

Appendix A

Land-Use and Traffic Forecasting Assumptions Memorandum and Addendum

To: KDOT Thomas Dow, Chris Herrick, Dave Schwartz, Steve King FHWA Mike Bowen, John Knowles, Byron Low, Wendall Meyer, Rusty Simmerl Johnson County Paul Greely, Jim Hayhow, Dean Palos, Brian Pietig, Bernice Duletski MARC Ron Achelpohl, Darryl Fields, Mell Henderson, James Joerke, Donald Schoenborn City of Gardner Fred Sherman, David Greene, Amy Banks City of Edgerton David Dillner Miami County Penny Evans City of Olathe Bill Ahrens, Guoqiang Li, Alonzo Liñan	
From: Christopher Kinzel	Project: I-35 Break-In-Access Study in the Vicinity of Gardner, KS
CC: BNSF Skip Kalb, Chuck Burriss, Dwayne Curbow, John Hovland, Sam Phanekham, Tom Schmidt, David Shorr (counsel), Kathryn Kusske-Floyd (counsel), Russell Light (counsel) HDR Molly Nick, Rob Frazier, Adriana Servinsky, John Lazzara, Brent Cain, Barry Rolle, Scott Goehri, Michael Trueblood, Tom Hiles ADK Bill Crandall, Patrick Robinson	
Date: 9/27/07	Job No: 43662

RE: ADDENDUM: Land-Use and Traffic Forecasting Assumptions for I-35 Break-in Access Study (BIA)

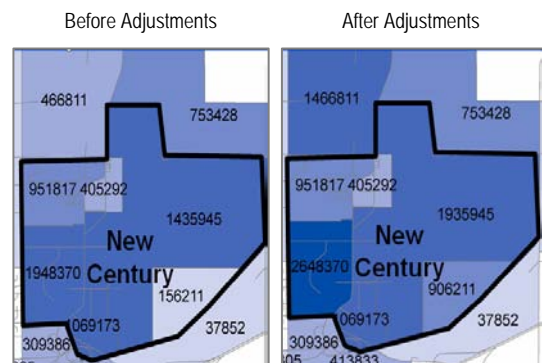
Following the release of the above-referenced memorandum on February 20, 2007, there were several meetings with the reviewing agencies to discuss and refine the assumptions contained therein. The dates and attendees at the meetings are listed at the end of this addendum. The purpose of the addendum is to summarize the items upon which consensus was reached.

The conclusion section of the February memorandum listed nine "Items Requiring Agency Response". The subsequent resolution of each of these items is discussed in turn below. Unless otherwise noted, Table, Figure, and page numbers refer to the February memo.

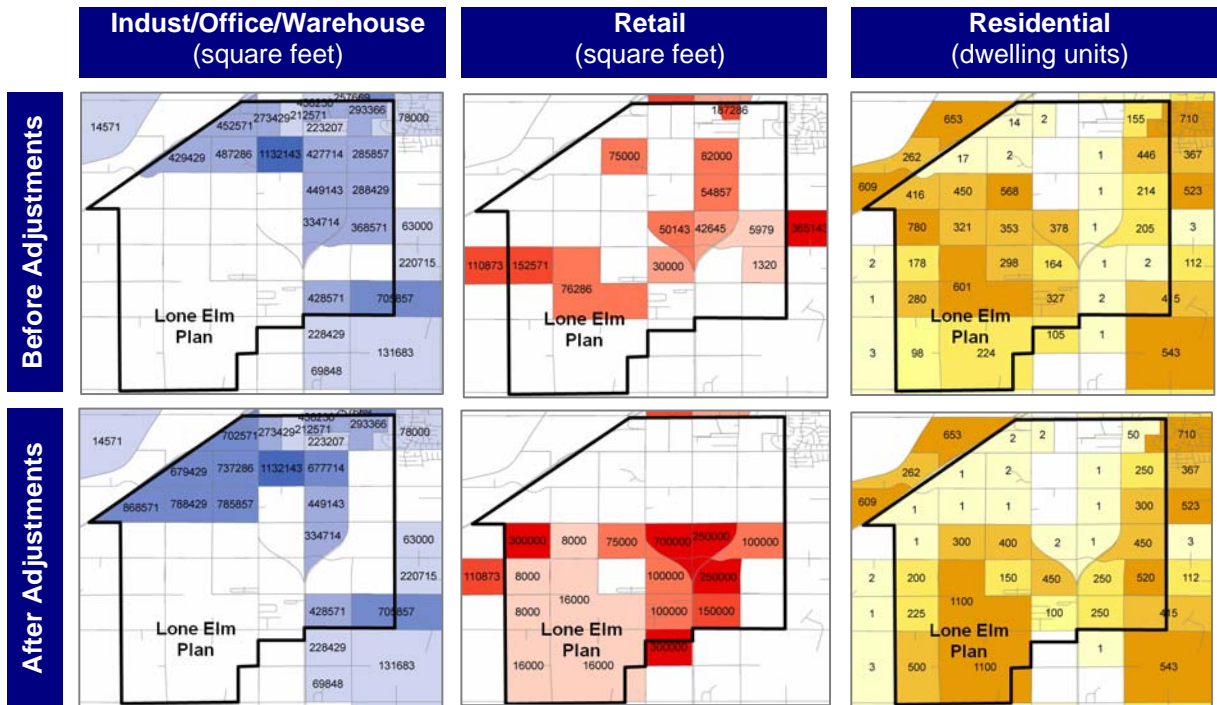
1. 2030 Land Use: That the process outlined in Table 1, and resulting land-use assumptions documented in Table A-1, are reasonable and acceptable for use in this study.

