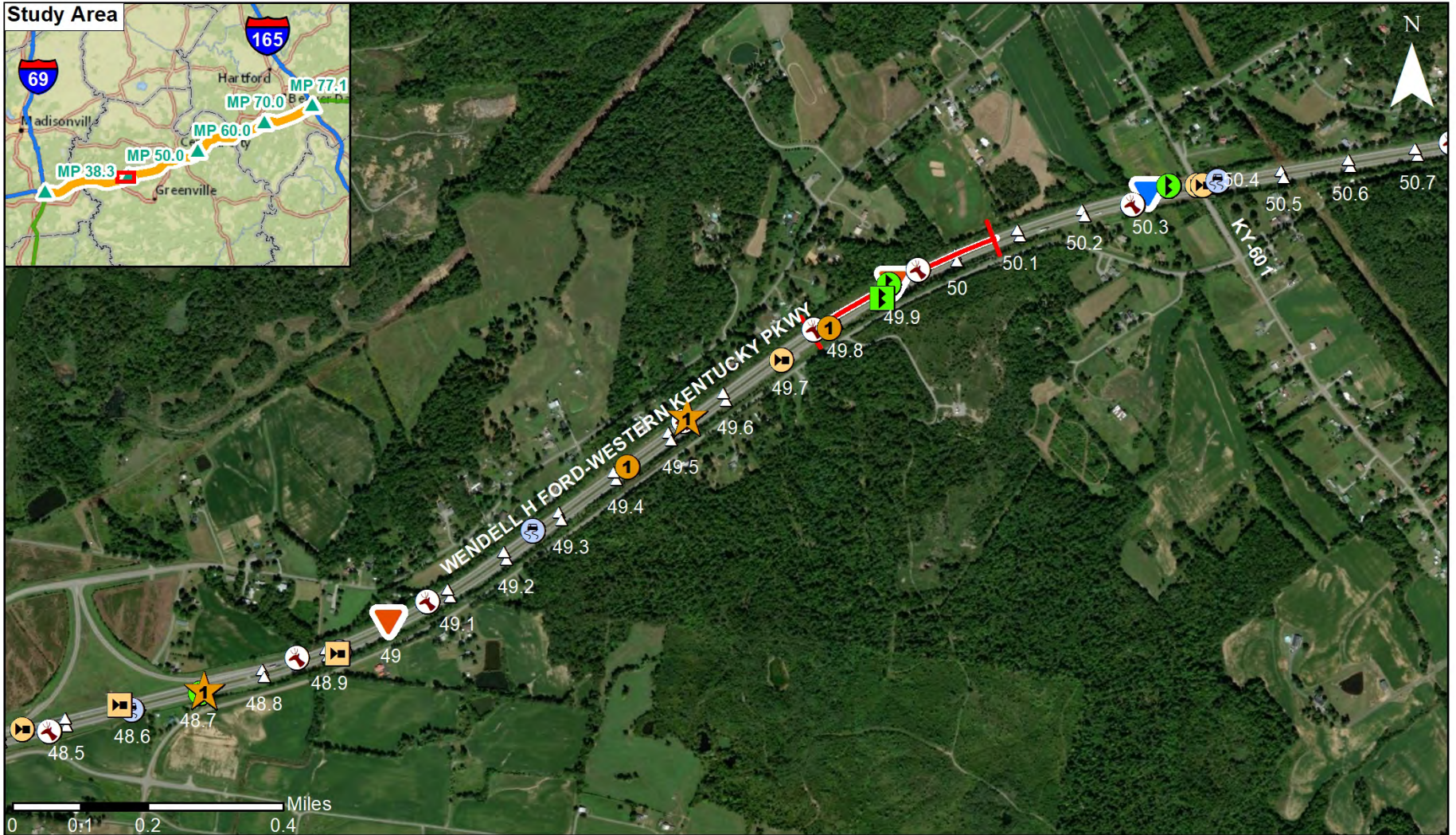
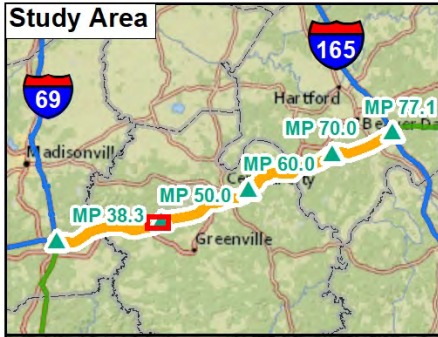
Western Kentucky Parkway Upgrade Study

