Appendix B

Implement Long Range Transportation Plan Model Runs

The largest increase in traffic occurs in areas of improvement.

Glenn Hwy improvements draw traffic from 3rd Ave to the Glenn Hwy.

C St improvements draw traffic from Abbott Rd to O'Malley Rd.

Dowling Rd improvements draw traffic from Minnesota Dr, Tudor Rd, and Dimond Blvd to Dowling Rd.

Total Average Daily Traffic (ADT) Change From Base Conditions

Traffic Decrease	Traffic Increase
< -50,000	0 to 5,000
-50,000 to -25,000	5,000 to 10,000
-25,000 to -10,000	10,000 to 25,000
-10,000 to -5,000	25,000 to 50,000
-5,000 to 0	> 50,000

Roads Modeled

- New Roadway Links Associated With This Model Run
- Existing Roadway Links

Completing all LRTP projects except those noted with question marks does not resolve traffic problems.

Level of Service*

- E
- F
- Project Area

*An A-F ranking system where F is failing

No question mark roads included in this model run

Elmendorf Air Force Base

Pt MacKenzie

Knik Arm

Anchorage Coastal Wildlife Refuge

Cook Inlet

Ship Creek, Chester Creek, Goose Lake, Lake Hood, Lake Spenard, Conners Lake, Campbell Creek, Sand Lake, Campbell Lake, South Fork Campbell Creek, Little Campbell Creek, Rabbit Creek, Potter Marsh, North Fork Creek

GLENN HWY, MULDOON RD, TURPIN ST, DEBARR RD, 15th AVE, GAMBELL ST, INGRA ST, BRAGAW ST, PINE ST, BONIFACE PKWY, NORTHERN LIGHTS BLVD, BAXTER RD, PATTERSON ST, 36th AVE, LAKE OTIS PKWY, TUDOR RD, INTERNATIONAL AIRPORT RD, DOWLING RD, RASPBERRY RD, C ST, NEW SEWARD HWY, OLD SEWARD HWY, 76th AVE, MINNESOTA DR, ABBOTT LOOP RD, ABBOTT RD, O MALLEY RD, BIRCH RD, HILLSIDE DR, HUFFMAN RD, DEARMOUN RD, RABBIT CREEK RD

Merrill Field Airport

Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,768,927	2,470,658,355	188,912	68,952,880	32.2	27,939	10,197,735	465.7	169,962.3
Difference	-10,899	-3,978,135	-8,380	-3,058,700	+0.6	-7,587	-2,769,255	-126.5	-46,154.3

LEGEND

Predicted Average Daily Traffic (# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with No Question Mark Roads