For brevity's sake, Tables 1 and A-1 are not repeated here. The agencies generally agreed with the recommended approach to land-use forecasting. Several specific modifications to 2030 forecasted land-use in the study area were discussed:

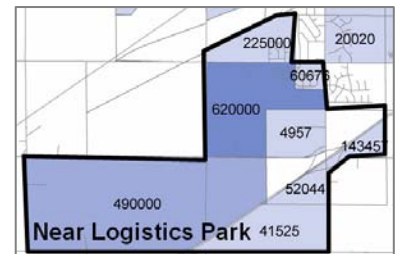
- New Century Air Center** – The City of Gardner indicated that there was additional development capacity at and near New Century Air Center (essentially bounded by US-56 on the south, 151st Street on the north, Clare Road on the east, and Moonlight Road on the west). The model was adjusted to account for this potential growth. The figures at right show the New Century area industrial square footage assumptions before and after the adjustments. The 2030 industrial land-use assumption in this area was increased in this area by nearly 3 million square feet.



- Lone Elm Plan Area** – The City of Olathe’s *Draft Lone Elm Vicinity Plan*, dated February 2007, was used to revise the model land-use in this area. The graphic below illustrates the model adjustments to various land-use categories in the Lone Elm Plan area.



- Southern Gardner near IMF/LP** – There was considerable discussion about the areas immediately west and south of the developer-proposed Logistics Park, and whether 2030 warehouse development assumptions in the model were adequate. As the figure at right shows, the model included over 1 million square feet of industrial uses in this area. It was decided that this assumption, coupled with the assumed 7 million square feet within the Logistics Park, was adequate for 2030 transportation forecasting purposes. Therefore, no changes were made in this area.



Additional alterations to specific numerical assumptions are further discussed within Items 2 and 6 of this memorandum.

2. **2030 External Stations:** That the proposed 2030 external station volumes listed in Table 2 represent reasonable growth assumptions for areas south and west of the Olathe model boundaries.

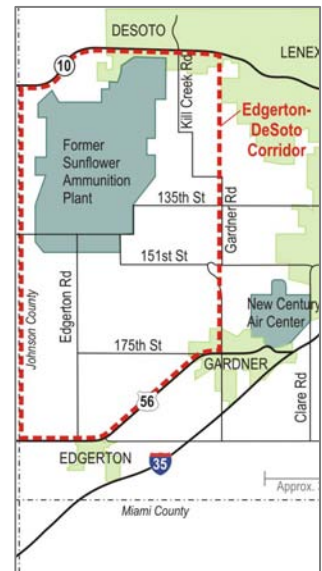
Generally, the agencies found the external growth assumptions to be acceptable. Through discussion with the agencies, the following consensus was achieved regarding modifications to specific external station volumes:

