

Agenda

IMPROVE I-70 ADVISORY GROUP

Meeting 6
4:00-6:30 p.m.
May 29, 2003

Columbia Activity and Recreation Center
1701 W. Ash Street
Columbia, Missouri

Meeting Goals: 1) Receive information about recent activities; 2) Review changes in the traffic modeling and the revised forecasts; 3) Discuss preliminary information about the environmental, socioeconomic and financial impacts of a Near North and expanded existing I-70 alternative; 4) Input about the viability of the Near North corridor as an option; 5) Clarify next steps in the planning process.

4:00 Convene Meeting

Dennis Donald and John Huylar, The Osprey Group

4:05 Relevant Updates and Outstanding Questions

Bob Brendel, MoDOT

4:15 Traffic Modeling

Jerry Mugg, HNTB, and Paul Hershkowitz, Wilbur Smith Associates

5:00 Preliminary Impact Assessments of Near North and Existing I-70 Corridors

Buddy Desai, CH2M Hill

5:45 Corridor Screening: Viability of the Near North as an Option

6:00 Next Steps in the I-70 Planning Process

Buddy Desai, CH2M Hill

6:20 Closing and Next Steps for the Advisory Group

Dennis Donald and John Huylar, The Osprey Group

6:30 Adjourn

IMPROVE I-70

TRAFFIC FORECASTING PROCESS AND RESULTS

Section 4 – Columbia Area

May 21, 2003

Introduction

Traffic forecasts are an important tool in the highway planning process. In the Columbia area, forecasts are being used as an initial screening tool to determine whether the Far North and Near North conceptual corridors are reasonable alternatives for interstate travel. For a corridor to move through this initial screen and into a phase of more in-depth analysis it must first demonstrate that it will fulfill the Interstate 70 traffic objectives; that is, whether it can draw enough traffic from I-70 to reduce the level of improvements needed on the existing route. This document is intended to explain the traffic modeling and forecasting process undertaken in the Columbia area for the Improve I-70 Study, and to detail how recent changes in forecast traffic occurred.

Summary

The initial screening of the Far North and Near North Corridors relied upon traffic projections for the year 2030. Projections were developed as soon as possible and shared with the Columbia Advisory Group in December 2002 and January and March of this year. A good deal of discussion, input and tentative decisions about the viability of the northern corridor alternatives were based upon these traffic projections. Recent reviews found that the traffic projections were incorrect. During a quality assurance/quality control review, two problems were found in April with the computer model used to develop the traffic forecasts. The problems were due to human error.

Corrections were made to the model and new forecasts were developed. The results showed a significant increase in traffic being drawn to the Near North Corridor. Shortly after discovering the errors, MoDOT and its consultants communicated this situation and these new findings to the Advisory Group, news media and general public. MoDOT believes the model is now producing reasonable forecasts suitable for making planning decisions on the future of I-70 in the Columbia area. The current focus of these decisions is the extent to which the existing I-70 will need to be expanded and the viability of the northern corridor options.

Traffic Modeling: General Information and Background

A traffic model is a computer-assisted tool used to project future traffic behavior in order to plan for future transportation needs. Its results depend on many parameters, assumptions and variables that are set up by professional traffic modelers. Some of the information incorporated into a traffic model computer program includes: the existing and planned roadway network; information on how the network is used and will be used

in the future (locations that generate and attract trips); existing traffic counts and traffic flows; and socio-economic forecasts, including anticipated growth and shifts in development patterns.

Traffic modeling is not an exact science. The possibility for differences in judgment exists in all modeling efforts. However, even recognizing its limitations, a traffic model is the best tool available to evaluate transportation demands and the alternatives to meet them.

In 1999 and 2000, during the I-70 Improvement Study (First Tier), MoDOT's statewide traffic model was used to evaluate a variety of improvement strategies for the I-70 corridor as a whole. It was determined that traffic forecasting for "Improve I-70" (Second Tier) should be based on a more refined modeling effort using existing, local models where available. Forecasting activities for the Improve I-70 Study in Columbia are building on the local model maintained by the Columbia Area Transportation Study Organization. The CATSO model incorporates local traffic counts and specific long-range growth plans.