Existing and Future Traffic



Crash Analysis

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- 659 Crashes
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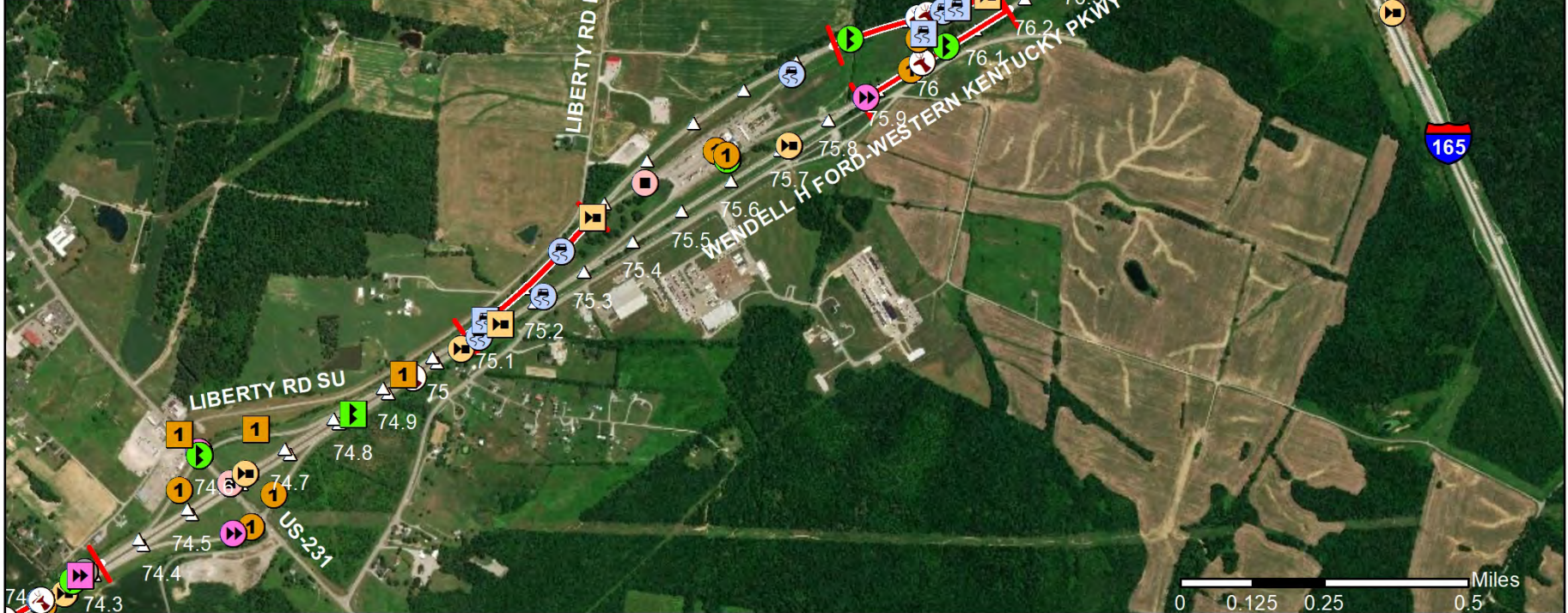
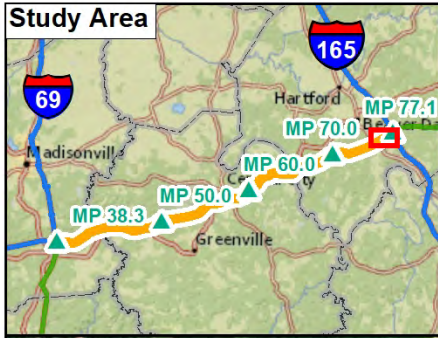


Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)

MP 48.5 - 50.7



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	Deficient Horizontal Curve
○ Property Damage Only	◀ Angle	▣ Fixed Object	◄ Rear to Rear	▽ Deficient Horizontal Curve
□ Injury Collision	🐾 Animal	⚡ Head On	◀ Sideswipe - Opposite Direction	▽ Deficient Vertical Curve
★ Fatality	■ Backing	🚗 Opposing Left Turn	▶ Sideswipe - Same Direction	⏏ High CRF 0.3 Mile Segments
	⊕ Cross-Over	🚗 Ran Off Roadway	1 Single Vehicle - Other	△ Mileposts
		▶ Rear End		

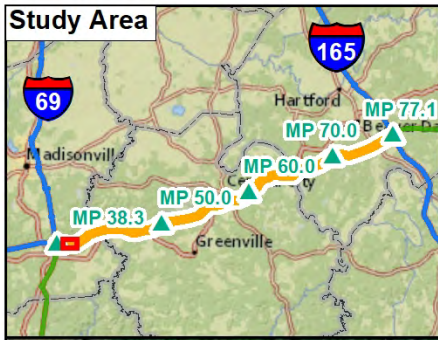


Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)

Exit 75 to Exit 77 (Huck's Gas Station)



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	High CRF 0.3 Mile Segments
Property Damage Only	Angle	Head On	Sideswipe - Opposite Direction	Milepoints
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Fatality	Backing	Ran Off Roadway	Single Vehicle - Other	
	Cross-Over	Rear End		

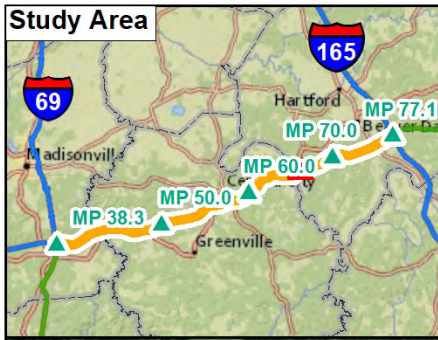


Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)

Kentucky State Police Post Location



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	High CRF 0.3 Mile Segments
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Western Kentucky Parkway Upgrade
Crash Analysis (Jan 2014 - Dec 2018)

MP 65.0 - 67.3



Collision Severity (Shape)	Manner of Collision (Color)	Fixed Object	Rear to Rear	Deficient Horizontal Curve
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		▶ Rear End		

The Federal Highway Administration's (FHWA) 10 Controlling Criteria for Design

- Design Speed
- Lane Width
- Shoulder Width
- Horizontal Curve Radius
- Superelevation Rate
- Stopping Sight Distance
- Maximum Grade
- Cross Slope
- Vertical Clearance
- Design Loading Structural Capacity

Design Exception vs. Design Variance

Design Exception

Any roadway characteristic that falls within FHWA's list of 10 Controlling Criteria for Design would be considered a *design exception* if interstate standards are not met.

