

TRUCK ROUTE ACCESS EVALUATION

Plum Springs Industrial Site
Warren County
Site #2575

Report No. KTC-98-37

“Freight Movement and Intermodal Access in Kentucky”
SPR 98-189

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1.0 Introduction

The Freight Movement and Intermodal Access in Kentucky Study (SPR 98-189), undertaken by the Kentucky Transportation Center (KTC) on behalf of the Kentucky Transportation Cabinet (KYTC), has two main objectives. These objectives include the evaluation of access for trucks between intermodal or other truck generating sites and the National Highway System (NHS) and furthering the understanding of freight commodity flows throughout the state. This report summarizes the access evaluation for one cluster of facilities located in Warren County in the Barren River Area Development District (ADD) and Kentucky Transportation Cabinet (KYTC) Highway District #3. The location of the site is shown in Figure 1. Work on other specific sites as well as the freight commodity flow task are on-going and are documented elsewhere.

The sites to be evaluated in this project were selected from two existing databases (a truck facility survey from 1994 and the intermodal facility inventory) based on ADD and KYTC planner recommendations, geographic location, distance to the National Highway System, and the number of trucks accessing the site. Consideration was also made for the freight type handled and transportation modes used.

This particular site was visited several times for data collection on May 13 1998 and for video recordings on January 28, 1998. Traffic counts were taken at two intersection on June 1, 1998. Aerial photographs of the area can be seen in Figures 2 and 3. The following facilities are located in the area: Bowling Green Concrete, Trace Die Cast, Nyloncraft of Kentucky, American Freightways, Vanmeter Contracting, Woodwork of MidAmerica, Roadway, Top Drawer Manufacturing, Pepsi, Rapid Parcel Service, and Building Systems and Acoustics Incorporated. Some of these facilities are located west of Plum Springs Loop on Graham Street (approximately 0.2 miles from US 31W and Plum Springs Loop) or Commerce Street (approximately 0.9 miles from US 31W and Plum Springs Loop), and others are located directly on Plum Springs Loop. Phone surveys were completed on three of the area facilities that were considered to have the highest volume of truck traffic. These facilities indicated that approximately 100 trucks per day (200-one way trips) are accessing the area as a result of their daily operations. From observation during the various site visits, the total number of trucks utilizing the route (from all the facilities) is only slightly higher as many of the other facilities have only 1 – 2 trucks per day.

2.0 Truck Routes in Use

There is one primary route (shown on Figure 4) for trucks to reach the NHS - I-65 in this case. The route takes trucks from Graham Street (from its intersection with Commerce Street) or Commerce Street to Plum Springs Loop, where trucks head southwest to US 31W. The section of Plum Springs Loop between Commerce Street and Graham Street is also included in this route. US 31W is a major urban arterial while Plum Springs Loop is a rural collector. Graham Street is local road consisting of dense industrial development. Once on US 31W, trucks proceed east to the entrance ramp onto KY 446. KY 446, a two-way, four-lane arterial, ends at the I-65 interchange. There is traffic signal control along this route at the intersection of US 31W and Plum Springs Loop and at the intersection of KY 446 and Corvette Drive. This route is approximately 1.5 miles in length. The average daily traffic (ADT) on US 31W is 38,092

Figure 2: Aerial Photograph of Area (1995 picture)

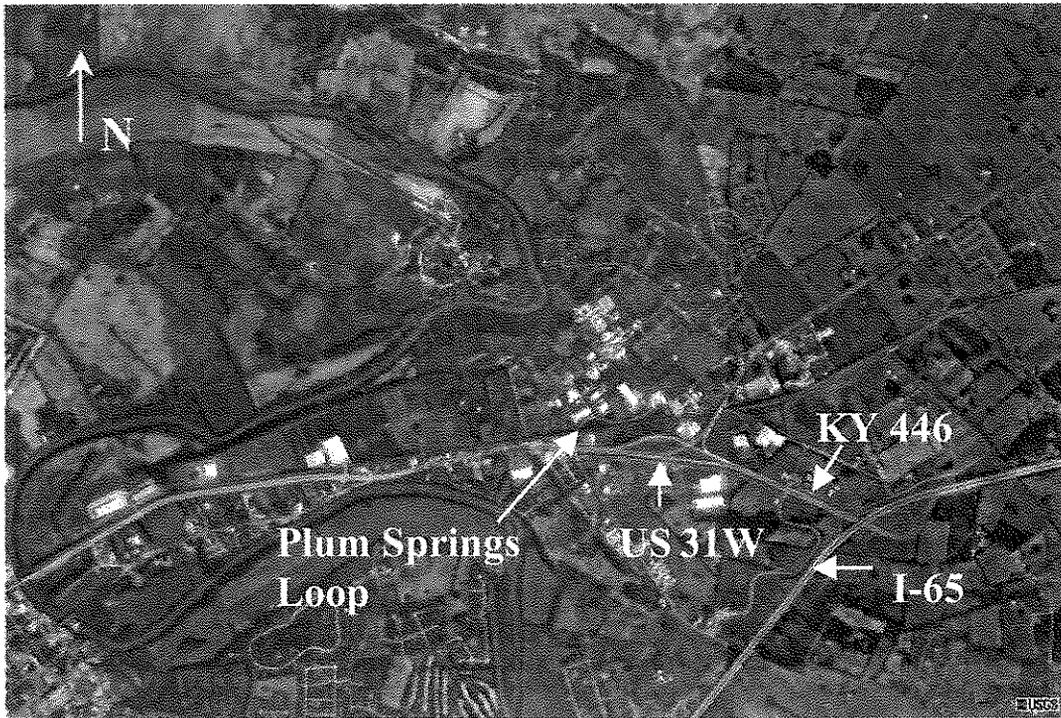
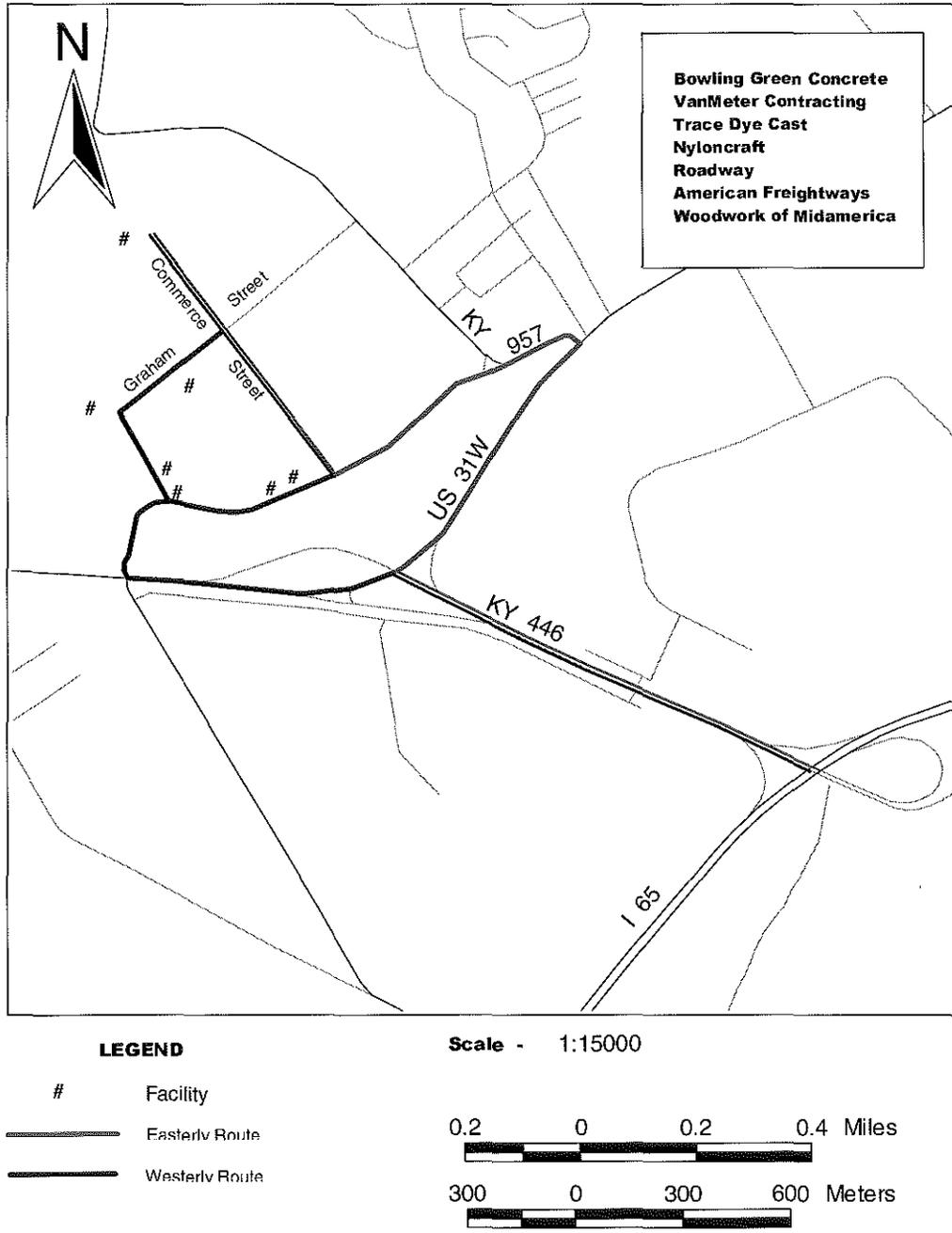