The Forecasting Process in Columbia

During the last six months, study consultants have been assessing the viability of the Far North and Near North Corridors from a traffic perspective. The statewide traffic consultant worked in close cooperation with CATSO staff to update the city's traffic model* before using it to evaluate the corridors. Those efforts included:

- updates reflecting new Census information,
- an update of long-distance through-trips based on statewide model information,
- a comprehensive land-use working session with city and county planning officials to form a consensus about where growth in the community would occur, and thus where motorists' trips would be distributed,
- the development of a base-year (Year 2000) traffic estimate, and a design-year (Year 2030) traffic forecast.

The model was then used to estimate the potential diversions of traffic from I-70 and the local street network to either the Far North or Near North Corridors. The evaluation process also included active involvement of the Columbia Advisory Group, a diverse group from the Columbia area convened to provide input to MoDOT as study decisions are made. The Group's involvement was intentionally designed to be very open to foster both an understanding of the process being employed and to solicit feedback as information was developed. This openness led to initial traffic numbers being shared publicly as they were developed and before any formal and thorough quality assurance procedures took place.

* The modeling problems that were recently discovered were not due to the city's model, but rather with how the statewide traffic consultant used the model to evaluate the conceptual corridors.

Traffic numbers were shared with the Advisory Group at meetings in December 2002 and January and March of this year as the statewide traffic consultant developed forecasts and refined a number of potential improvement scenarios. While there were some concerns that the amount of traffic projected for the northern corridors seemed too low, the Advisory Group and MoDOT relied upon the statewide traffic consultant's figures as discussions continued and decisions were being made. With input from the Advisory Group, it was determined that the Far North alternative should be eliminated from further consideration. The Near North was held on the side to be considered an alternative should there be "fatal flaws" that would limit the expansion of the existing interstate.

Questioning the Model

As information sharing and model refinement progressed, questions continued to be raised by members of the Advisory Group and by various members of the consultant team. Questions were based on traffic model results that seemed contrary to reasonable expectations – from the standpoint of both local knowledge and professional experience. Specific concerns included:

- Traffic volumes along I-70 east of U.S. 63 were lower than expected, especially compared to the traffic volumes in MoDOT's statewide model.
- Trip distribution percentages on I-70 did not show as much long-distance (external-to-external) "through" traffic as expected.
- Trip diversions to the Near North alternative were lower than projections developed in the First Tier Study (which used the statewide model only).

These questions were investigated to varying degrees, but the problems were not identified or resolved by the statewide traffic consultant until its comprehensive quality assurance review occurred in April. This review was necessary before making a final decision on the viability of the northern alternatives. The statewide traffic consultant invited independent reviewers within its firm and other members of the Improve I-70 team to test the model's results in advance of the public meeting in April.

Defining the Problems

The review of the model resulted in finding two primary problems:

Assigned Travel Times on the Near North and Far North Corridors – Information was entered into the model incorrectly causing the total travel times for the Near North and Far North Corridors to be improperly high. Higher travel times translate into reduced traffic. The errors were primarily related to the interchanges and created artificial time delays as vehicles passed through them. Correcting this problem in the model led to an overall reduction in total travel time for both the Near North and Far North corridors. The times were reduced by minutes, but the reductions had a significant impact on the

traffic projections, and resulted in the Near North travel time being much shorter than original calculations, with a slightly shorter travel time than travel time on existing I-70.