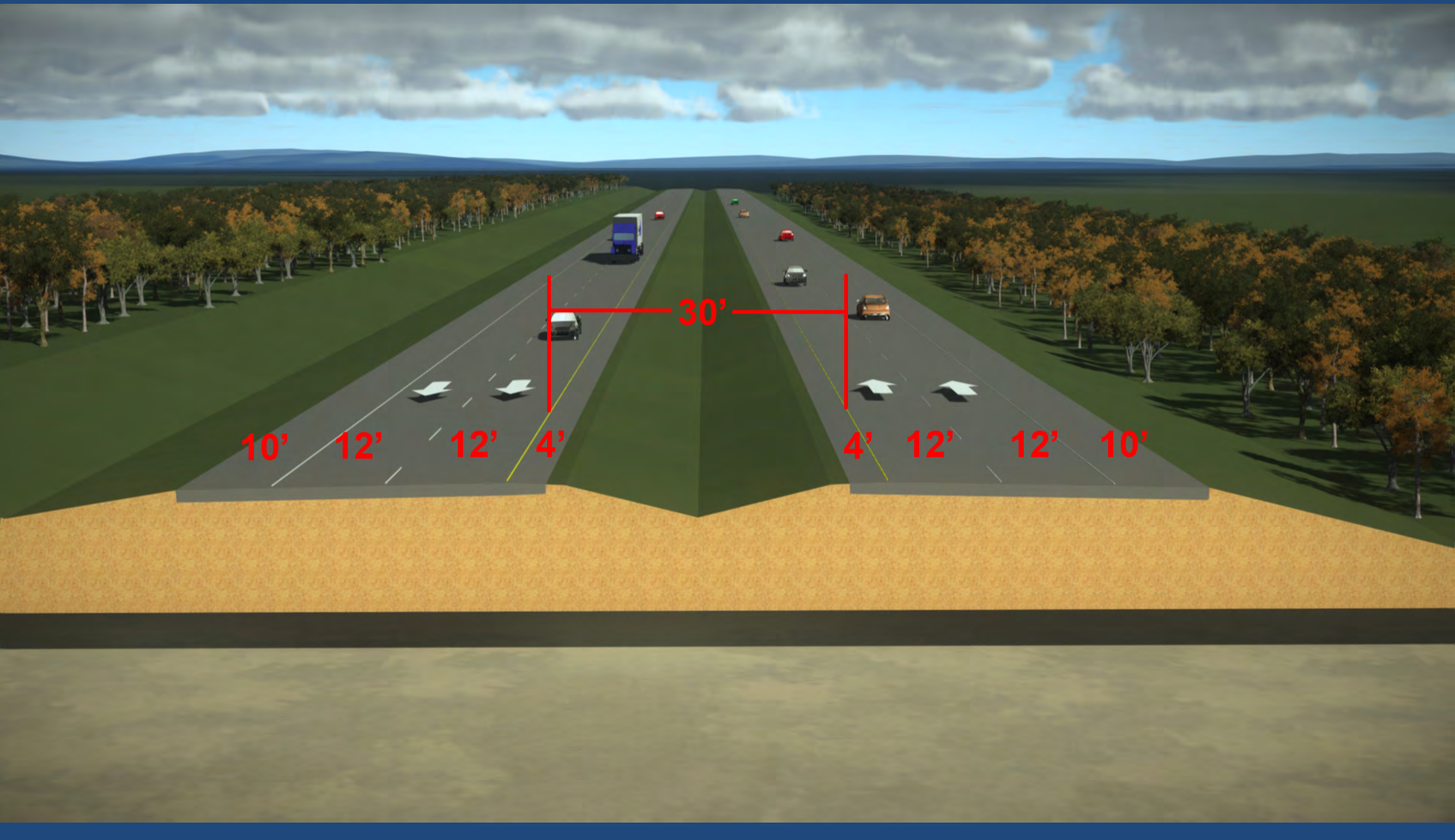
Design Variance

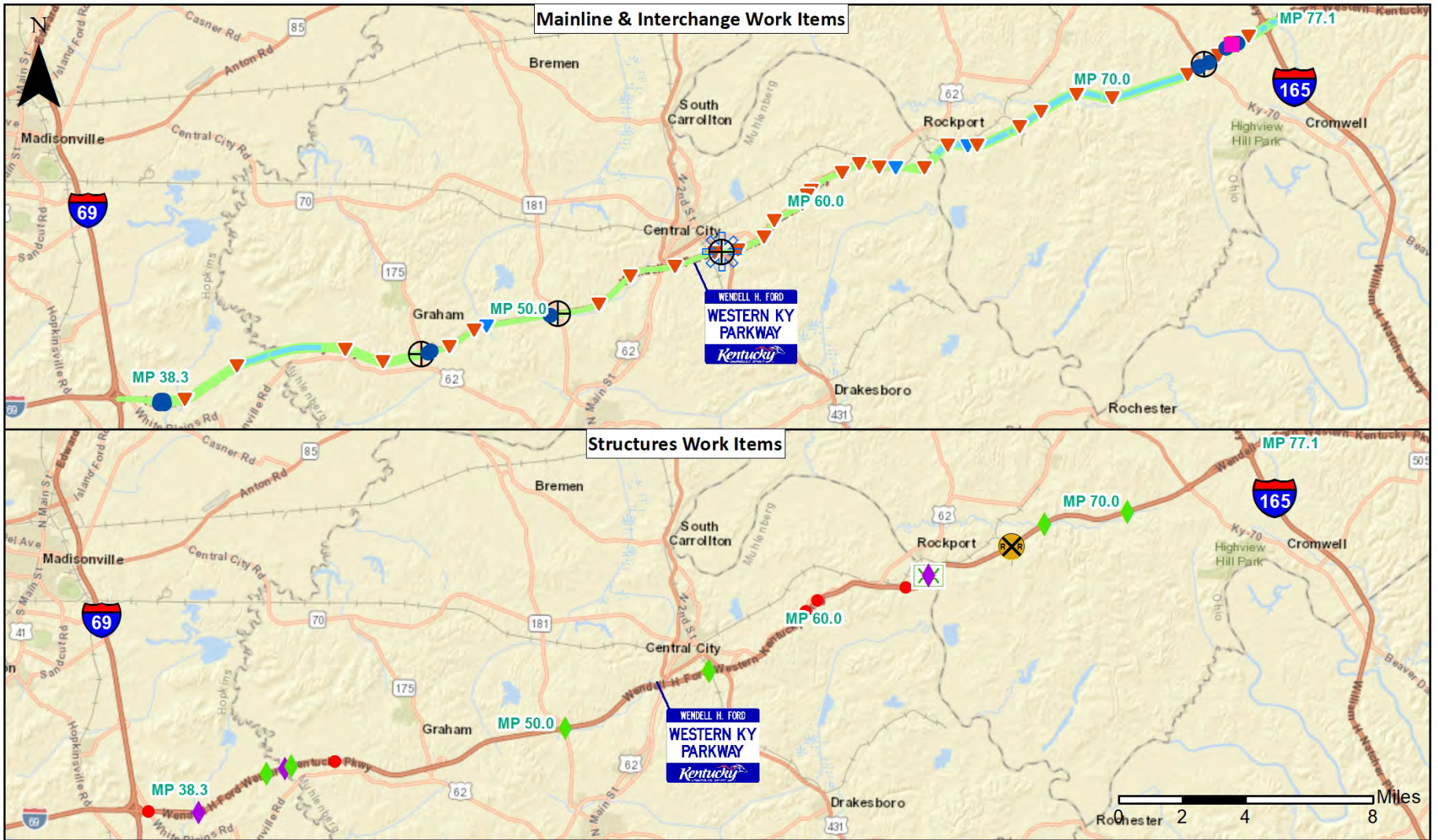
Any roadway characteristic not in the list but is however regulated by other jurisdictional guidance would be considered a *design variance* if interstate standards are not met.