Figure 3: Aerial Photograph of Facilities in Site (1995 picture)

Figure 4: Route Map*



*Note: Evaluations completed as one route to prevent double-counting route sections and/or points.

vehicles (from 1996 KYTC traffic counts) and the ADT on KY 446 is 13,191 vehicles (from 1998 KYTC traffic counts). The ADT on Plum Springs Loop is 5,691 vehicles per day (from a 1998 classification count conducted for the KYTC Division of Planning).

The secondary route for truck traffic begins at the location of Bowling Green Concrete on Commerce Street where trucks proceed southeast to Plum Springs Loop. From this intersection, the route runs northeast along Plum Springs Loop to the intersection of US 68 / KY 80 / US 31W. Trucks will then head southwest, travel under KY 446, and then turn left onto the entrance ramp for KY 446. KY 446 ends at the entrance ramps onto I-65. Traffic signal control along this route occurs only at KY 446 and Corvette Drive. Site inspection, as well as information obtained during the surveying process, revealed that the primary route was used with much greater frequency than this second one.

3.0 Route Data Collection and Evaluation

The route features that are to be evaluated in this study are shown in Table 1 along with a brief description of the evaluation method. While some of these features required only subjective evaluation by the engineer during site inspection, others required quantitative measurement in order to label the particular point or section as “preferred”, “adequate”, or “less than adequate” for truck access. The guidelines for labeling a point or section into one of these three descriptive categories are provided in both the interim and final report for this project. Measurements were only taken where subjective evaluation indicated a problem might exist.

3.1 Traffic Operations and Level of Service

The problem areas identified during the phone surveys were the intersections of Plum Springs Loop with US 68/KY 80 and US 31W. Therefore, these two intersections were analyzed using a two step process: 1) Level of Service (LOS) using the Highway Capacity Software for each intersection; and 2) Overall arterial LOS using a travel time study. Traffic counts and travel time measurements were made on June 1, 1998 for analysis purposes. These intersections have traffic-actuated signals, an issue that HCS does not address adequately in the existing software version. Basic assumptions for all intersections are the lack of signal coordination, the absence of pedestrians (note that during the field counts very few were noted), and the use of 3 seconds as lost time per phase. To resolve the actuated signal problem and since the period examined is the p.m. peak, it was assumed that the demand would be high enough to force the signals to operate as fixed time signals with maximum green times. The lane use diagrams and volume counts for each intersection are shown in Appendix B.

The results for both intersections using the HCS analysis are shown in Table 2. The LOS for all intersections analyzed is at acceptable levels, A and B, with very low delays and no approach has any significant delays.

For the second approach, a travel time study was conducted where an observer traveled along the two possible paths to reach I-65 in both directions while maintaining the speed of the traffic.

Table 1: Route Features and Method of Evaluation

Feature	Methodology	Team Consensus based on Committee Meeting and Draft Report Feedback	Feature Type
Offtracking	Lane Width with formula based on wheel and axle spacing	Evaluate where observation of trucks indicates possible offtracking - use HIS data and collect in field	Point
Max. Safe Speed on a Curve	Ball Bank Indicator Reading	Evaluate complete route due to ease of data collection	Point
Grade	Speed Reduction Tables with Percent Grade and Direct Observation	Evaluate where observation of trucks indicates speed reduction occurs using HIS data and collect in field as needed	Continuous
Lane Width	HIS data and field measurement	Review complete route due to ease of data collection	Continuous
Clear Zone	Observation	Subjective evaluation	Subjective
Shoulders	HIS data and field measurement	Evaluate where HIS data is available and estimate based on observation elsewhere	Continuous
Pavement Condition	Observation	Subjective evaluation	Subjective
Truck Stopping Sight Distance	Field measurements	Measure only when observation indicates possible problem	Point
Turning Radii	Field measurements and observations of trucks	Measure only when observation indicates possible problem	Point
Accident History	Accident data files and KTC High Truck Accident Report	Do for entire route	Subjective
Intersection LOS	Traffic counts	Only where problems are indicated by facility managers	Point
Route LOS	Traffic counts and travel time studies	Only where problems are indicated by managers	Continuous
RR Crossings	Field Observation	Evaluate all level crossings	Point
Bridges	KYTC Sufficiency Rating	Evaluate all bridges	Point

Table 2. Summary of LOS analysis for each intersection (sec/veh / LOS)