AVERAGE FORECASTED TRAVEL TIMES*		
Near North with Existing I-70		
	Original (minutes)	Revised (minutes)
Existing I-70 (13.7 miles**)	12.7	12.7
Near North Corridor (14.7 miles)	16.0	12.6
Far North with Existing I-70		
	Original (minutes)	Revised (minutes)
Existing I-70 (13.4 miles**)	13.3	12.4
Far North Corridor (17.1 miles)	19.4	14.7

**Average travel time is of traffic in both directions. Initial travel speed on the northern corridors was assumed to be 5 mph faster than on existing. **Distance is measured between the intersections of the bypasses and existing I-70; the termini of the Near North and Far North corridors are not at identical locations.*

Traffic Inconsistencies on the Eastern Side of Columbia – A computational error resulted in low volumes of traffic entering and exiting Columbia from the east. Incorrect data were used to project the number of trips from the year 2000 to the year 2030, which resulted in forecast volumes that were inconsistent with the statewide model. The error was corrected and the data were re-calculated to be more consistent with the forecasted 2030 traffic volumes produced by the statewide model, resulting in significantly higher volumes on I-70 east of U.S. 63. Additional recalculations were performed to ensure that this problem did not exist elsewhere in the model. The corrections resulted in the number of eastern trips entering and exiting the model from I-70 increasing from 38,000 per day to 75,000 per day for the northern bypass options. Trips entering and exiting the model from I-70 east for the no-build/baseline alternative increased from 38,000 per day to 68,000 per day.

Resolving the Problems / Their Impact

Making the necessary adjustments to account for the two problems resulted in relatively minor changes in the overall traffic distributions citywide, but it did create significant changes in the Near North’s ability to divert traffic from both I-70 and the adjacent arterial roadway network. In summary, the adjustments produced the following results:

No-Build/Baseline Alternative – The model adjustments resulted in relatively minor changes in volumes on the majority of roads within the CATSO region in the no-build/baseline alternative. West of U.S. 63, year 2030 traffic volumes on I-70 remained relatively constant with earlier projections. East of U.S. 63, I-70 had noticeable increases in traffic. Just east of U.S. 63 the traffic projections increased from 70,000 vehicles per day in 2030 to 87,000 vehicles per day. Further east, near Route Z, the traffic projections increased from 42,000 vehicles per day to 68,000 vehicles per day. The revised forecasted traffic more closely matches the numbers being produced by the statewide model.

Widen I-70 Alternatives – The model adjustments resulted in relatively minor overall volume changes on roads with the alternatives for widening I-70. West of U.S. 63, year 2030 traffic volumes on I-70 remained relatively constant with earlier projections. As with the baseline alternative, however, the widening scenarios also had noticeable increases in traffic east of U.S. 63. Here, projections for the 6-lane scenario increased from 71,000 vehicles per day to 89,000 per day. Further east, this scenario also went from an original projection of 42,000 per day to 68,000 per day. The eight-lane scenario had similar increases. These revised forecasts also more closely match the numbers being produced by the statewide model.

Near North Alternative – The combination of increased projected total trips on the eastern side of Columbia and reduced travel times through the Near North Corridor in the model produced a substantial increase in traffic that would use the Near North Corridor. While more detailed systems analysis is necessary, the preliminary assessment is that even with a Near North corridor, a minimum of six lanes along existing I-70 would still be required to handle the existing I-70's future traffic volumes.

Far North Alternative – The modifications also resulted in traffic projection increases along the Far North corridor. However, because the total distance and travel time through this corridor is substantially longer than through existing I-70 the majority of the increase is attributable to diversions from the local arterial street network and not from increased diversions from I-70. The conclusion about the viability of the Far North continues to be the same. The Far North cannot divert enough traffic from existing I-70 to reduce the level of improvements that would still be needed along the existing route.

Results of the Corrected Traffic Modeling

- The existing I-70 will require expanded capacity with a minimum of six lanes needed.
- The Far North Corridor has been eliminated from consideration.
- The Near North Corridor cannot be eliminated based on traffic projections alone and will be carried forward to the next level of screening. The screening will include an evaluation of the corridor's social, environmental and financial impacts.