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

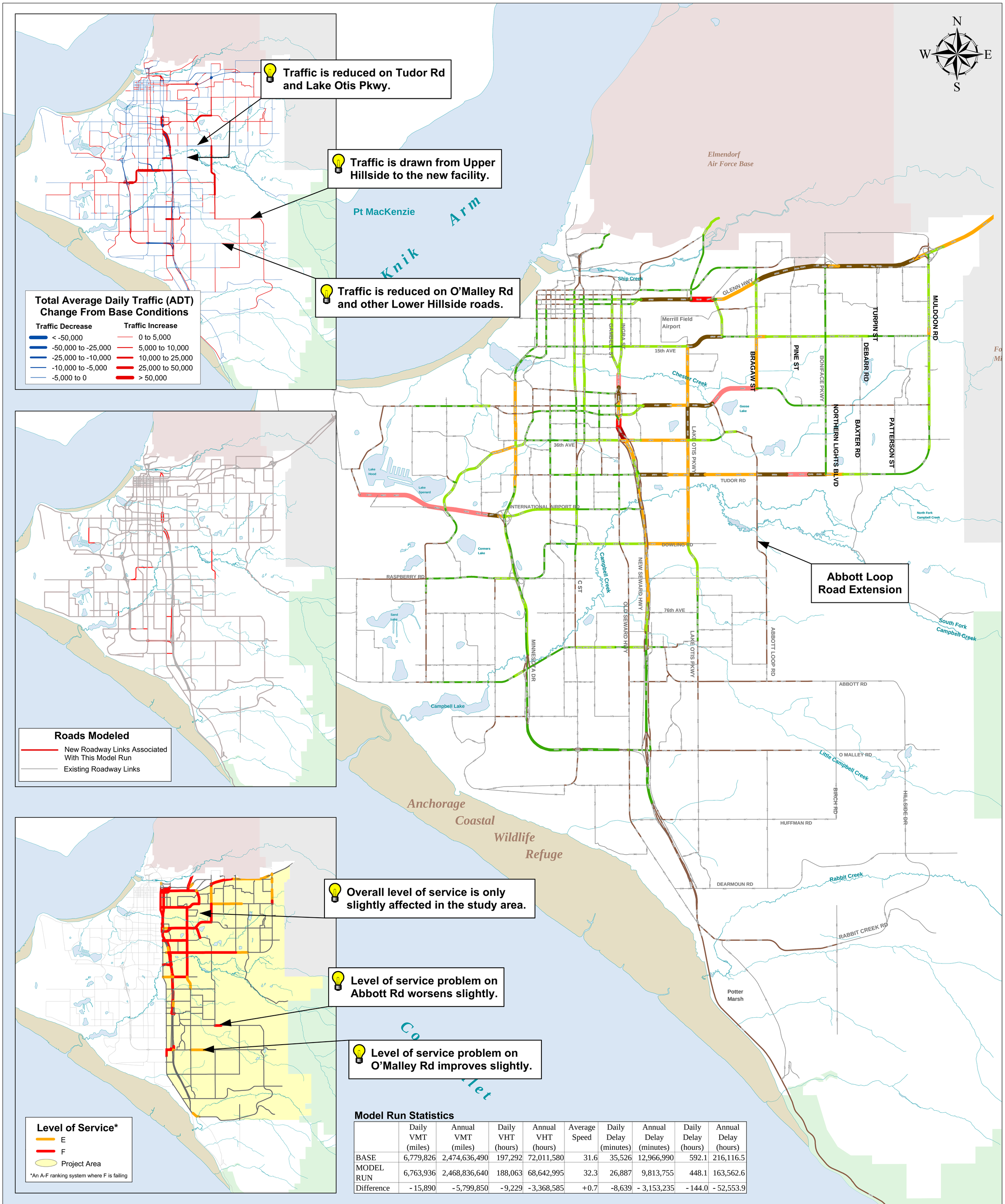
0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B1



Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,763,936	2,468,836,640	188,063	68,642,995	32.3	26,887	9,813,755	448.1	163,562.6
Difference	- 15,890	- 5,799,850	- 9,229	- 3,368,585	+ 0.7	-8,639	- 3,153,235	- 144.0	- 52,553.9

LEGEND

Predicted Average Daily Traffic
(# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with Abbott Loop Road Extension

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B2

Traffic at Lake Otis Pkwy/Tudor Rd is reduced slightly. This suggests that Upper Hillside traffic headed to northeast Anchorage is only part of the problem at this intersection.

Extending Elmore Road (in addition to Abbott Loop Road) only increases the attractiveness of this corridor to travelers by a small amount. 16,000 ADT use this corridor with Elmore and Abbott extension; 14,000 ADT use this corridor with only an Abbott Loop Road extension.

Extending Elmore Road (in addition to Abbott Loop Road) reduces traffic on Dearmoun and Rabbit Creek Rds and slightly increases traffic on O'Malley Rd.

Abbott Loop Road and Elmore Road extensions have a positive effect on level of service in the Lake Otis/Tudor area, but little overall effect on level of service in the northeast portion of the study area.

Total Average Daily Traffic (ADT) Change From Base Conditions

Traffic Decrease	Traffic Increase
< -50,000	0 to 5,000
-50,000 to -25,000	5,000 to 10,000
-25,000 to -10,000	10,000 to 25,000
-10,000 to -5,000	25,000 to 50,000
-5,000 to 0	> 50,000

Roads Modeled

- New Roadway Links Associated With This Model Run
- Existing Roadway Links

Level of Service*

- E
- F
- Project Area

*An A-F ranking system where F is failing

Abbott Loop Road Extension

Pt MacKenzie

Knik Arm

Cook Inlet

Elmendorf Air Force Base

Anchorage Coastal Wildlife

Potter Marsh

Merrill Field Airport

GLENN HWY, 15th AVE, 36th AVE, INTERNATIONAL AIRPORT RD, TUDOR RD, DOWLING RD, RASPBERRY RD, 76th AVE, ABBOTT RD, O MALLEY RD, HUFFMAN RD, DEARMOUN RD, RABBIT CREEK RD