Design Variances and Other Considerations

- Interchange Spacing
- Interchange Acceleration/Deceleration Lengths
- Level of Service
- Signing
- Access Control
- Clear Zone (Including Guardrail)
- Pier Protection/Crash Cushions at Bridges

Western Kentucky Parkway Typical Section





Upper Map - Mainline & Interchange Work Items

- Inside Shoulder Widening - Huck's Gas Station
- Acceleration / Deceleration Lane Upgrades
- ⊕ Access Control Upgrades
- ▼ Deficient Horizontal Curve Upgrades
- ▼ Deficient Vertical Curve Upgrades
- Guardrail Upgrades
- Guardrail Upgrades (Future Pavement Rehab Location)

- ⊗ Exit 58 Interchange Reconfiguration

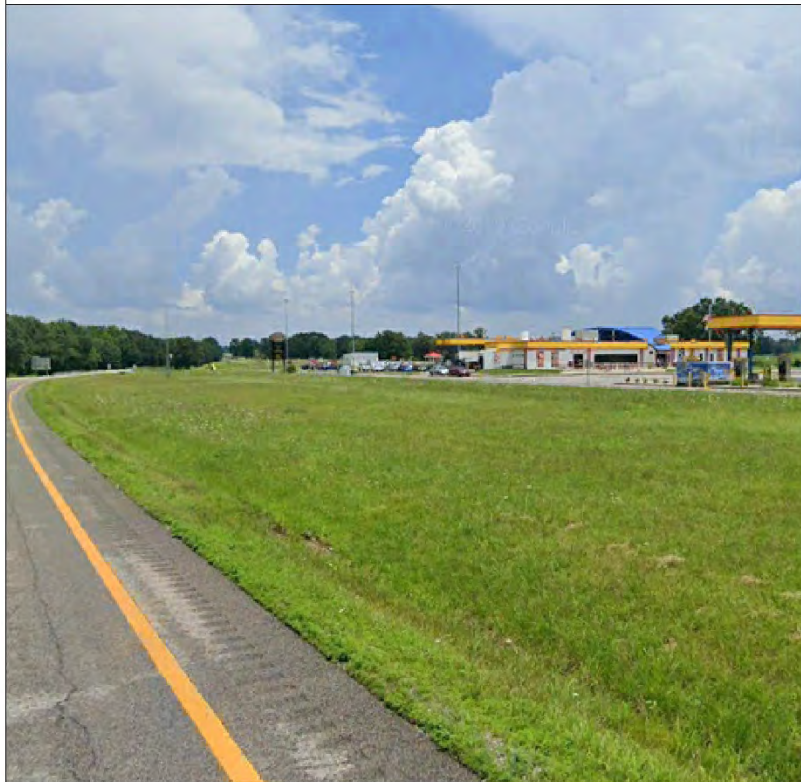
Lower Map - Structures Work Items

- Bridge Vertical Clearance Upgrades
- Green River Bridge - Lighting/Signing Upgrades
- ⊗ Railroad Bridge Removal
- Bridge Barrier and Shoulder Widening Upgrades**
- ◆ ≤ 200' Length
- ◆ > 200' Length

Western Kentucky Parkway Upgrade Study

Work Items Summary Map





Inside Shoulder Widening Upgrade - Hucks Gas Station

Key	Description	Milepoints	Cost
■	Widen inside shoulders to 10 ft	75.08 - 76.42	\$ 1,096,000