- **I-35 South** – External Station 922, representing I-35 south of 199th Street, was forecasted to grow at a rate of 2.8 percent per year in Table 2 of the February memo. KDOT provided updated information that a rate of 3.2 percent was anticipated, and so the 2030 external volume was increased from 54,000 vehicles per day (vpd) to almost 60,000 vpd.
- **City of Edgerton and US-56 West** – External Station 924, also shown in Table 2 in the February memo, represents US-56/199th Street west of Sunflower Road. The February memo assumed a 2.7 percent growth rate on this external. In discussions with the agencies, it was agreed that a 3.2 percent growth rate, like the one used on I-35, would better account for long-term growth expectations on US-56. This rate increased the forecasted 2030 external volume from 8,500 vpd to 9,600 vpd.

- **Sunflower Army Ammunition Plant (AAP)** – The graphic at far right illustrates the location of this potential redevelopment site with respect to Gardner. Johnson County provided a specific redevelopment plan for the Sunflower site, including 2030 land-use assumptions (summarized in the table at right). Based on the conceptual development plan provided by the County, HDR estimated that, by 2030, the Sunflower site would generate approximately 8,100 internal trips and 14,900 external trips during the p.m. peak hour. Based on the anticipated nature and extent of the development by 2030, it is assumed that the majority of the external trips would be oriented toward K-10 or other, more northern routes. However, about 8 percent of the external trips would be assumed to travel to and from the southern end of the Sunflower site. These trips were assumed to be distributed roughly evenly over many of the model externals: 143rd Street, 151st Street, 159th Street, 167th Street, 175th Street, 183rd Street, 191st Street, 199th Street, and I-35.

**Sunflower AAP
2030 land-use assumptions**

Use	Acres
Highway Commercial	90
Business Ctr/Office Pk	550
Light Manufacturing	150
Town Center	220
Park/Open Space	2,500
Research	450
Residential	1,860
Total	5,820



- **Edgerton-DeSoto Corridor** – The southern portion of this corridor, also shown in the graphic, is shown on Johnson County’s Comprehensive plan as Rural/Agricultural zoning. Through the discussion process, it was agreed that no additional land-use assumptions would be included for 2030, because at this time, none are planned or reasonably foreseeable.

3. **Induced Growth:** An indication of which method (see page 8) is acceptable for calculating induced growth impacts of a potential new interchange on I-35.

The agencies agreed that any induced growth assumptions would be supplied by the agencies. After reviewing preliminary results, the agencies did not supply additional information on induced growth. The forecasted growth in the area is already so large that additional assumptions are probably not warranted within the 2030 planning horizon.

4. **Peak-Hour Volumes:** That the proposal to derive a.m. peak-hour forecasts from a combination of Olathe model p.m./daily forecasts and existing a.m./p.m./daily counts is acceptable.

The agencies agreed that, since the Olathe model does not include an a.m. peak-hour scenario, the proposed method of deriving future a.m. peak-hour forecasts was acceptable.

5. **Network:** That the proposal to increase key local facilities in the forecasting focus area from two lanes to four lanes (for 2030 modeling purposes) is acceptable.

Johnson County voiced a concern regarding the section-line gravel roads currently in the study area. These roads are all on the CARNP plan as future paved roads, but no funding has been identified to upgrade them. The approach decided upon was to develop the forecasts using the “unconstrained” 4-lane method – to demonstrate true forecasted demand, with the understanding that as local road issues are addressed in future studies, the timing and needs will be examined in more detail.