MULDOON RD, TURPIN ST, DEBARR RD, PATTERSON ST, BAXTER RD, NORTHERN LIGHTS BLVD, BONIFACE PKWY, PINE ST, BRAGAW ST, LAKE OTIS PKWY, NEW SEWARD HWY, OLD SEWARD HWY, C ST, MINNESOTA DR, ABBOTT LOOP RD, BIRCH RD, HILLSIDE DR

Ship Creek, Chester Creek, Goose Lake, Lake Hood, Lake Spenard, Conners Lake, Sand Lake, Campbell Lake, Campbell Creek, North Fork Campbell Creek, South Fork Campbell Creek, Little Campbell Creek, Rabbit Creek

Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,758,559	2,466,874,035	187,786	68,541,890	32.3	26,787	9,777,255	446.5	162,954.3
Difference	-21,267	-7,762,455	-9,506	-3,469,690	+0.7	-8,739	- 3,189,735	-145.7	- 53,162.3

LEGEND

Predicted Average Daily Traffic (# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with Abbott Loop Road and Elmore Road Extension

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

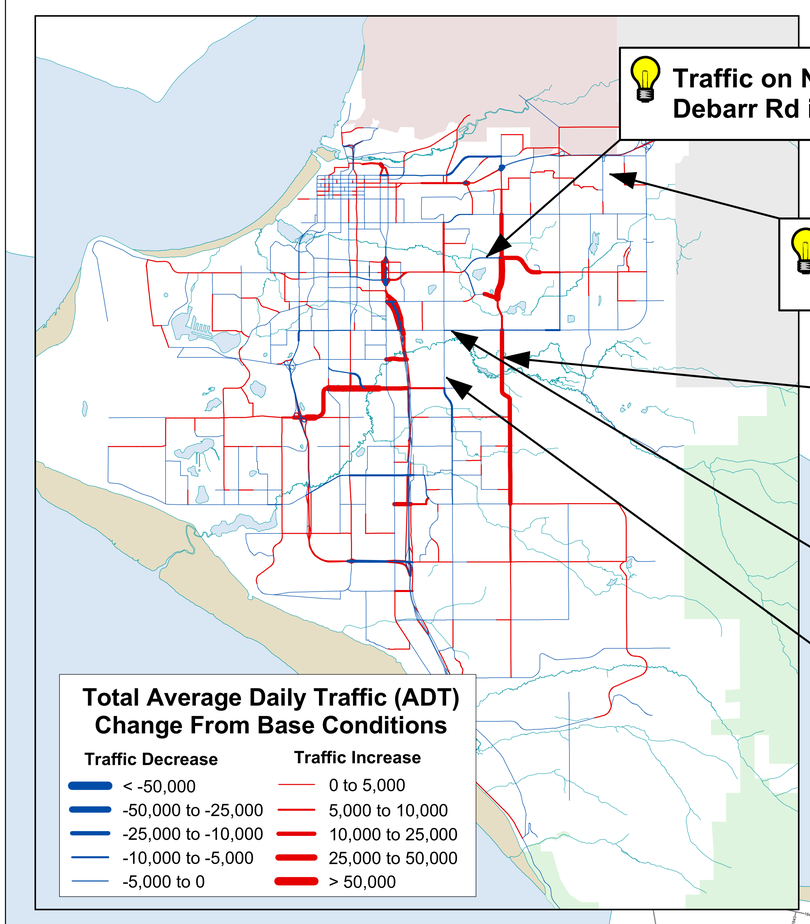
0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B3