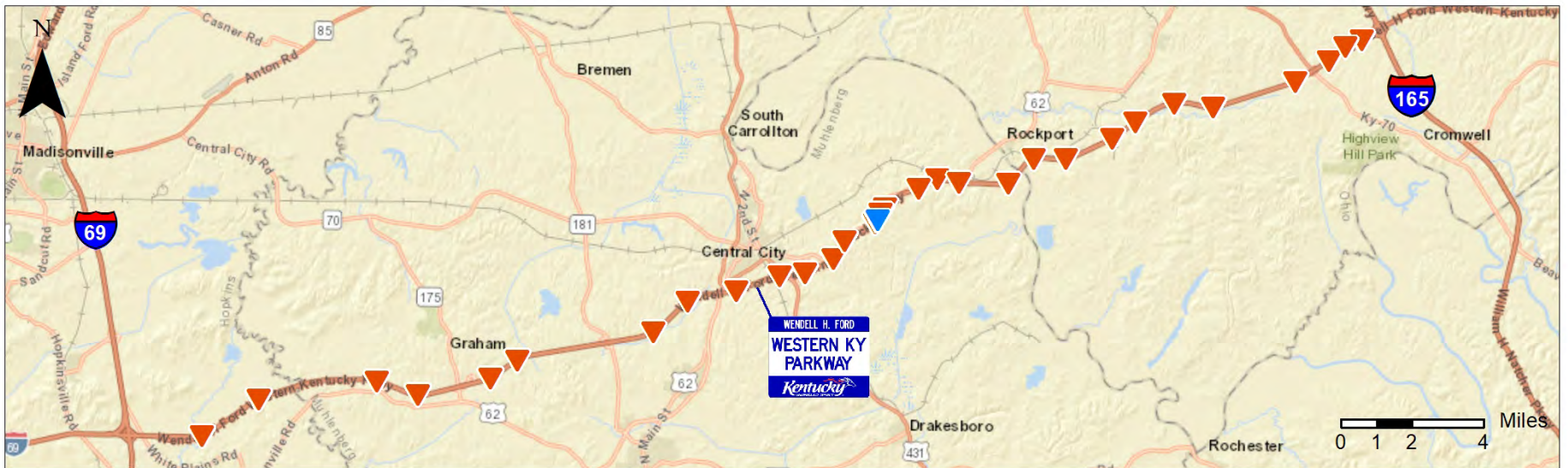
Work Item Description:

Widen the existing inside shoulders near the Hucks gas station to 10' to meet interstate standards.

Western Kentucky Parkway
Upgrade Study

Work Items:
Inside Shoulder Widening





Upgrade Deficient Horizontal Curves			
Key	Description	No.	Cost
▼	In high crash locations	18	\$ 5,678,000
	Not in high crash locations	8	\$ 2,704,400
	Total	26	\$ 8,382,400

Work Item Description:
Horizontal curves should meet a 70 mph design speed based on Table 3-10: Minimum Radii for Design Superelevation Rates, Design Speeds, and $e_{max} = 8\%$ found in the AASHTO Green Book, 2018 Edition.





Upgrade Deficient Vertical Curves			
Key	Description	No.	Cost
▼	Vertical Curve	1	\$ 476,800

Work Item Description:
Vertical curves should meet a 70 mph design speed based on Table 3-1: Stopping Sight Distance on Level Roadways found in the AASHTO Green Book, 2018 Edition.

Western Kentucky Parkway Upgrade Study

Work Items:
Horizontal and Vertical Curvature



Upgrade Guardrail			
Key	Description	Milepoints	Cost
		38.33 - 42.81	\$ 670,000
	(Future Pavement Rehab Location)	42.81 - 45.95	\$ 441,800
		45.95 - 65.68	\$ 2,409,600
	(Future Pavement Rehab Location)	65.68 - 77.14	\$ 1,408,300
	Future Pavement Rehab Sections Subtotal		\$ 1,850,100
	Other Sections Subtotal		\$ 3,079,600
	100% Corridor Grand Total		\$ 4,929,700

Work Item Description:

It is common practice on 3R (Resurfacing, Restoration, Rehabilitation) projects to upgrade guardrail throughout the corridor.

**Western Kentucky Parkway
Upgrade Study**

Work Items:
Guardrail





Pavement Cross Slope Example



Clear Zone Example



Median Example



Median Turn Around Example

Upgrade Deficient Cross Slopes

Description	No. of Locations	Cost
Cross Slopes (Flatter than 1.5%)	TBD	TBD

Work Item Description:

Re-work pavement to upgrade cross-slopes to meet interstate standards.

Upgrade Deficient Clear Zones

Description	No. of Locations	Cost
Clear Zones (Less than 30')	18 miles (113 locations)	
Regrading		\$ 8,922,100
Guardrail		\$ 2,766,700

Work Item Description:

Extend clear zone to 30' by regrading sideslopes or add guardrail at locations with deficient clear zones to meet interstate standards.

Upgrade Deficient Median Widths

Description	Milepoints	Cost
Median Width Compliance Upgrades	38.326 - 77.143	
Cable Barrier		\$ 5,621,800
Double Face Guardrail		\$ 5,661,400

Work Item Description:

Add cable barrier or double face guardrail to meet median width interstate standards.