Future Steps

What was learned from this situation? The principal lesson learned is that quality assurance should be continual and not reserved for key decision milestones only. A thorough and formal quality assurance process will be integrated into the evaluation process on a more continual basis. Specifically this includes:

- Building in additional time into the evaluation process to incorporate quality assurance reviews prior to publicly releasing results.
- Maintaining the existing comprehensive quality assurance review prior to each major milestone.

- Emphasizing that information is preliminary and subject to change when situations call for such information to be released before comprehensive pre-milestone review.
- Continuing the transparent and cooperative process with the Columbia Advisory Group – sharing information as is developed and seeking constructive dialogue.

All revised traffic numbers will be shared with the Advisory Group, news media and general public at the next Group meeting on May 29 at the Columbia Activity and Recreation Center at 4 p.m. Members of the study team, including the statewide traffic consultant, will be present to answer questions and address concerns.

Later in the study process, additional traffic evaluation will be conducted by the section engineering consultant as specific location alternatives within a corridor are developed. The study team expects that traffic numbers could be further refined as conditions in the Columbia continue to change over time.

Conclusion

The consultant team regrets the errors in the traffic model. Changes to the model and its results were due to needed corrections identified by a comprehensive quality assurance review; they were not due to any political pressure or outside interests of any kind. Despite the apparent setback, the Improve I-70 Study is still moving forward on schedule. The team continues its pledge to work with the Advisory Group and people of Columbia in developing the best transportation improvement for the area. The team will do that by maintaining an open process, providing the best information on which to form opinions, and ensuring that information presented is as accurate as possible recognizing the need for timely input and decision-making.

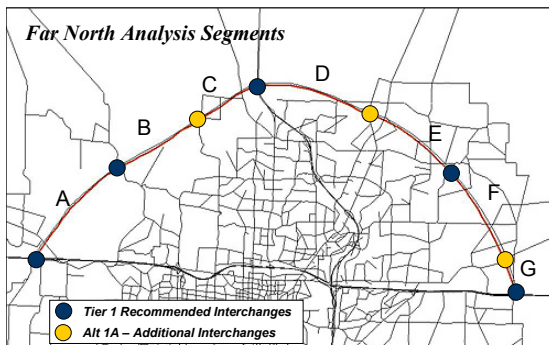
Traffic Forecasting: Revised Sensitivity Analysis Results

This handout includes the revised numbers based on the corrected traffic forecasting model. The original results were in a similar handout from Meeting 4, Jan. 30, 2003.

Far North Sensitivity Alternatives

Three sensitivity alternatives were evaluated along the Far North Corridor. The sensitivity runs were intended to quantify the impact of either adding additional interchanges or reducing the number of interchanges along a proposed alignment. Based on the preliminary traffic results, all three sensitivity runs also provided additional capacity to existing I-70.

- **Far North Tier 1 Alternative** – This is an alternative developed in the Tier 1 Study and evaluated using the current model. It is a four-lane interstate type facility within the Far North Corridor. Interchanges were located at Route E, U.S. 63, Route PP and at either end where it would tie back into existing I-70. No improvements were incorporated along the existing I-70 corridor.
- **Alternative 1A** – Additional interchanges along a proposed Far North alignment, as well as the likely improvements that would be necessary along existing I-70 through Columbia. New interchanges were added at Creasy Springs Road, Oakland Church Road, Route B and Route Z. Additional capacity was added to existing I-70 by adding one additional lane in each direction, making it a six-lane facility.
- **Alternative 1B** – The same interchange configuration as Alternative 1A, with additional capacity along existing I-70. Existing I-70 was assumed to be an eight-lane facility.
- **Alternative 2** – Fewer interchanges along the proposed Far North alternative, with interchanges located at Route 63, Route B and Route PP. Six lanes along existing I-70 were also assumed.