Intersection	East-bound			West-bound			North-bound		South-bound		Inters.
	L	T+R	App	L	T+R	App	LTR	App	LTR	App	
US 31W @ Plum Springs	4.6/A	4.5/A	4.6/A	4.3/A	5.2/B	5.2/B	15.7/C	15.7/C	14.8/B	14.8/B	8.1/B
US 68/KY 80 @ Plum Springs	19.2/C	19.4/C	19.4/C	¹	19.2/C	19.2/C	1.8/A	1.8/A	1.8/A	1.8/A	5.2/A

Note: ¹ Westbound approach has only one lane

Three passes were made for each direction (field data is shown in Appendix B) and the average time for each direction was computed. The route turning right from Commerce Rd. to Plum Springs Loop (westerly route) required a travel time to I-65 of 158 sec and from I-65 171 sec. Given the length of the route, 1.705 miles, the average travel speeds were computed--to I-65 38.8 mph and from I-65 35.9 mph. Using the Highway Capacity Manual and for a type II arterial--urban with medium development and 45 mph speed limit--the LOS is A for both directions. The alternate route, turning left from Commerce Rd. to Plum Springs Loop required a travel time to I-65 of 184 sec and from I-65 of 154 sec. The length of this route is 1.831 miles and the average travel speeds are 35.8 mph to I-65 and 42.8 mph from I-65. The LOS for this route is also A for both directions. Therefore, no significant delays or operational problems experienced along either route, since the arterial operates at a high LOS during the peak period. Given this analysis, the access routes are considered to operate at an acceptable level of service.

3.2 Accidents

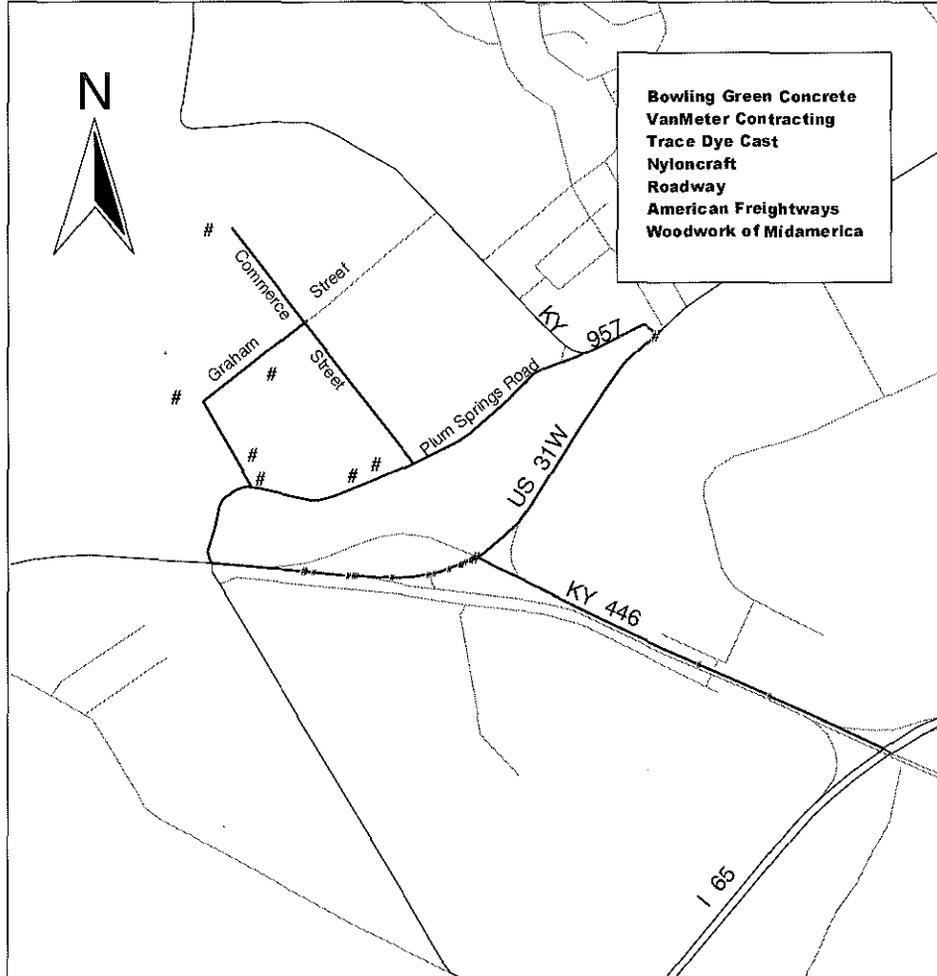
In 1997 the Kentucky Transportation Center studied all the state-maintained roads throughout Kentucky and determined average truck accident rates for different types of road sections. A critical accident rate was calculated using the average accident rate for a specific highway type along with an assumed level of statistical significance and exposure (vehicle miles traveled). The only critical rate factor (the ratio of the actual accident rate versus the critical rate) that exceeds 1.0 along these routes falls along US 31W between milepoints 17.764 and 18.522 (the intersection with Plum Springs Loop is at milepoint 18.085) and has a value of 1.27. This indicates that the rate of truck accident occurrences is greater than the critical rate.

Figure 5 shows the locations of accidents during the years 1994, 1995, and 1996. A summary of the accidents along both truck routes (for all roads, not just state-maintained roads) is shown in Table 3 for the same three-year period. Special attention should be paid to the intersection of US 31W and Plum Springs Loop, at milepoint 17.089. During the three-year period, eight truck accidents occurred at this intersection and two more took place in the immediate vicinity of the intersection. Since all but four of the 12 truck accidents occurred at this intersection, there are some concerns for this intersection from a recent accident history point of view.

Table 3: Accident Types along Warren County Truck Route (1994 - 1996)

	<i>Non-Truck Accidents</i>	<i>Truck Accidents</i>	<i>Percent Trucks</i>
Total	97	12	11.0
Fatal Accidents	0	0	0.0
Injury	40	4	9.1
Intersection	39	8	17.0

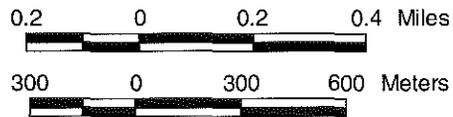
Figure 5: Accident Locations (1994 - 1996)



LEGEND

- # Facility
- * Accidents: 1 - 2
- # Accidents: 4
- # Accidents: 23 - 27
- Freight Access Route
- State Highway System
- Other Roads