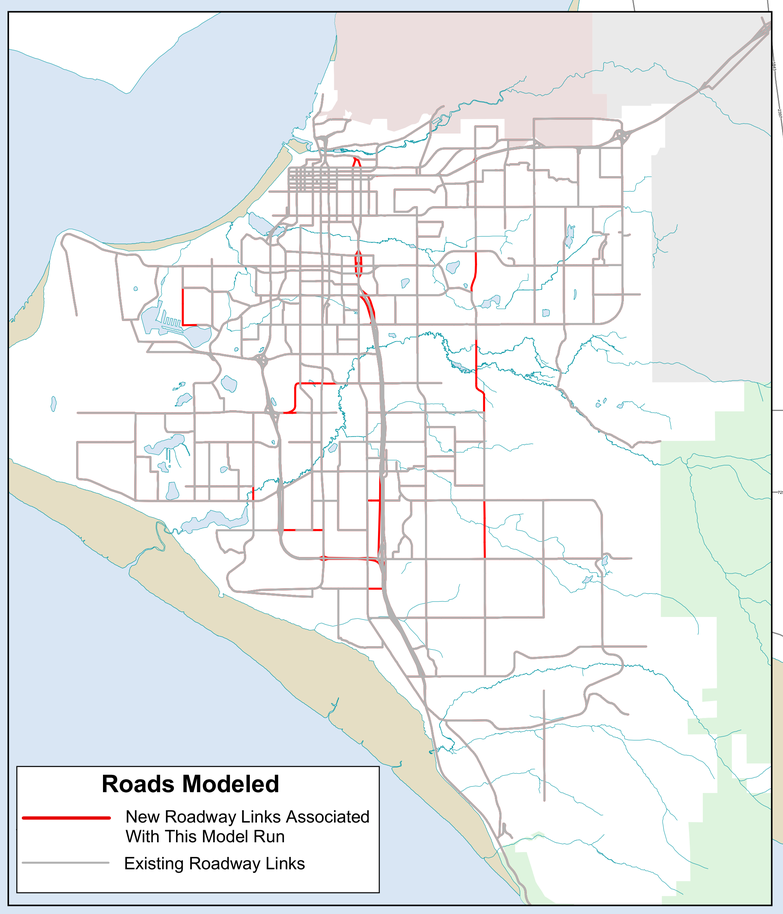
Traffic on Northern Lights Blvd and Debarr Rd is reduced slightly.

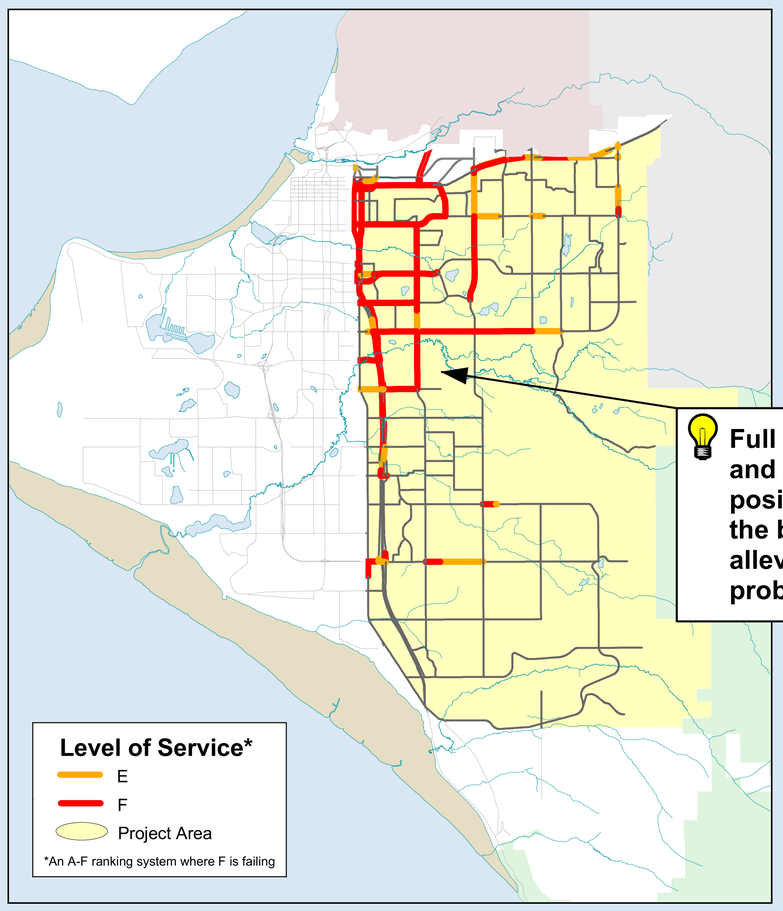
Draws traffic from Northeast Anchorage and incoming Glenn Hwy.

This corridor's transportation benefits as a north-south arterial increases with the Bragaw St. (University-Medical District) Extension.

Tudor Rd. traffic is reduced.

Lake Otis Pkwy traffic is reduced.