Revised Results

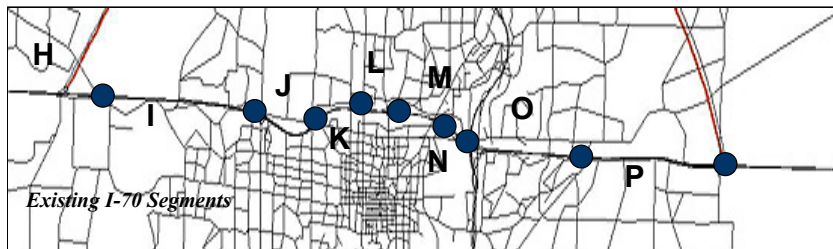
Alternative	Average Daily Traffic Per Segment (2030)							Segment Average	Percent Change
	A	B	C	D	E	F	G		
Tier 1 Alt.	10,040	8,760	8,760	2,780	2,780	7,760	7,760	6,949	
1A	10,680	10,130	11,050	16,170	5,320	8,320	13,220	10,699	154.0%
1B	10,680	10,130	11,040	16,260	5,320	8,330	13,250	10,716	154.2%
2	8,470	8,470	8,470	15,920	5,140	8,080	8,080	8,947	128.8%

Original Results

Alternative	Average Daily Traffic Per Segment (2030)							Segment Average	Percent Change
	A	B	C	D	E	F	G		
Tier 1	12,390	9,530	9,530	4,880	4,880	6,800	6,800	7,830	
1A	10,430	8,230	6,520	7,560	1,340	4,040	5,780	6,270	-19.9%
1B	10,420	8,220	6,520	7,560	1,330	4,050	5,780	6,270	-19.9%
2	5,550	5,550	5,550	7,140	1,150	3,130	3,130	4,460	-43.0%

Traffic Changes along Existing I-70

The second question to be addressed is how traffic along existing I-70 will be impacted by each of the proposed alternatives. Again, existing I-70 was divided into segments – nine, labeled H through P, for evaluation purposes.



Revised Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1 Alt.	83,750	83,830	103,410	101,880	103,400	92,460	112,690	89,480	72,200	93,678	
1A	84,760	84,750	103,610	101,670	106,670	96,490	115,930	90,760	73,110	95,306	101.7%
1B	84,760	84,800	104,380	101,860	107,060	96,830	116,710	91,450	73,140	95,666	102.1%
2	85,960	84,860	104,050	102,440	107,710	97,180	116,970	91,630	72,210	95,890	102.4%

Original Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1	81,230	81,800	101,510	99,860	103,130	91,170	106,270	69,120	41,280	86,150	
1A	82,620	83,640	104,890	103,600	107,140	94,010	109,500	70,430	41,790	88,620	2.9%
1B	82,620	83,670	105,210	103,720	107,420	94,370	109,740	70,510	41,790	88,780	3.1%
2	85,930	86,420	106,530	105,210	108,710	94,860	110,180	70,620	41,720	90,020	4.5%

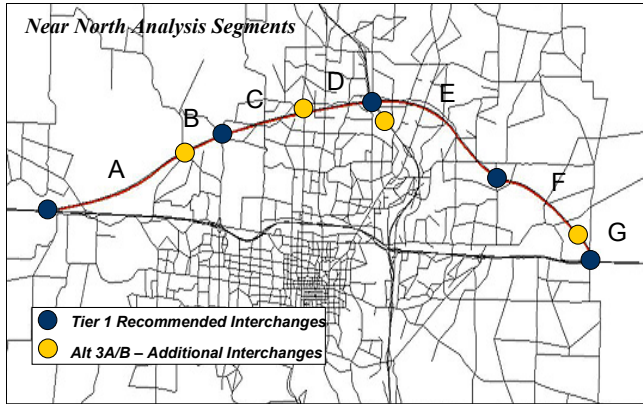
Near North Sensitivity Alternatives

Seven sensitivity alternatives were evaluated along the Near North Corridor. Similar to the Far North, the sensitivity analysis evaluated adding additional interchanges, reducing the number of interchanges, and adding capacity to existing I-70. Additional sensitivity runs included evaluating a northwestern-only leg of the new alignment between I-70 west of Columbia ending at Route 63 north of Columbia; as well as a new alignment as a principle arterial instead of a freeway type facility.