Upgrade Median Turn Arounds

Description	No.	Cost
Median Turn Arounds (23 total)	TBD	TBD

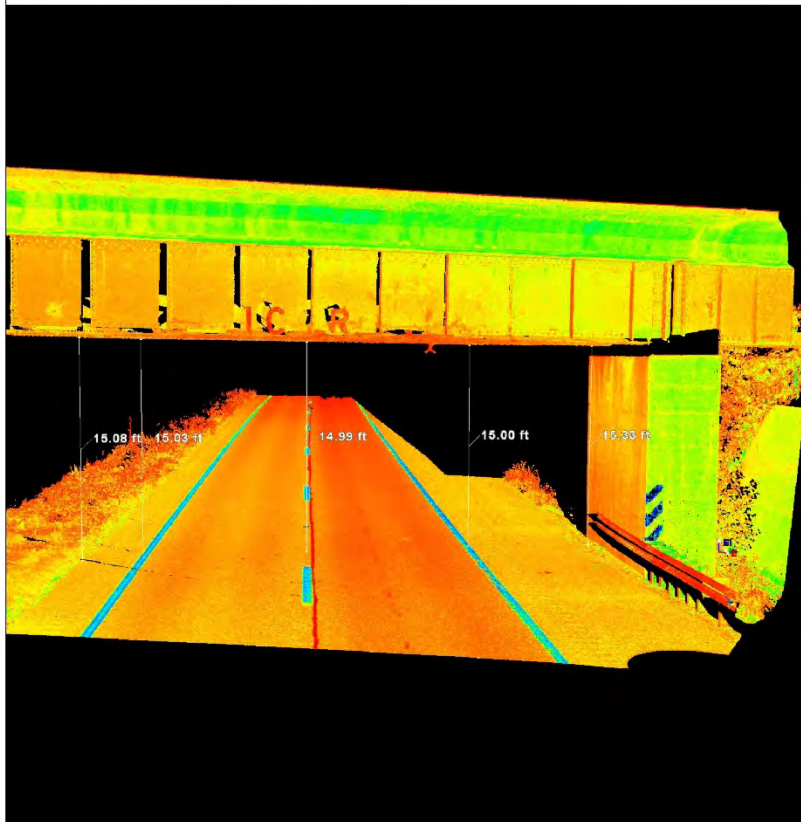
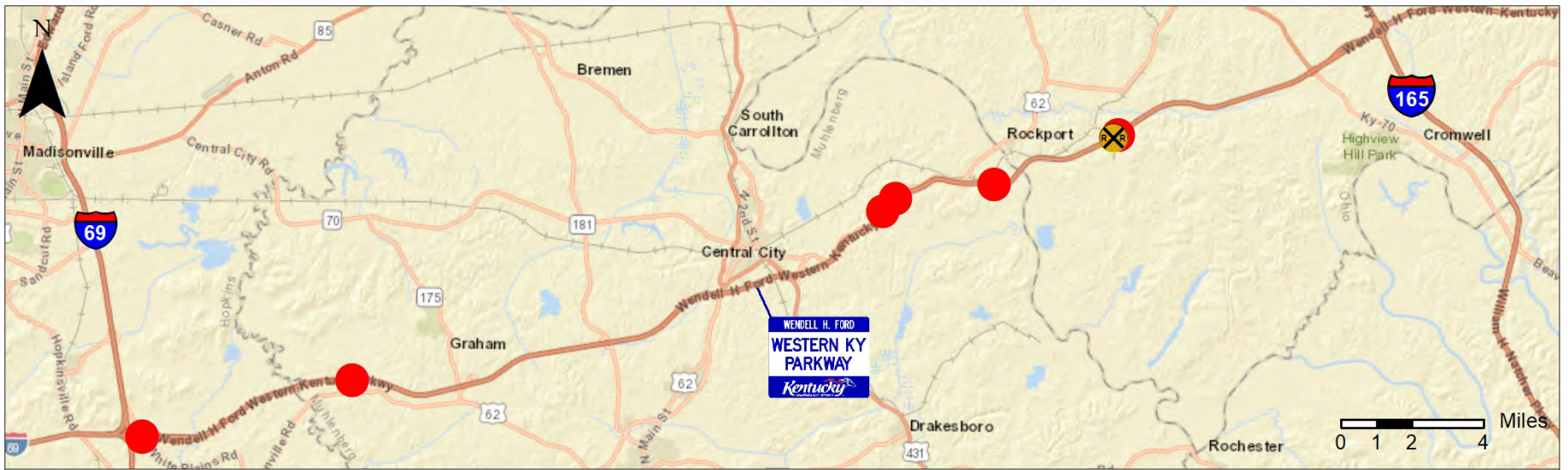
Work Item Description:

Re-work or close median turn around locations based on crash data, sight distance deficiencies, or drainage issues.

Western Kentucky Parkway
Upgrade Study

Work Items:
Additional Design Criteria and Considerations






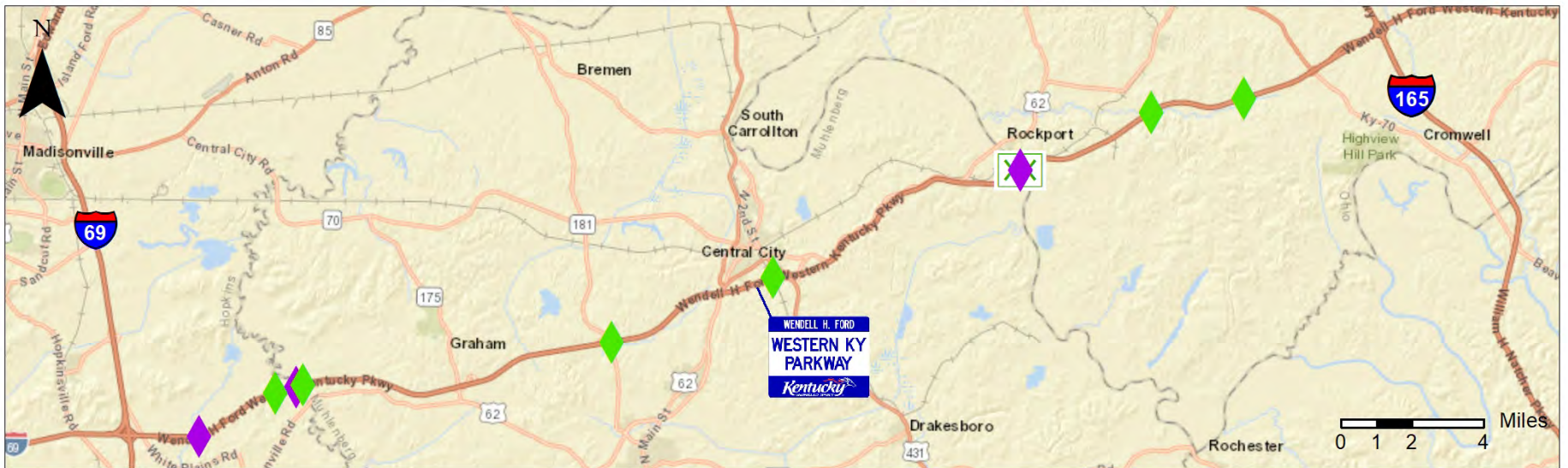
Upgrade Deficient Bridge Vertical Clearances			
Key	Description	No. of Bridges	Cost
	Vertical Clearances	9 (6 locations)	
●	Taper at 1" - 100'		\$ 4,991,900
●	Taper at 1" - 50'		\$ 2,533,500
●	Bridge Jacking		\$ 4,625,800
⊗	Railroad Bridge MP 68.57		\$ 150,000