Full length of Bragaw St (Universtity-Medical District) and Abbott Loop Rd extensions begins to have positive effect on level of service as compared to the base case. These extensions, however, do not alleviate Lake Otis Pkwy and Tudor Rd traffic problems on their own.

Bragaw Street Segment 3

Average daily traffic here likely represents the Hillside ADT that would have used Lake Otis Pkwy or Seward Hwy.

Abbott Loop Road Segment 1

Abbott Loop Road Segment 2

Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,746,162	2,462,349,130	186,031	67,901,315	32.3	25,215	9,203,475	420.3	153,391.3
Difference	-33,664	-12,287,360	-11,261	-4,110,265	+0.7	-10,311	-3,763,515	-171.9	-62,725.3

LEGEND

Predicted Average Daily Traffic (# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with Abbott Loop Road, Elmore Road, and Bragaw Street (University-Medical District) Extensions

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

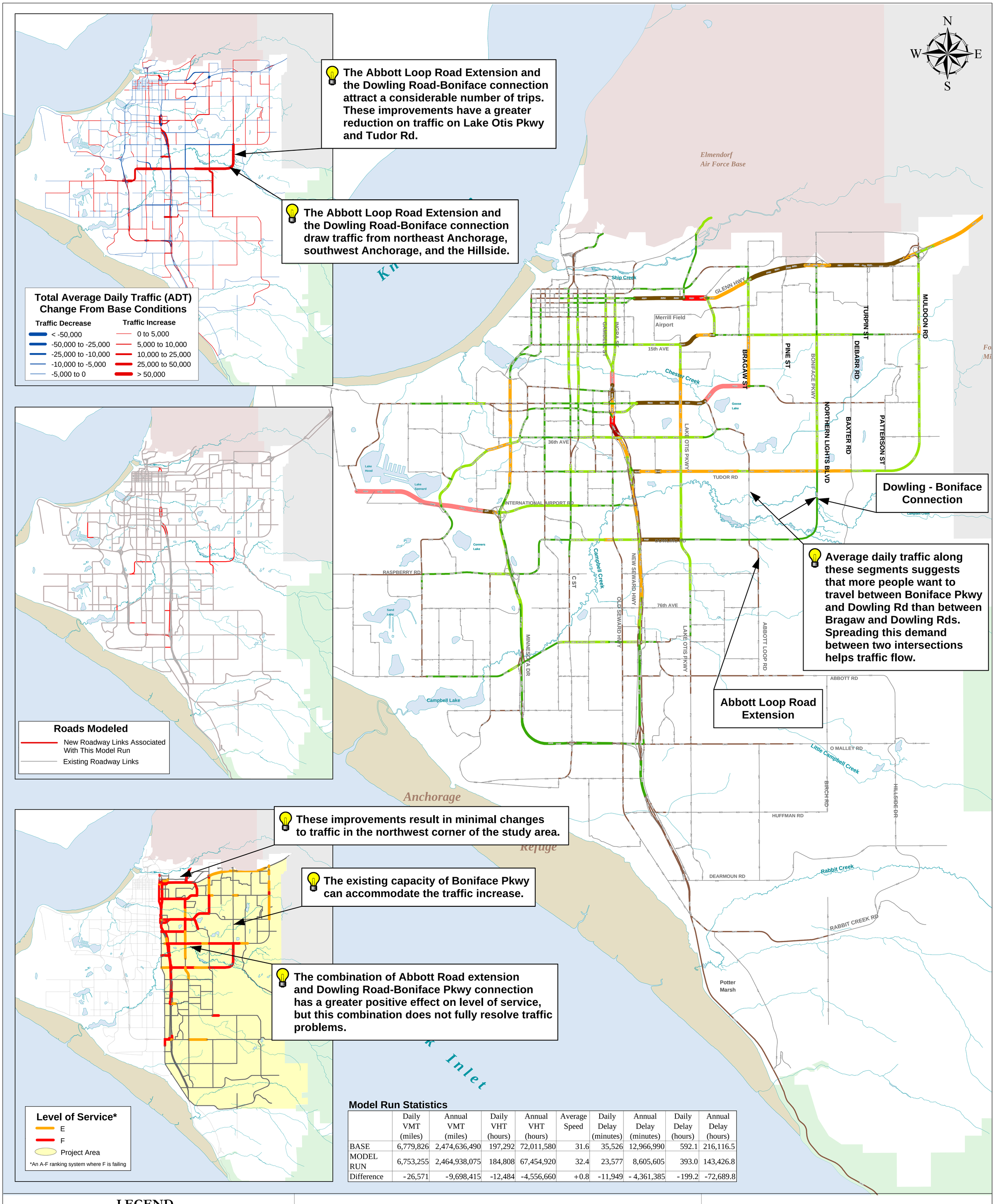
0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B4



Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,753,255	2,464,938,075	184,808	67,454,920	32.4	23,577	8,605,605	393.0	143,426.8
Difference	-26,571	-9,698,415	-12,484	-4,556,660	+0.8	-11,949	- 4,361,385	-199.2	-72,689.8

LEGEND

Predicted Average Daily Traffic (# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with Abbott Loop Road Extension and Dowling Road - Boniface Parkway Connection

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

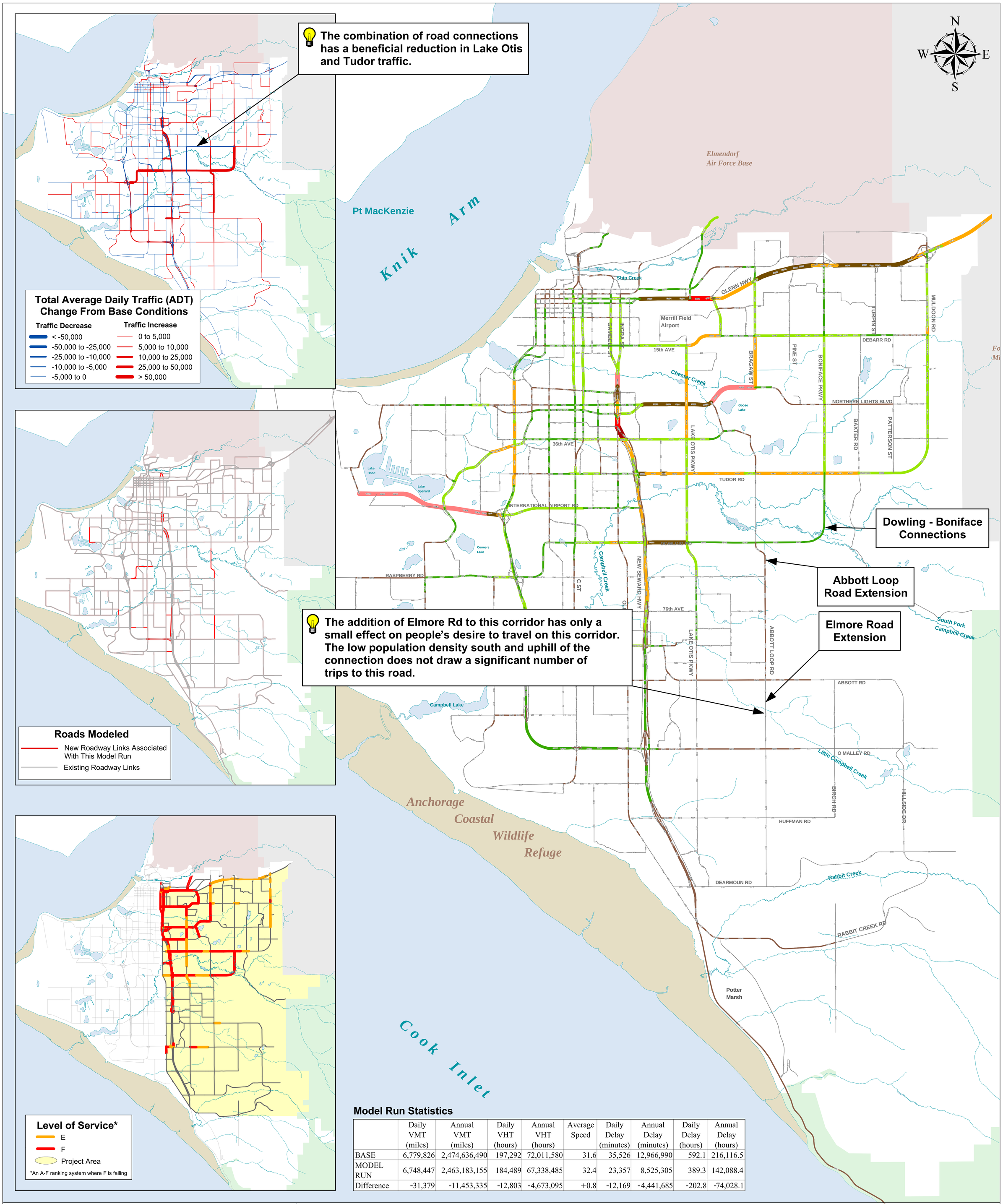
0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B5



Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,748,447	2,463,183,155	184,489	67,338,485	32.4	23,357	8,525,305	389.3	142,088.4
Difference	-31,379	-11,453,335	-12,803	-4,673,095	+0.8	-12,169	-4,441,685	-202.8	-74,028.1

LEGEND

Predicted Average Daily Traffic
(# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with Abbott Loop Road Extension, Elmore Road Extension, and Dowling Road - Boniface Parkway Connection

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

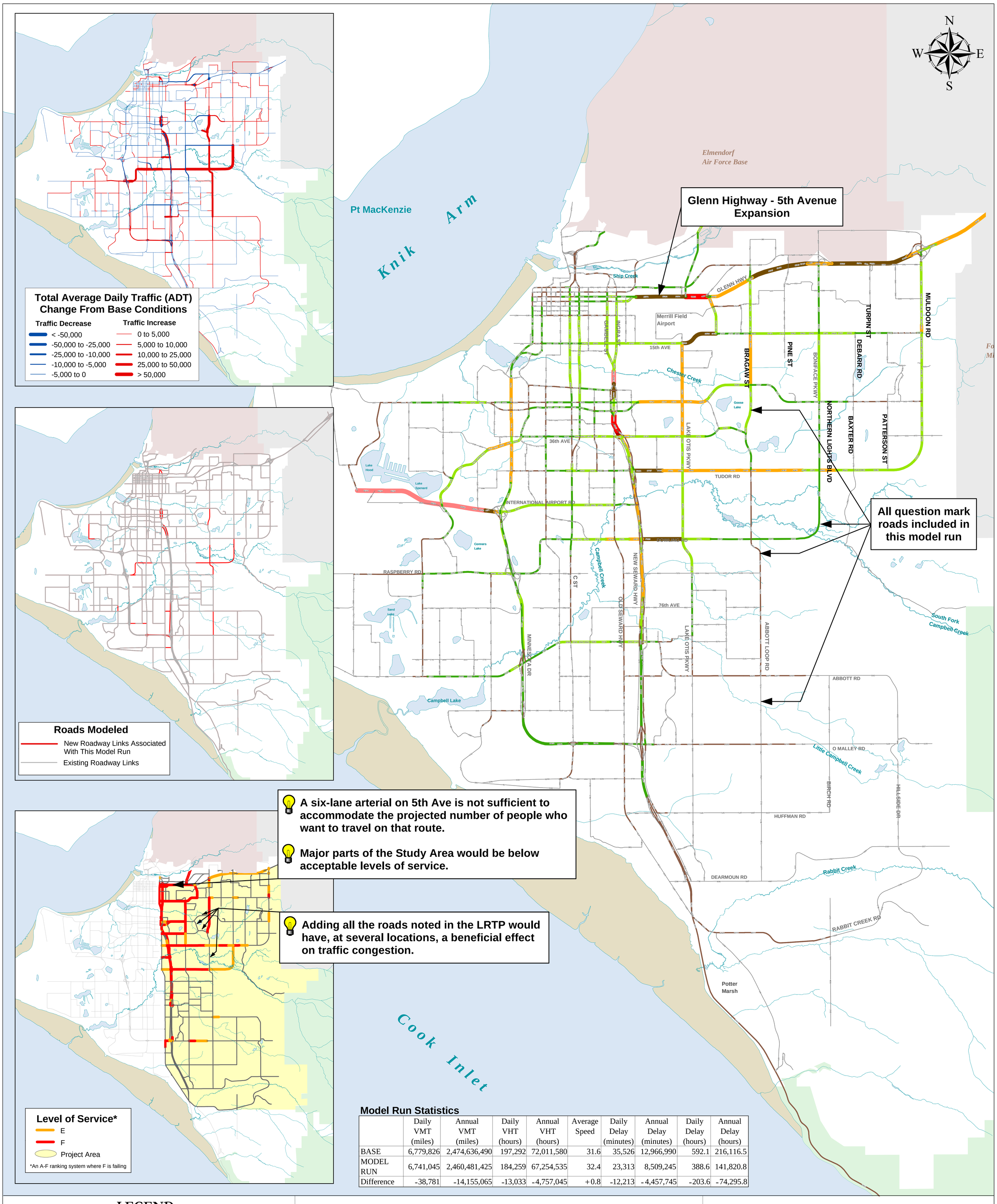
0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B6



Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,741,045	2,460,481,425	184,259	67,254,535	32.4	23,313	8,509,245	388.6	141,820.8
Difference	-38,781	-14,155,065	-13,033	-4,757,045	+0.8	-12,213	-4,457,745	-203.6	-74,295.8

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: All Question Mark Roads plus Glenn Highway Expanded on 5th Avenue

EAST ANCHORAGE STUDY OF TRANSPORTATION

The extra capacity provided by the couplet makes more people want to travel this route. Note the reduction in traffic on 5th Ave and corresponding increase on 3rd Ave.

Note the overall beneficial reduction in traffic on each of these east-west arterials.

Total Average Daily Traffic (ADT) Change From Base Conditions

Traffic Decrease	Traffic Increase
< -50,000	0 to 5,000
-50,000 to -25,000	5,000 to 10,000
-25,000 to -10,000	10,000 to 25,000
-10,000 to -5,000	25,000 to 50,000
-5,000 to 0	> 50,000

Roads Modeled

- New Roadway Links Associated With This Model Run
- Existing Roadway Links

Major parts of the study area still have level of service problems.

Level of Service*

- E
- F
- Project Area

*An A-F ranking system where F is failing

Glenn Highway
3rd Avenue - 5th Avenue Couplet

All question mark roads included in this model run

Pt MacKenzie

Knik Arm

Elmendorf Air Force Base

Anchorage Coastal Wildlife Refuge

Cook Inlet

Merrill Field Airport

Ship Creek

Chester Creek

Campbell Creek

Campbell Lake

Lake Hood

Lake Spenard

Conners Lake

Sand Lake

Goose Lake

North Fork Campbell Creek

South Fork Campbell Creek

Little Campbell Creek

Rabbit Creek

Potter Marsh

GLENN HWY

15th AVE

36th AVE

INTERNATIONAL AIRPORT RD

TUDOR RD

DOWLING RD

76th AVE

RASPBERRY RD

ABBOTT RD

O MALLEY RD

HUFFMAN RD

DEARMOUN RD

RABBIT CREEK RD

NORTHERN LIGHTS BLVD

DEBARR RD

MULDOON RD

TURPIN ST

BONIFACE PKWY

BAXTER RD

PATTERSON ST

PINE ST

BRAGAW ST

LAKE OTIS PKWY

ABBOTT LOOP RD

BIRCH RD

HILLSIDE DR

NEW SEWARD HWY

OLD SEWARD HWY

C ST

MINNESOTA DR

INGRA ST

GAMBELL ST

N W E S

Model Run Statistics

	Daily VMT (miles)	Annual VMT (miles)	Daily VHT (hours)	Annual VHT (hours)	Average Speed	Daily Delay (minutes)	Annual Delay (minutes)	Daily Delay (hours)	Annual Delay (hours)
BASE	6,779,826	2,474,636,490	197,292	72,011,580	31.6	35,526	12,966,990	592.1	216,116.5
MODEL RUN	6,743,883	2,461,517,295	186,011	67,894,015	32.4	24,967	9,112,955	416.1	151,882.6
Difference	-35,943	-13,119,195	-11,281	-4,117,565	+0.8	-10,559	-3,854,035	-176.0	-64,233.9

LEGEND

Predicted Average Daily Traffic (# represents average daily traffic)

- 0 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 - 50,000
- 50,000 - 60,000
- 60,000 - 70,000
- 70,000 - 80,000
- 80,000 - 90,000
- > 90,000

- Roads
- Streams
- Mud Flats
- Water
- Technical Findings at a Glance

Implement Long Range Transportation Plan (LRTP) Solution Theme

Model Run: LRTP with All Question Mark Roads Plus Glenn Highway in 3rd - 5th Avenue Couplet Configuration

EAST ANCHORAGE STUDY OF TRANSPORTATION

0 0.5 1 2 3 Miles

0 0.5 1 2 3 Kilometers

Data Sources: MOA

Map Date: May 2003

FIGURE

B8