Scale - 1:15000



3.3 Cross Section Features

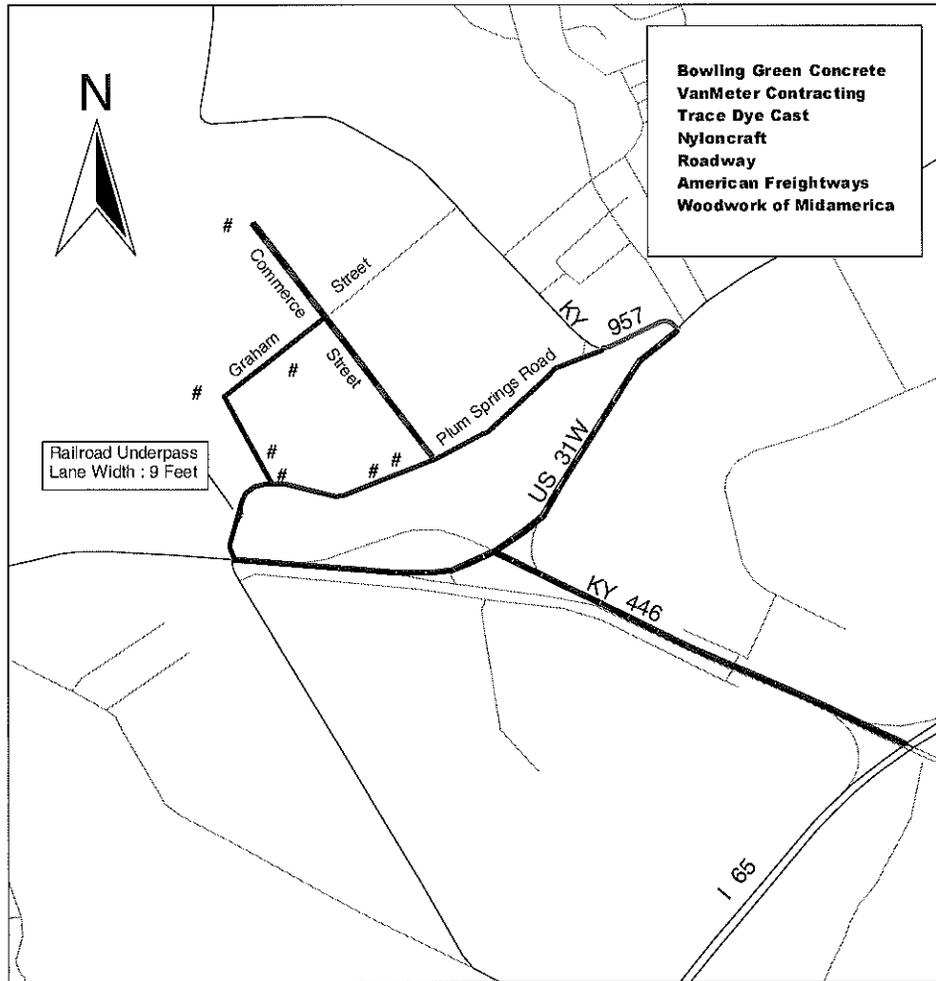
Figures 6 and 7 illustrate the sections of the route with different lane widths and shoulder types, respectively. KY 446 and US 31W consist of “preferred” 12-foot lanes while the remaining roads within the industrial site have 11-foot lanes. The only exceptions to the county road widths is Commerce Street which has 10.5-foot lanes and the length below the railroad underpass (see Figure 2) on Plum Springs Loop. The railroad underpass has only 9-foot lanes, which are considered “less than adequate”. The 10.5-foot lanes on Commerce Street are “less than adequate” and the 11-foot lanes on Plum Springs Loop and Graham Street are “adequate”. KY 446 has “less than adequate” curbed shoulders for the first 0.3 miles and 10-foot paved shoulders beyond the interchange with I-65. The 10-foot paved shoulders are considered “preferred” for trucks. US 31W has only 2-foot shoulders and the county roads possess a range of shoulder widths from 2 to 4 feet and generally are composed of turf. These shoulders are considered “less than adequate”.

The only clear zone problem along either route was the railroad underpass on Plum Springs Loop, immediately northwest of the intersection with US 31W. The 9 foot lane widths below the underpass use all the available space; therefore, there is no shoulder or clear zone available for use. More detail concerning this underpass can be found in section 3.4.

3.4 Curvature Features

Offtracking is considered a problem where a truck cannot stay in its lane through a horizontal curve. The majority of Plum Springs Loop consists of moderate horizontal curvature, but the curvature is not problematic. However, the railroad underpass shown in Figure 8 is situated approximately 350 feet from the intersection of Plum Springs Loop and US 31W consists of 9 foot lanes with no shoulder. In addition, the underpass lies along a horizontal curve. This combination of curvature and narrow lane widths requires that trucks offtrack into the opposing lanes of traffic, sometimes three feet or more as seen in Figure 9. This has the potential to cause serious problems, both to the drivers that traverse the roadway daily as well as to the structure itself. The 9 foot lane widths would be inadequate even if along a straight stretch of roadway. During the site inspections, several trucks were witnessed stopping before reaching the underpass in order to allow other vehicles to pass through. Trucks are incapable of traveling through the underpass while remaining in their lane. Several warning signs, as seen in Figure 10, are in-place approximately 150 feet from the actual underpass.

Figure 6: Lane Widths



Bowling Green Concrete
VanMeter Contracting
Trace Dye Cast
Nyloncraft
Roadway
American Freightways
Woodwork of Midamerica

Railroad Underpass
 Lane Width : 9 Feet

LEGEND

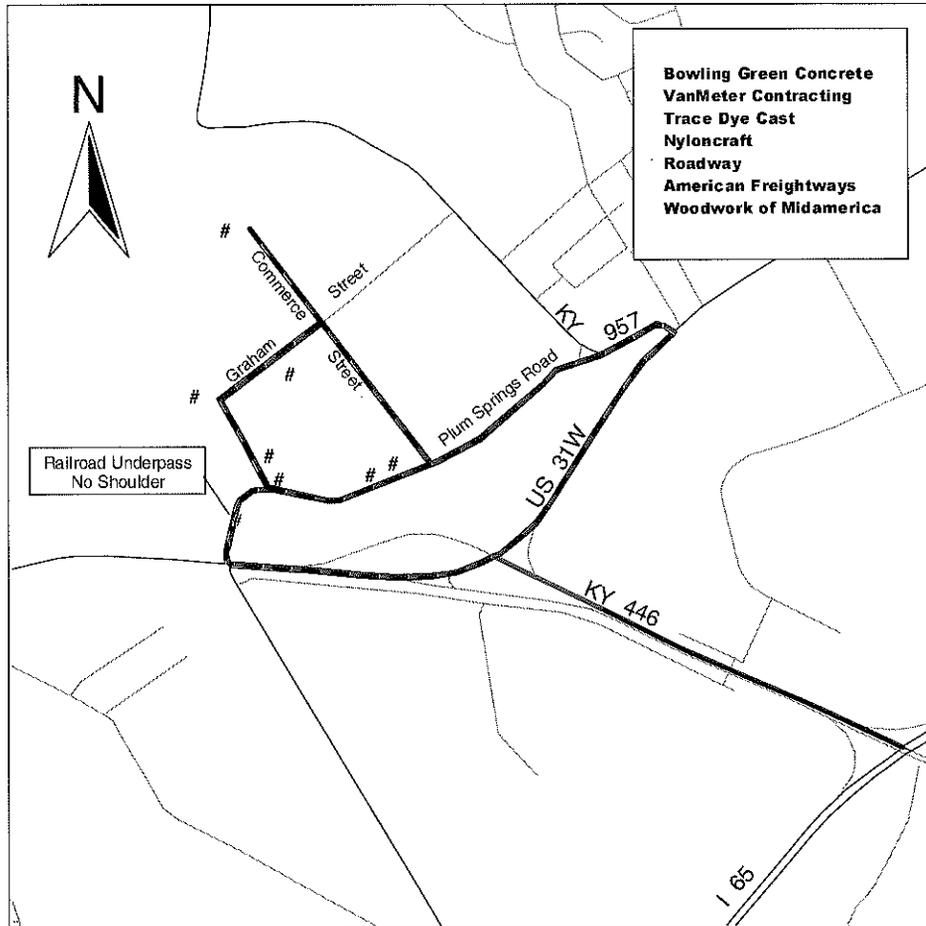
- # Facility
- # Lane Width: 9 Feet
- Lane Width: 8 Feet
- Lane Width: 10.5 Feet
- Lane Width: 11 Feet
- Lane Width: 12 Feet
- Freight Access Route
- State Highway System
- Other Roads