Work Item Description:
 Lower the pavement elevation or jack bridges to upgrade deficient bridge vertical clearances to interstate standards.
 Address vertical clearance at abandoned railroad overpass (MP 68.57).

**Western Kentucky Parkway
Upgrade Study**

Work Items:
Structures - Vertical Clearances





Upgrade Deficient Bridge Barriers and Shoulder Widths			
Key	Description	No.	Cost
◆	Length <= 200' (Widening)	11 (6 locations)	\$ 3,681,600
	Length <= 200' (Superstructure Replacement)		\$ 7,926,700
◆	Length > 200' (Widening)	4 (3 locations)	\$ 5,181,000
Bridge Barrier Retrofit Only (Lewis Creek & Green River)		4 (2 locations)	\$ 483,300

Work Item Description:

Widen bridge/replace superstructure to address deficient bridge width or retrofit bridge barriers to meet interstate standards.

Improvements at the Green River Bridge		
Key	Description	Cost
⌋	Lighting	\$ 375,900
	Advanced Warning Signing	\$ 8,000

Work Item Description:

Add lighting and signing as safety countermeasures for the Green River Bridge.

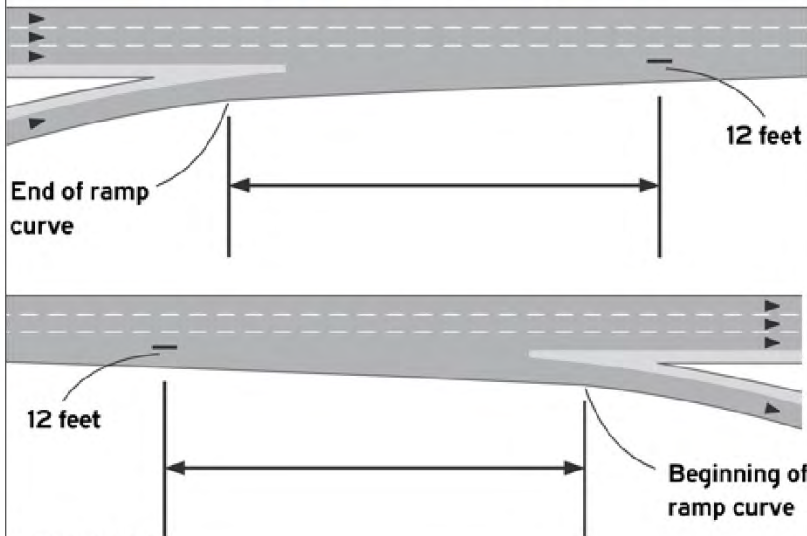
Western Kentucky Parkway Upgrade Study

Work Items:
Structures - Bridge Barrier / Width Compliance and Green River Bridge Considerations





Acceleration and Deceleration Lane Examples



Source: FHWA

Upgrade Deficient Acceleration and Deceleration Lanes

Key	Description	No.	Cost
●	Acceleration / Deceleration Lanes	11	\$ 2,283,500

Work Item Description:

Lengthen deficient acceleration and deceleration lanes based on Table 10-4: Minimum Acceleration Lane Lengths for Entrance Terminals with Flat Grades of Less Than 3% and Table 10-6: Minimum Deceleration Lane Lengths for Exit Terminals with Flat Grades of Less Than 3% found in the AASHTO Green Book, 2018 Edition.

Upgrade Deficient Access Control Locations

Key	Description	Cost
⊕	Access Control Locations (Exit 48, 53, 58, 75)	\$ 3,165,000