- **Near North Tier 1 Alternative** - This is an alternative developed in the Tier 1 Study and evaluated using the current model. It included a new Near North alignment built to freeway facility standards with interchanges at either end with I-70, Blackfoot Road, U.S. 63, and Route PP. The existing I-70 alignment was modeled with four basic lanes.
- **Alternative 3A** - Included the Near North Tier 1 freeway-standard alternative with interchanges at Route E, Creasy Springs Road, U.S. 63, Route PP, Route Z, and either end with I-70. In addition, an interchange located at U.S. 63 and Brown School Road was added. The existing I-70 alignment was modeled with six lanes through Columbia.
- **Alternative 3B** - Differs from 3A in that the existing I-70 alignment through Columbia was modeled with eight lanes rather than six.
- **Alternative 4** - Modeled with the Near North Tier 1 Alternative, but with fewer interchanges than Alternatives 3A/B. Interchanges were located at either end with I-70, Route E, U.S. 63, and Route PP. The existing I-70 route through Columbia was modeled with six lanes.
- **Alternative 5** - Modeled with the western half of the Near North Tier 1 Alternative, beginning at I-70 near the existing U.S. 40/I-70 interchange and terminating at U.S. 63. Interchanges at I-70, Route E, and U.S. 63 were modeled. The existing I-70 alignment through Columbia was modeled with six lanes.
- **Alternative 6A** - Used the same Tier 1 Near North Alternative modeled as a primary arterial rather than a freeway facility. At-grade intersections were added with every crossroad with a functional classification of collector or higher. Grade-separated interchanges were provided at both I-70 locations and U.S. 63. The existing I-70 alignment was modeled with six lanes through Columbia.
- **Alternative 6B** - Same as Alternative 6A, with the exception that the existing I-70 alignment through Columbia was modeled with eight lanes rather than six.

Traffic Changes along New Near North Alignment

The CATSO traffic model was used to forecast the number of average daily vehicles that would likely use a new Near North alignment in the year 2030. The results of that modeling exercise are presented in the table below.



Revised Results

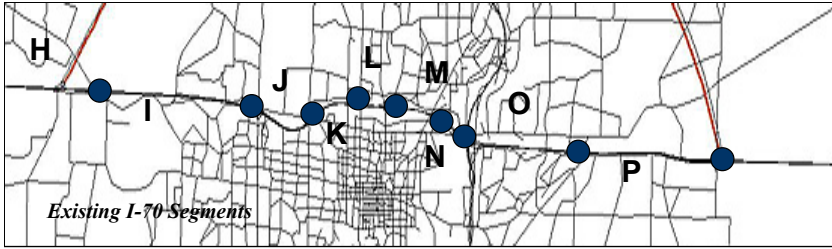
Alternative	Average Daily Traffic Per Segment (2030)							Segment Average	Percent Change
	A	B	C	D	E	F	G		
Tier 1 Alt.	29,890	29,890	30,350	30,350	22,770	29,240	29,240	28,819	
3A	32,930	47,950	47,950	60,370	27,880	31,920	29,480	39,783	138.0%
3B	23,090	39,060	39,060	53,790	21,110	25,170	22,740	32,003	111.0%
4	26,540	26,540	30,780	30,780	25,220	29,750	29,750	28,480	98.8%
5	11,520	15,170	15,170	15,170	--	--	--	14,258	49.5%
6A	1,430	20,710	13,860	41,320	11,370	8,330	12,060	15,583	54.1%
6B	1,230	20,630	13,780	41,210	11,350	8,310	12,040	15,507	53.8%