Scale - 1:15000

0.2 0 0.2 0.4 Miles

300 0 300 600 Meters

Figure 7: Shoulder Widths



LEGEND

- # Facility
- # No Shoulder
- Shoulder Width: Curbed
- Shoulder Width : 2 -4 Feet
- Shoulder Width : 10 Feet
- State Highway System
- Other Roads

Scale - 1:15000

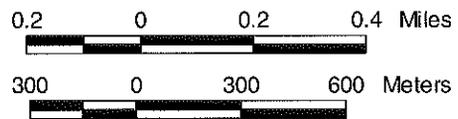


Figure 8: Underpass as seen from westbound Plum Springs Loop



Figure 9: Truck negotiating curve through underpass

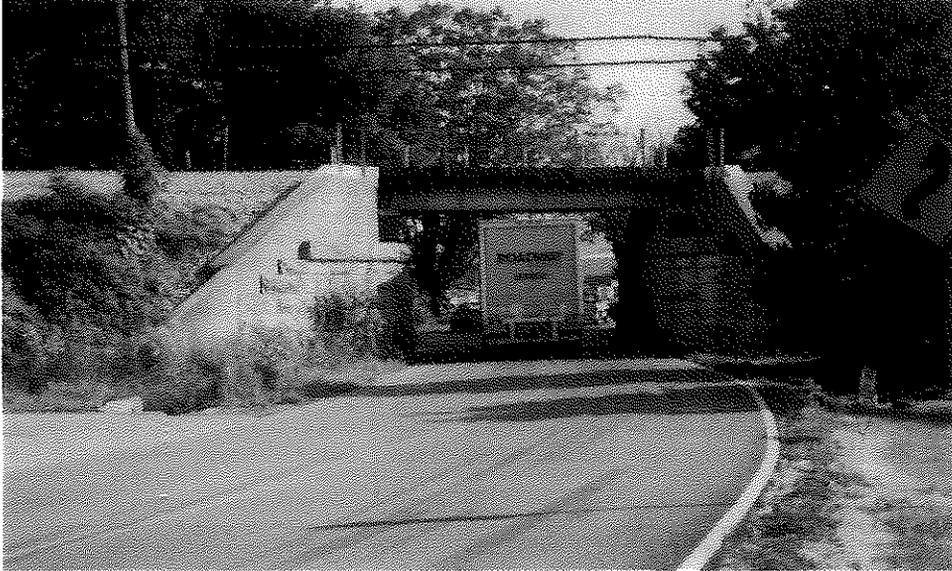
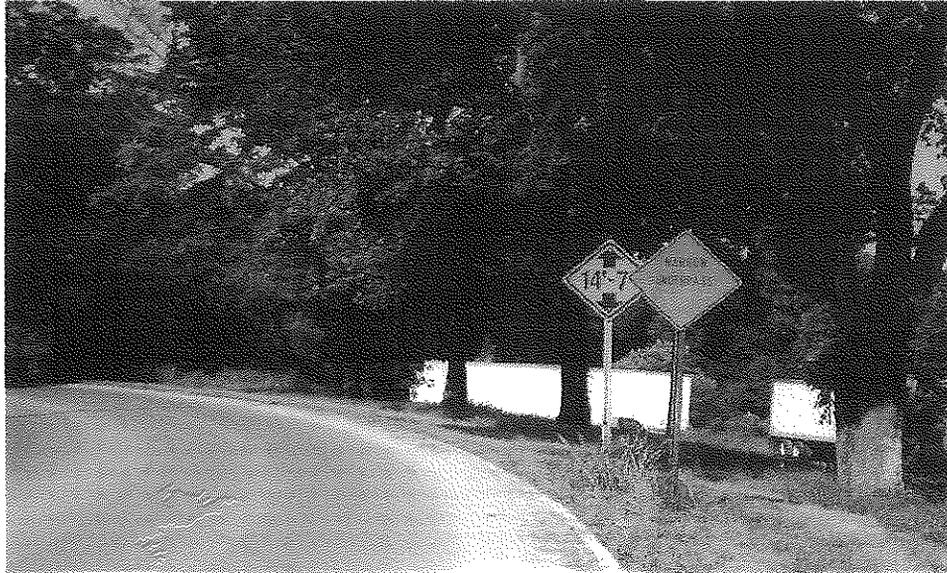


Figure 10: Warning signage for underpass



Another problem area worthy of mention is the curvature along Graham Street, beginning approximately 0.15 miles from the intersection of Plum Springs Loop and Graham Street. The curve in question, as seen in Figure 11, has a posted advisory speed of 15 mph, and the ball-bank indicator showed readings of 20 to 22 degrees at this speed. Physical measurement revealed that the radius of this curve is approximately 50 feet. This indicates that the curve is “less than adequate” for the trucks that are driving through it, which is evident in the figure.

Figure 11: Curvature on Graham Street



Two turning radii along Plum Springs Loop are also problematic for large trucks. The intersection of Plum Springs Loop and Commerce Street has only a 44-foot turning radius as depicted in Figure 12. Trucks were witnessed making this turn, and there was encroachment into the adjacent lane. The second turning radius in question is at Graham Street and Plum Springs Loop. Several trucks were observed traveling into the opposing lane while making the turn, but others of similar size were able to turn while remaining in the correct lane. Figure 13 shows the location of the curve and its approximate layout. The estimated turning radius of 68 feet, with the lane widening found at the intersection, should be sufficient for the trucks to successfully navigate through the turn without leaving their respective lane.