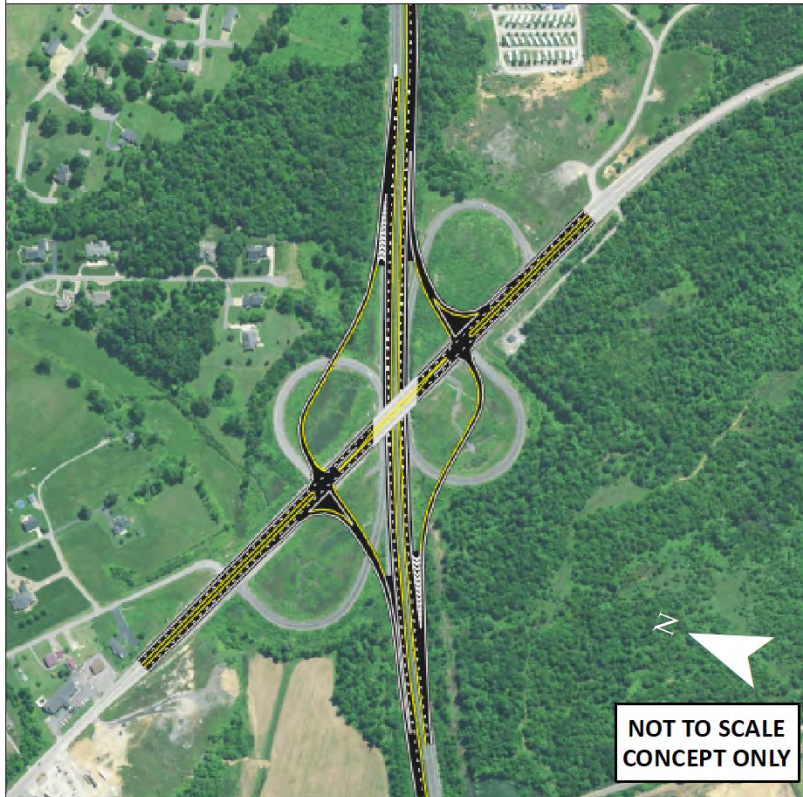
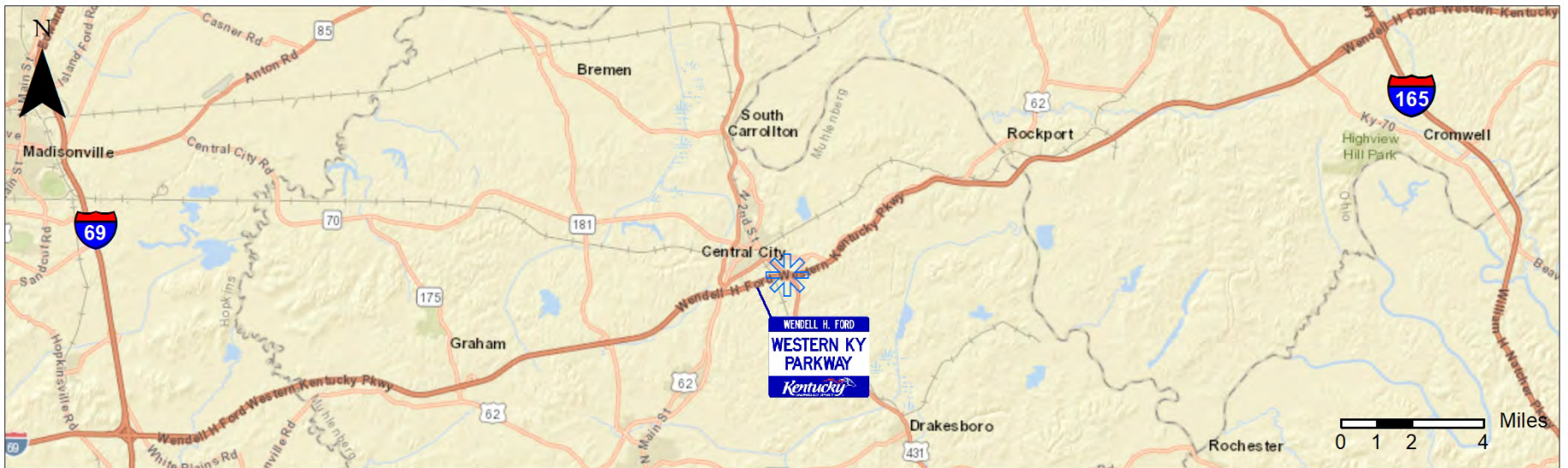
Work Item Description:

Modify access control to meet interstate standards.

Western Kentucky Parkway Upgrade Study


Work Items:
Access Control Compliance and
Acceleration and Deceleration Lanes





**NOT TO SCALE
CONCEPT ONLY**

Upgrade Exit 58 Interchange

Icon	Description	Cost
	Exit 58 - Interchange Reconfiguration	\$ 10,546,600

Work Item Description:

Reconfigure the interchange at Exit 58 in Central City, Muhlenberg County to upgrade acceleration and deceleration lanes, access control, and improve traffic flow.

**Western Kentucky Parkway
Upgrade Study**

Work Items:
Exit 58 Interchange Reconfiguration



Work Items – Summary of Costs

Upgrade / Improvement Category	No. Locations or Milepoints	Work Item Cost
MAINLINE		
Inside Shoulder Widening – Huck’s Gas Station	75.08 – 76.42	\$0 – \$1,096,000
Horizontal Curves	26	\$8,382,400
Vertical Curves	1	\$476,800
Clear Zones (Less than 30 ft)	113	\$2,766,700 – \$8,922,100
Median Width (Cable Barrier or Double Face)	38.326 – 77.143	\$5,621,800 – \$5,661,400
Guardrail and Guardrail End Treatments	38.326 – 77.143	\$3,079,600
STRUCTURES		
Vertical Clearances	9	\$2,683,500 – \$5,141,900
Bridge Barrier / Width Compliance	15	\$8,862,600 – \$13,107,700
INTERCHANGES		
Access Control Compliance	Exits 48, 53, 58, 75	\$3,165,000
Exit 58 – Interchange Reconfiguration	1	\$10,546,600
Acceleration / Deceleration Lanes	11	\$2,283,500
SUBTOTAL		\$47,868,500 – \$61,863,000
ESTIMATED DESIGN AND ENVIRONMENTAL (15%)		\$7,180,300 – \$9,279,500
MISCELLANEOUS (15%)		\$7,180,300 – \$9,279,500
TOTAL (ALL WORK ITEMS MAY NOT BE INCLUDED IN FINAL AGREEMENT)		\$62,229,100 – \$80,422,000

Project Schedule

April 2019	Study Initialized
May / June / July 2019	Existing Conditions Evaluation
August 2019	Project Team Meeting No. 1 Local Official / Stakeholder Meeting No. 1
September 2019	Develop Improvement Concepts
October 2019	Develop Work Items and Costs
November 2019	Project Team Meeting No. 2
December 2019	Local Official / Stakeholder Meeting No. 2
January 2020	Prepare Draft Report
February / March 2020	Address Comments / Finalize Report

Conversion Process

- Complete initial study with improvement options identified
- KYTC to have programmatic agreement with FHWA that may not include all work items
- Prepare Conversion Memorandum
- Obtain funding for incremental next steps
 - Design
 - Right-of-way
 - Utilities
 - Construction

Questions?

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