Original Results

Alternative	Average Daily Traffic Per Segment (2030)							Segment Average	Percent Change
	A	B	C	D	E	F	G		
Tier 1	31,350	31,350	31,450	31,450	20,990	19,890	19,890	26,620	
3A	12,480	12,730	12,730	16,020	6,940	6,910	8,500	10,900	-59.1%
3B	12,360	12,600	12,600	15,880	6,900	6,870	8,470	10,810	-59.4%
4	10,130	7,720	7,710	7,710	6,130	3,800	3,800	6,710	-74.8%
5	10,580	8,030	8,030	8,030	-	-	-	8,670	-72.4%
6A	1,990	15,800	2,850	36,360	13,080	2,530	11,920	12,080	-54.6%
6B	1,990	15,780	2,830	36,330	13,050	2,530	11,980	12,070	-54.7%

Traffic Changes along Existing I-70

The CATSO traffic model was also used to forecast the changes in daily volumes along the existing I-70 alignment through Columbia in 2030. The table below summarizes the year 2030 traffic forecast along existing I-70 for each sensitivity run.



Revised Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1 Alt.	61,920	61,900	80,460	78,420	84,810	78,650	97,760	69,200	51,580	73,856	
3A	60,220	60,250	77,660	74,850	79,960	72,020	91,690	67,820	49,800	70,474	95.4%
3B	71,080	69,440	85,900	83,950	88,820	80,380	100,090	74,410	56,590	78,962	106.9%
4	66,470	66,000	84,740	82,720	87,930	78,650	97,970	70,090	51,240	76,201	103.2%
5	81,390	81,010	99,840	97,860	103,340	95,250	114,990	92,440	74,660	93,420	126.5%
6A	87,200	90,810	109,450	106,910	111,270	97,460	117,080	91,230	74,070	98,387	133.2%
6B	87,330	91,030	109,630	107,440	112,020	97,960	117,630	91,790	74,090	98,769	133.7%

Original Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1	62,090	61,040	81,740	79,580	84,070	76,230	91,450	51,580	23,160	67,882	
3A	80,000	79,870	101,730	99,400	103,690	91,840	107,320	66,770	37,820	85,380	25.8%
3B	80,110	80,070	102,060	99,730	104,090	92,190	107,750	66,990	37,860	85,650	26.2%
4	81,230	82,530	105,570	103,200	106,930	93,220	108,690	67,420	38,170	87,440	28.8%
5	80,670	82,070	104,940	102,600	106,160	93,650	109,160	71,300	41,560	88,010	29.7%
6A	86,510	90,140	110,800	108,180	109,920	94,410	109,470	73,560	46,290	92,140	35.7%
6B	86,510	90,250	110,730	107,490	110,370	94,730	109,980	73,680	46,350	92,230	35.9%

Existing I-70 Sensitivity Alternatives

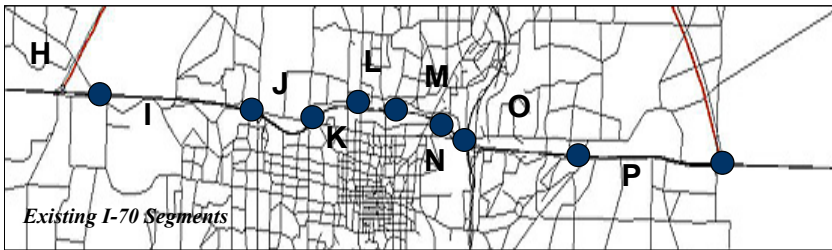
Three sensitivity alternatives were evaluated for the existing I-70 alignment. The sensitivity runs were intended to quantify the impact of adding additional lanes to the existing I-70 alignment and making improvements to the I-70 Business Loop through the City of Columbia.

- **Tier 1 Alternative/Alternative 7** – This is an alternative developed in the Tier 1 Study and evaluated using the current model. The Tier 1 Alternative and Alternative 7 are identical alternatives, and were separated for modeling purposes. The Tier 1 Alternative added two additional lanes to I-70, raising the total four to six lanes. No additional interchanges were added to I-70.
- **Alternative 8** – The second existing I-70 alternative increased the number of lanes from six to eight to provide additional capacity along existing I-70.