Figure 12: Turning radius from Commerce Street onto Plum Springs Loop

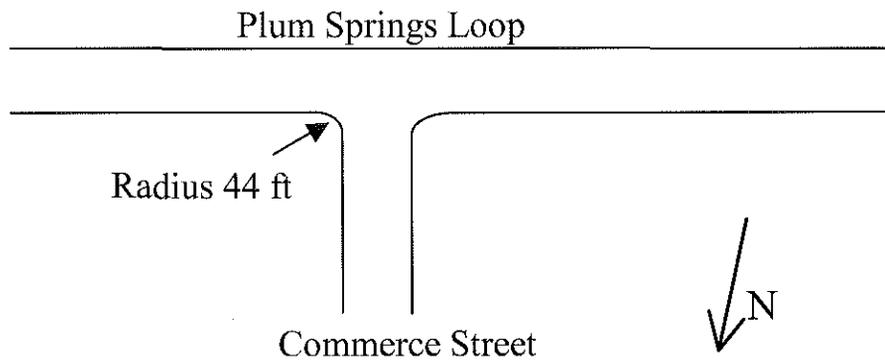
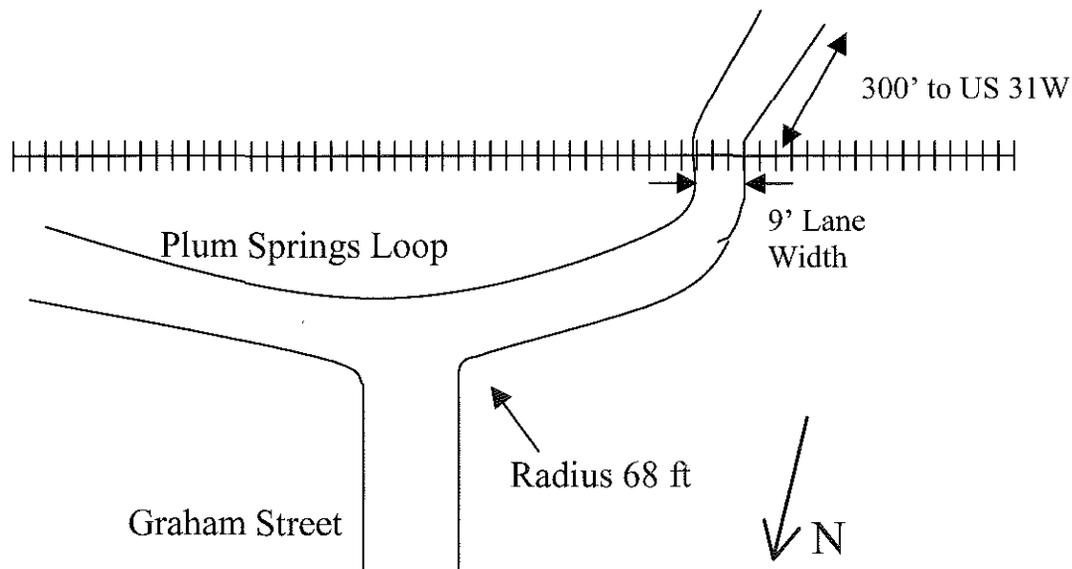


Figure 13: Turning radius from Graham Street onto Plum Springs Loop



3.5 Railroad Crossings

There were no at-grade railroad crossings along either route.

3.6 Bridges

There are three bridges along the access routes, illustrated in Figure 14. The Kentucky Transportation Cabinet's Division of Operations maintains a database of bridge sufficiency ratings that are based on the serviceability (as well as other characteristics) of each structure. The first bridge is located on US 31W at milepoint 17.76 and received a sufficiency rating of 75.7 out of a possible 100 points. This score is equivalent to a rating of "adequate" for the purpose of this evaluation. The remaining two bridges lie on KY 446 at milepoints 0.63 and 1.09. Both bridges are considered "adequate" with sufficiency ratings of 77 and 74.3, respectively.

3.7 Sight Distance

One intersection was investigated with field measurements due to suspected sight distance problems. The intersection of Graham Street and Plum Springs Loop is near the end of a curved segment of roadway. This results in approximately 250 feet of sight distance in the westerly direction towards US 31W. However, this distance does not result in a sight distance problem as all trucks must slow excessively before proceeding through the underpass in order to allow opposing traffic to pass through. Since the traffic speed is so low through this area and all trucks are forced to reduce speeds, there is no problem with the 250 feet of available sight distance. Thus, no sight distance problems occur along either route.

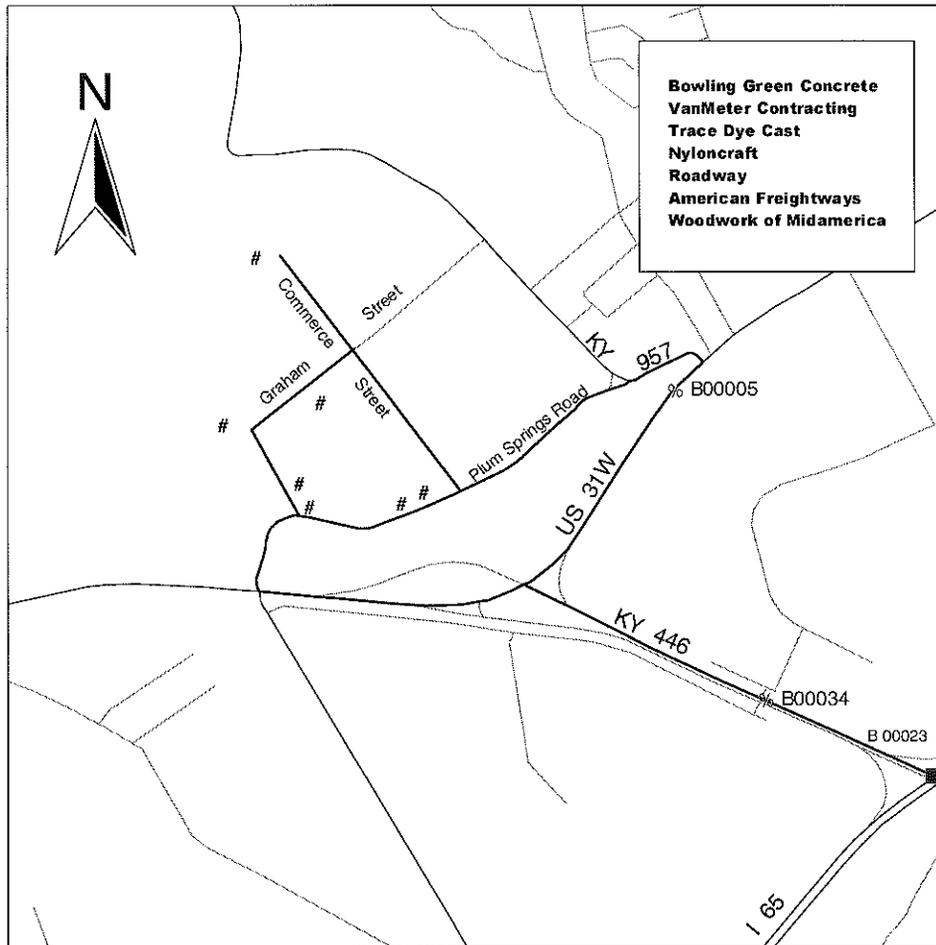
4.0 Complete Route Evaluation and Recommendations

4.1 Problem Truck Miles and Truck Points

In order to compare different routes to consider the relative urgency of needed route improvements, the features rated "preferred", "adequate", and "less than adequate" along a route have been normalized for the number of miles, number of points, and number of trucks using the section. In the case of this Warren County truck route, 6 features (lane widths, shoulders, bridges, curve safe speed, offtracking, and turning radii) that were evaluated quantitatively have sections or points that are considered only "adequate" or "less than adequate". A section or point that is considered "less than adequate" is weighted two times that of an adequate point or section. Less than "preferred" sections are weighed by length as well as the number of trucks passing that point.