Other important network improvements were discussed with the agencies. At the corridor level, consensus was reached to add the following network improvements to the Olathe model as 2030 base assumptions:

I-35: Widen to six lanes between 151st Street and Gardner Road

K-7: Convert to a freeway throughout the model per the *K-7 Corridor Management Study*

I-35/159th/K-7: Include a new interchange per the *K-7 Corridor Management Study*

Gardner Road/Center Street: Include as a continuous four-lane facility from 167th Street to I-35

Waverly Road: Widen to four lanes between 167th Street and US-56

167th Street: Widen to 4 lanes between Waverly Road and Moonlight Road

Moonlight Road: Widen to four lanes between 167th Street and 175th Street

Gardner Road/191st Street: realign both north and south of I-35, to move further away from the I-35/Gardner Road interchange

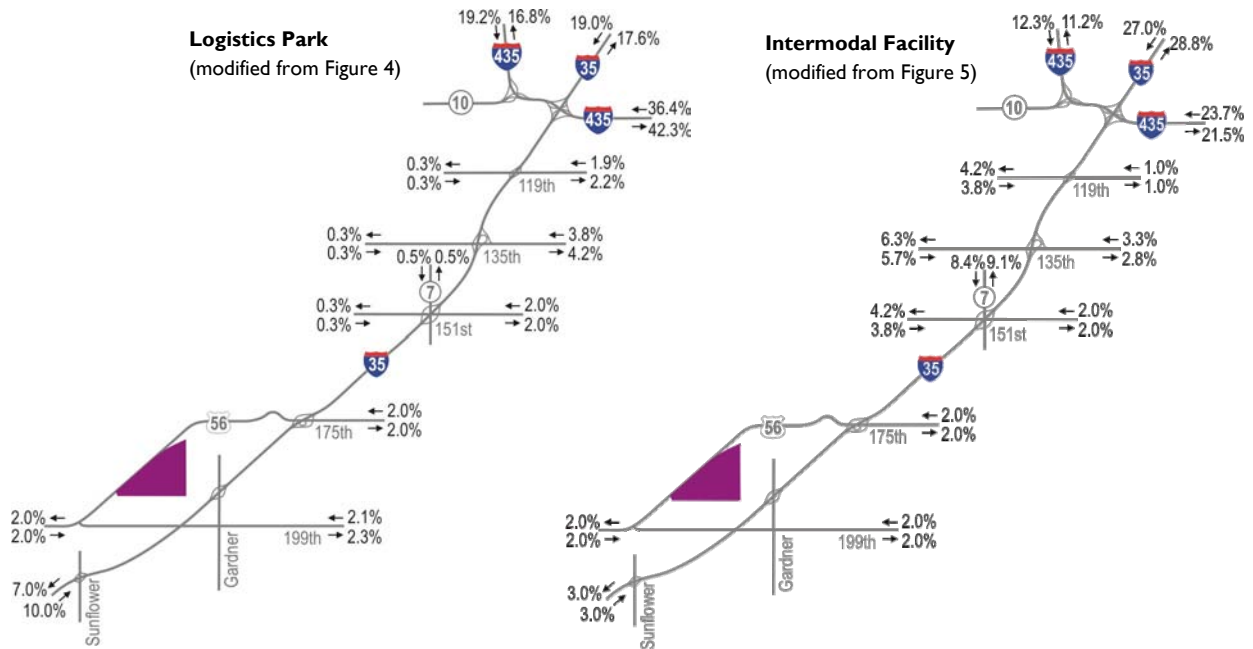
I-35/Gardner Road interchange: Signalize both ramp intersections and add capacity to the southbound on-ramp.

6. **Trip Generation:** That the 2030 peak-hour trip-generation assumptions for the planned BNSF Intermodal Facility and the developer-proposed Logistics Park are acceptable.

There was no recorded disagreement with the proposed trip generation assumptions. However, it should be noted that, since the date of the memorandum's publication, the lift-count assumptions for the Intermodal Facility, and the square footage assumptions for the Logistics Park, have changed slightly, but not enough to significantly alter the trip generation.

7. **Truck Trip Distribution:** That the truck trip distribution assumptions for the developer-proposed Logistics Park (Figure 4) and the planned BNSF Intermodal Facility (Figure 5), derived based on information available from several sources, are acceptable.

There was general acceptance of the truck distribution assumptions, with the exception of the feeling that slightly more trucks would be using southern Johnson County facilities such as 199th Street and US-56. The figures below illustrate the revised percentages that were ultimately agreed to.



8. **“Internal” Truck Trip Capture:** That the estimated 28 percent of intermodal trucks bound to and from the developer-proposed Logistics Park warehouses (eliminating “double counting” of intermodal-warehouse trips) is reasonable.