- **Alternative 9** – Modeled with improvements to Business Loop 70 through Columbia in an attempt draw vehicles off the parallel interstate facility. For this model run, Business Loop 70 was widened to six lanes with a new arterial-to-arterial interchange with Route 163. Route PP was also extended to connect with the Business Loop. The existing I-70 freeway facility maintained six travel lanes.

Traffic Changes along existing I-70

The CATSO traffic model forecasted the number of average daily vehicles that would likely use the existing alignment in the year 2030, depending on the lane configuration. The results of that modeling exercise are presented in the table below.



Revised Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1 Alt.	89,580	91,640	111,570	109,670	112,890	99,780	117,960	89,490	68,410	98,999	
No-Build	89,580	91,350	109,210	108,010	110,730	97,150	114,850	86,930	68,290	97,344	-1.7%
7	89,580	91,640	111,570	109,670	112,890	99,780	117,960	89,490	68,410	98,999	0.0%
8	89,580	91,680	111,830	110,370	112,290	97,410	118,790	90,620	68,430	99,000	0.0%
9	89,580	91,660	111,840	111,120	112,670	95,220	121,160	90,550	68,470	99,141	0.1%

Original Results

Alternative	Average Daily Traffic Per Segment (2030)									Segment Average	Percent Change
	H	I	J	K	L	M	N	O	P		
Tier 1	89,570	91,520	110,740	110,100	112,620	97,320	112,260	71,270	42,050	93,050	
7	89,570	91,520	110,740	110,100	112,620	97,320	112,260	71,270	42,050	93,050	0.0%
8	89,570	91,550	111,200	110,150	112,870	96,300	113,850	71,700	42,050	93,250	0.2%
9	89,570	91,520	111,400	111,800	112,840	94,330	114,820	71,840	42,100	93,360	0.3%

The table below represents the broad range of impacts for each corridor alternative still being considered for the Improve I-70 study through Columbia. The impacts are based on information the study team has gathered to date. The "Build in Existing I-70 Corridor Only" option assumes constructing two to four additional lanes along existing I-70. The "Build Near North and Required Improvements to Existing I-70" option assumes a representative alignment of approximately 500 feet wide in the Near North corridor, along with constructing two additional lanes along existing I-70.

**I-70 Columbia Corridor Screening
Preliminary Engineering & Environmental Findings**

Criteria	Measure	Build in Existing I-70 Corridor Only	Build Near North and Required Improvements to Existing I-70
<i>Engineering</i>			
Reconstructed freeway lanes	lane-miles	75	75
New freeway lanes	lane-miles	45	105
Reconstructed standard interchanges ¹	#	8	8
New standard interchanges	#	0	5 ²
New high capacity interchanges	#	2 ³	4 ⁴
Replaced structures ⁵	#	9	9
New structures ⁶	#	0	10
<i>Environmental Impacts</i>			
Total Right of Way	acres	450	1,950
Parks	acres	10	10
Wetlands	acres	10	30
Floodplains	acres	70	250
Woodlands	acres	70	380
Agricultural	acres	120	1,110
Stream Crossings	#	14	35
Threatened & Endangered Species	#	0	0
Historic/Archaeological Resources	#	18	23
Hazardous Waste Sites	#	0	0
<i>Socio-Economic</i>			
Residential Displacements	#	175	725
Business Displacements	#	110	100
<i>Approximate Cost (Millions \$)</i>	2003 \$	\$375	\$650

Notes:

¹ Located at Route J/O, Route 740, BL 70W, Route 163, Route 763, BL 70E, St. Charles Road, and Route Z

² Located at Route E, Creasey Springs, Route 763, Route PP, and St. Charles Road

³ Located at US 40 and US 63

⁴ Located on the NN at the Western Terminus, US 63, the Eastern Terminus AND on existing I-70 at US 63

⁵ Does not include structures associated with interchanges or outer (frontage) roads

⁶ Does not include new structures required for outer (frontage) roads