Table 4 contains the total problem truck miles and total problem truck points for lane width, shoulders, turning radii, and bridges along this route. The numbers of trucks along

Figure 14: Bridge Locations



LEGEND

- # Facility
- % B00005 Bridges - Bridge Number
- Freight Access Route
- State Highway System
- Other Roads

Scale - 1:15000

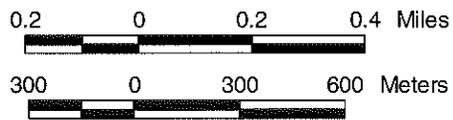


Table 4: Summary of Problem Truck Miles and Truck Points for Entire Route

Feature	Road	Location	Points*	Length (Miles)	Trucks (/day)	Truck-miles
Lane width	Plum Springs Loop	Length	1	1	679	679
	Plum Springs Loop	RR underpass	2	0.1	679	135.8
	Graham Street	Length	1	0.4	228	91.2
	Commerce Street	Length	2	0.5	451	451
Total						1357
Shoulders	US 31W	MP 17.09 - 18.09	2	1.00	460	920.0
	Plum Springs Loop	Length	2	1	679	1358
	KY 446	MP 0.3 - 0.8	1	0.5	1582	791
	KY 446	MP 0 - 0.3	2	0.3	1582	949.2
	Graham Street	Length	2	0.4	228	182.4
Total						4200.6
Turning radii	Commerce	Plum Springs Loop	2		451	
Total					451	
Curvature	Graham Street	0.15 miles from Plum Springs	2		228	
Total					228	
Offtracking	Plum Springs	RR underpass	2		679	
Total					679	
Bridge Ratings	US 31 W	B00005	1		2283	
	KY 446	B00034	1		1582	
	KY 446	B00023	1		1582	
Total					5447	

*1 point for adequate features and 2 points for less than adequate features (0 points for preferred features not shown)

each roadway were obtained from traffic counts conducted for the KYTC Division of Planning during 1998. The rating of this route relative to others evaluated will be reported in the final report.

4.2 Maintenance Improvement Locations

One possible improvement that could be considered for the route is the inclusion of lane markings along Graham and Commerce Streets. The lanes on both roads should have at least a centerline.

4.3 Overall Route Rating

In order to account for both the subjectively and objectively evaluated route features along truck routes throughout the state, a panel of Kentucky Transportation Center engineers who are responsible for studying the routes associated with this project devised a scale for quantitatively scoring the route from 1 to 10. The interpretation for this scale

can be seen in Table 5. These access routes, running from I-65 to the industrial site on Plum Springs Loop via KY 446 and US 31W, were evaluated as one route since several portions of each overlap and can not be separated into two distinct routes. The combined route received a rating of 2 indicating need for major construction to provide improved access to the site. This low rating is largely a product of the railroad underpass on Plum Springs Loop which does not provide adequate distance for trucks (or passenger vehicles) to pass one another.

4.4 Conclusions and Recommendations

In conclusion, the following problems were identified along the truck access routes to the Plums Springs industrial site:

- Significant offtracking and clear zone problems in the vicinity of the railroad underpass on Plum Springs Loop;
- Minor lengths of highway with less than "preferred" lane widths and shoulders;
- One problematic intersection (Plum Spring Loop with Commerce Street) with turning radius problems for right turning trucks;
- Three less than "preferred" bridge sufficiency ratings; and
- Truck accident problems at the intersection of US 31W and Plum Springs Loop.

Complete reconstruction should be considered for the railroad underpass on Plum Springs Loop. While an alternate route does exist (Plum Springs to US 31W / US 68 / KY 80), the predominately-used route has trucks traveling through the underpass. Lane widening at the end of Commerce Street near its confluence with Plum Springs Loop could improve the turning radius problems of the intersection.

Table 5: Interpretation of the Overall Route Rating

Overall Route Rating	Qualitative Interpretation of Rating
1	Trucks should not be using this route
2	Major construction is required to improve this route
3 to 5	Minor improvements are required on this route
6 to 8	Minor improvements could improve this route
9	Minor problems exist that do not seriously impede truck access
10	Trucks are served with reasonable access

Appendices

Appendix A: Phone Surveys Conducted with Facilities

PHONE SURVEY RESULTS

<u>Facility ID</u>	<u>Facility Name</u>	<u>Location / City</u>	<u>County</u>	<u>ADD</u>
2575	BOWLING GREEN CONCRETE	BOWLING GREEN	WARREN	BARREN RIVER

<u>Contact Name</u>	<u>Title</u>	<u>Phone</u>	<u>Fax</u>
JERRY MAXWELL		502-842-2861	502-842-9156

1. **Is the location of your facility on the map correct?** NO, MOVED TO LEFT SIDE OF STREET. STREET IS DEAD END AT FACILITY NOT CONTINUED AS ON THE MAP.
2. **Our information shows about 40 trucks per day access your facility. Is that correct? *If not, fill in correct volume.*** YES
3. **Is the truck traffic to and from your facility seasonal or mostly constant?**
SEASONAL
4. **(If truck traffic is seasonal) Is the 40 trucks/day for the peak season?** YES
5. **What is the most common size truck operating at your facility?** 4 AXLE SINGLE UNIT COAL
6. **What is the largest truck operating at your facility?** 5 AXLE SEMITRAILER
7. **What type of freight or commodity is shipped, and is incoming and outgoing freight different? (one may be an empty truck)** CONCRETE
IN - SAND/GRAVEL, CEMENT
8. **Does the truck traffic peak at specific times of the day? (e.g., out in the morning and return in the afternoon)** 2:30 TO 3:30 DUE TO FACTORY INFLUENCE IN AREA TRAFFIC BACKS UP TO COMMERCE ST. FROM INTERSECTION OF US 68/ KY 80 ON PLUM SPRINGS LOOP.
9. **What traffic congestion and delay problems along the routes are you aware of, or feel need improvement?**

<u>Location (route segment, intersection, etc.)</u>	<u>Time and Day of Week</u>
INTERSECTION PLUM SPRINGS LOOP AND US 68/ KY 80	2:30 TO 3:30 M-F
10. **Where do trucks at your facility go to and come from? (This may be an interstate, cities, general direction-N,S,E,W)** 18-20 MILE RADIUS PRIMARILY LOCAL
11. **Do you have any other problems or concerns along the route you would like us to consider?**
CEMETERY ROAD/ LOVER LANE CONGESTION
12. **Would you like a copy of the final report (roadway/route evaluation ???)** YES

NOTES/COMMENTS:

PHONE SURVEY RESULTS

<u>Facility ID</u>	<u>Facility Name</u>	<u>Location / City</u>	<u>County</u>	<u>ADD</u>
2575	ROADWAY EXPRESS	BOWLING GREEN	WARREN	BARREN RIVER