The agency consensus was that 28 percent might be slightly high. The study team reduced the value to 25 percent, which was acceptable to the agencies.

9. **Truck Trip Assignment:** That the proposed truck assignment and operational analysis approach – assuming static “background” truck percentages while assigning truck trips from the planned BNSF Intermodal Facility and the developer-proposed Logistics Park as a separate trip purpose, and evaluating truck impacts at the operational stage – is acceptable.

The agencies agreed that the proposed truck assignment approach was acceptable.

I-35 Break-In Access Study Near Gardner, KS – Agency Meetings

	Attendance							
	7.12.06	9.12.06	10.10.06	3.14.07	4.11.07	5.9.07	6.13.07	7.18.07
FHWA								
Bowen, Mike	•	•						•
Knowles, John			•		•			•
Low, Byron	•	•	•	•				
Meyer, Wendall							•	
Simerl, Rusty	•			•	•			•
KDHE								
Duffy, Clark	•							
Watson, Doug	•							
KDOT								
Armstrong, Corky	•	•	•	•	•			
Bass, Steve		•	•					
Church, David	•	•	•	•		•		
Cronister, David				•				
Dow, Thomas	•	•	•	•			•	•
Erskine, Joe						•	•	
Halter, Mick	•	•						
Heidner, Terry							•	
Herrick, Chris		•	•	•	•	•	•	•
Houser, Shane	•		•	•	•			•
Howard, Sally			•					
King, Steve			•	•	•			•
Koester, Kevin						•		
Kowach, Jim				•				
Lambrech, Cheryl				•	•	•		
Maddox, John	•		•	•	•	☺		
Morey, Burt				•		•		
Pepper, Becky				•				
Qualls, Kim							•	•
Rosacker, John	•							
Scherschlight, Dan		•	•	•				
Schwartz, Dave		•	•	•	•	•	•	•
Younger, Jerry							•	
MARC								
Achelpohl, Ron	•							
Fields, Darryl	•			•		•	•	
Gorugantula, Charles	•			•	•			
Henderson, Mell	•							
Joerke, James							•	•
Schoenborn, Don	•				•	•	•	•
Johnson County								
Andrew, Mac								•
Greeley, Paul				•		•		•
Hayhow, Jim						•		
Maasen, Bill (Parks)						•		
Meadors, Michael (Parks)						•		
Palos, Dean	•			•	•		•	•
Pietig, Brian	•			•				•
Miami County								
Evans, Penny	☺			•	•	•	•	•
City of Gardner								
Banks, Amy							•	
Dady, Jennifer								•
Duran, Celia						•		
Greene, David	•			•				•
Hayhow, Jim	•							
Sherman, Fred	•			•	☺	•	•	•
City of Edgerton								
Dillner, David				•		•		•
City of Olathe								
Ahrens, Bill						•		
Dyer, Bryan						•		
Li, Guoqiang						•		•
SE Jo Co Economic Devpt								
Tom Riederer								•
BNSF								
Curbow, Dwayne			•		•			
Kalb, Skip	•	•	•	•		•	•	•
Light, Russell			•	•				
Malleck, Ron			•					
Schmidt, Thomas	•	•	•					
Seep, Dave			•					
Thompson, French			•					
Kusske-Floyd, Kathryn (counsel)			•					
Shorr, David (counsel)			•	•	•	•		
HDR								
Frazier, Rob						•	•	•
Goehri, Scott	•	•	•	•	•	•	•	•
Kinzel, Christopher	•	•	•	•	•	•	•	•
Lazzara, John				•	☺	☺	☺	
Morton, John			•					
Nick, Molly	•	•	•			•	•	•
Servinsky, Adriana				•	•	•	•	•
Turner, Jeff			•					
Allen Group/ADK								
Crandall, Bill				•		•	•	•
Elms, Jason				•	•		•	
Robinson, Patrick							•	•
Carter-Burgess								
Barnes, Craig							•	•
Burns & McDonnell								
Herleth, Mike								•
Knauer, Greg								•
Schikevitz, Ron								•

☺ = participation by phone

Meeting Topics

7.12.06

- *Project Background & Need*
- *Agency Roles* – Roles of KDOT, FHWA, MARC, Johnson County, Miami County, and the cities of Edgerton and Gardner were defined. A discussion regarding which agency would serve as the sponsoring agency of the BIA was held, but no decisions were made.
- *Study Scope & Methods* – A discussion of Federal and State Requirements for the BIA process was held. The study scenarios were discussed and it was suggested that HDR assemble a Land Use Memo that would contain future No Build and Build land use assumptions for agency approval. Coordination between the BIA and the NEPA process was discussed, as well as appointing of a “Lead Federal Agency” for the project.
- *Deliverables & Schedule*

9.12.06

- *BNSF Logistics Park Project Status* – Updates were provided regarding selection of a developer, as well as the environmental field work.
- *Break-in-Access Study Status* – An update of progress to date was provided, including existing conditions, the modeling process, land-use forecasting, and truck generation & distribution. Status on the assembly of the Land Use memo was also provided.
- *KDOT Issues & Concerns* – The length of time required to approve, design, and construct a new interchange was identified as one of the major issues of this project. A question arose as to whether or not the Gardner interchange could be improved in the interim. A discussion of environmental documentation also arose regarding whether the BIA and the NEPA document could be kept as separate documents.

10.10.06

- *Break-in-Access Study Status* – Status of the Land Use memo was provided.
- *Funding Recap* – It was discussed that funding for the new interchange had still not been determined. BNSF stated the position that they do not intend to pay for it.
- *Permitting* – It was discussed that a COE Section 404 Permit will be required, and in addition, a further environmental study may be needed. It was further discussed that the environmental documents for the Intermodal facility and for the interchange would remain separate. It was also noted that the review agencies would be different for the two documents; COE would review for the intermodal facility and FHWA would review for the interchange.

3.14.07

- *KDOT CORSIM Model* – KDOT demonstrated their traffic simulation model of the I-35 & Gardner Road Interchange for 2011 No-Build and three 2011 Build alternatives. Additional alternatives were suggested and KDOT agreed to pursue them further.
- *New Gardner Developments* – Fred Sherman mentioned several new developments in the Gardner area that were in the planning stage that would need to be included in the land use assumptions for the BIA study.
- *Land Use Memo Review* – The agencies in attendance were asked to provide comments and reactions to the Land Use Memo which had been distributed on March 6th. These responses were recorded and addressed.

4.11.07

- *Land Use Assumptions* – A summary of the agency coordination that had occurred since the last meeting was provided. Some additional information was provided and discussed at the meeting by Penny Evans (Spring Hill area) and Dean Palos (the Sunflower Army Ammunition Plant). Fred Sherman mentioned a few additional items that were still forthcoming, including a revised Lone Elm plan and assumptions regarding the New Century Air Center.

5.9.07

- *Review of Assumptions* – The approved land use assumptions were restated. In addition, assumed roadway network improvements were discussed, specifically regarding I-35, K-7, and a few unpaved county roads.
- *Preliminary Model Results* – Preliminary results for the 2030 Base p.m. peak hour scenario were provided and discussed.

6.13.07

- *Travel Demand Model Results* – Preliminary model results were provided in the form of projected volume figures on a daily and p.m. peak hour basis for Existing Conditions, BIA No-Build Conditions, BIA Build I-35/Waverly Interchange Conditions, and BIA Build I-35/Homestead Interchange Conditions. It was mentioned that the No-Build and Build Scenarios include all future development in the Gardner area including the proposed Intermodal facility and 7million sq.ft. of additional warehouse uses.

7.18.07

- *KDOT Consultant* – Burns & McDonnell was introduced as the consultant hired by KDOT to conduct the location study and preliminary design for the proposed interchange.
- *Travel Demand Model Results* – New volume and LOS model results were provided that incorporated changes made in the assumptions for future roadway improvements. In addition to daily and p.m. peak hour results, a.m. peak hour results were also provided.
- *Sponsoring Agency* – A discussion was held regarding which agency would be the sponsoring agency to submit the BIA to KDOT. No decision was reached.
- *Next Meeting* – The August meeting was cancelled. The BIA draft report will be circulated to the agencies for review and comment. A follow-up meeting was proposed, but not scheduled.