<u>Contact Name</u>	<u>Title</u>	<u>Phone</u>	<u>Fax</u>
PRENT DICKSON	TERMINAL MANAGER	502-781-9061	502-782-6875

1. Is the location of your facility on the map correct? YES
2. Our information shows about ____ trucks per day access your facility. Is that correct? *If not, fill in correct volume.* 12 -15
3. Is the truck traffic to and from your facility seasonal or mostly constant?
CONSTANT
4. *(If truck traffic is seasonal)* Is the _____ trucks/day for the peak season?
5. What is the most common size truck operating at your facility? 28' SEMI-TRAILER
6. What is the largest truck operating at your facility? SET OF TRAILERS
7. What type of freight or commodity is shipped, and is incoming and outgoing freight different? *(one may be an empty truck)* LTL
8. Does the truck traffic peak at specific times of the day? (e.g., out in the morning and return in the afternoon) 9 AM & 5 PM
9. What traffic congestion and delay problems along the routes are you aware of, or feel need improvement?
Location (route segment, intersection, etc.) BRIDGE @ PLUM SPRINGS
Time and Day of Week INDUSTRIES LET OUT
10. Where do trucks at your facility go to and come from? (This may be an interstate, cities, general direction-N,S,E,W)
11. Do you have any other problems or concerns along the route you would like us to consider?
USE OF 28' DOUBLE-TRAILERS
12. Would you like a copy of the final report (roadway/route evaluation ???)

NOTES/COMMENTS:

PHONE SURVEY RESULTS

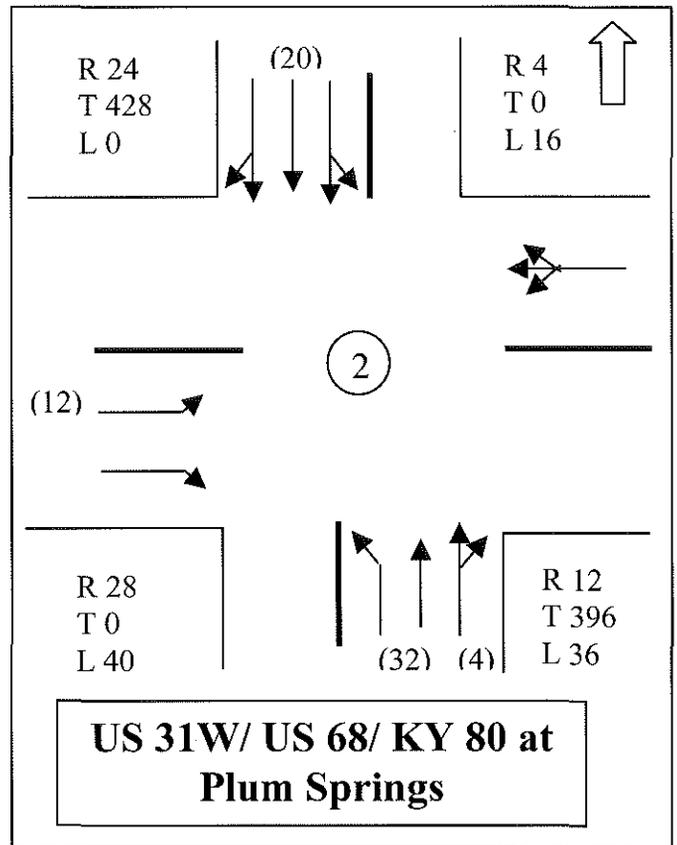
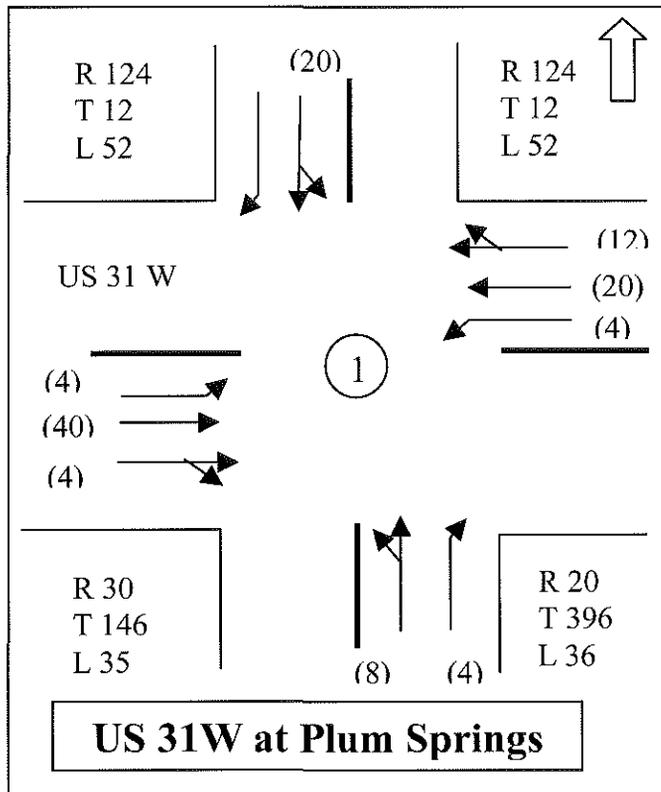
<u>Facility ID</u>	<u>Facility Name</u>	<u>Location / City</u>	<u>County</u>	<u>ADD</u>
2575	AMERICAN FREIGHTWAYS	BOWLING GREEN	WARREN	BARREN RIVER
<u>Contact Name</u>	<u>Title</u>	<u>Phone</u>	<u>Fax</u>	
ODIS ALLEN	MANAGER		502-842-9814	

1. Is the location of your facility on the map correct?
2. Our information shows about ____ trucks per day access your facility. Is that correct? *If not, fill in correct volume.* 44
3. Is the truck traffic to and from your facility seasonal or mostly constant? CONSTANT
4. *(If truck traffic is seasonal)* Is the ____ trucks/day for the peak season?
5. What is the most common size truck operating at your facility? 48' TRAILER
6. What is the largest truck operating at your facility? 28' DOUBLE TRAILER
7. What type of freight or commodity is shipped, and is incoming and outgoing freight different? *(one may be an empty truck)* GENERAL CONSUMER, RAW MATERIALS
8. Does the truck traffic peak at specific times of the day? (e.g., out in the morning and return in the afternoon) 7 – 9 AM, 11 – 1 PM, 3 – 7 PM
9. What traffic congestion and delay problems along the routes are you aware of, or feel need improvement?

<u>Location (route segment, intersection, etc.)</u>	<u>Time and Day of Week</u>
US 31 W SOUTH BY-PASS -> RUSSELVILLE ROAD	
10. Where do trucks at your facility go to and come from? (This may be an interstate, cities, general direction-N,S,E,W)
11. Do you have any other problems or concerns along the route you would like us to consider?
EXTRA-WIDE TRUCKS, DOT REGULATIONS – INFRASTRUCTURE NOT UPDATED
12. Would you like a copy of the final report (roadway/route evaluation ???)

NOTES/COMMENTS:

Appendix B: Traffic Counts Conducted by KTC*



* Note: Counts in parentheses represent trucks (not included in movement counts)