Study Overview and Recommendations

Prepared for:

Alaska Department of Transportation & Public Facilities

and

Municipality of Anchorage

Prepared by:

HDR Alaska, Inc.

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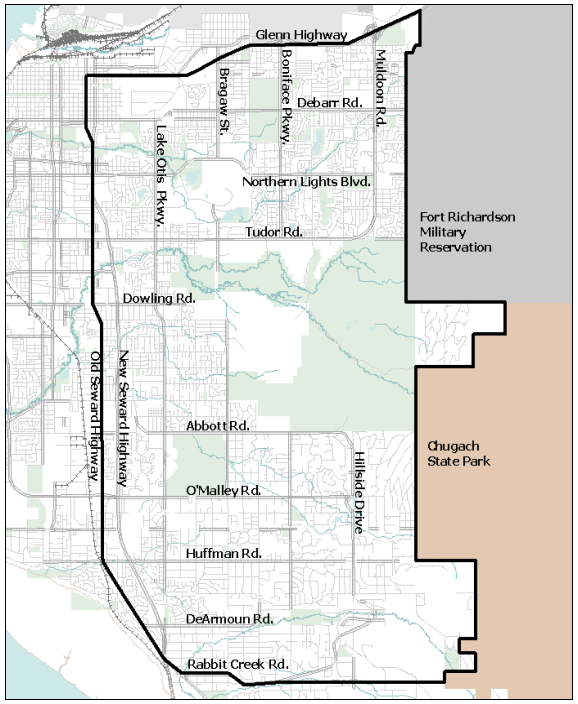
List of Acronyms and Terms

ADT	Average daily traffic
AMATS	Anchorage Metropolitan Area Transportation Solutions
APU	Alaska Pacific University
ATIS	Advanced Transit Information Systems
CBD	Central Business District
CWG	Citizen's Working Group
DU	Dwelling Units
FCC	Federation of Community Councils
HOV	High occupancy vehicle
ISER	Institute of Social and Economic Research
LRTP	Long Range Transportation Plan
MIS	Major Investment Study
MPH	Miles per hour
UAA	University of Alaska Anchorage
VHT	Vehicle hours traveled
VMT	Vehicle miles traveled
Arterial	A road that is designed to move large volumes of traffic and goods, generally from one part of the community to another to connect major employment and activity centers to large residential areas.
Bus transit "queue-jumper" lane	Lanes dedicated to buses to allow buses first priority through the intersection when the light changes.
By-pass	A road designed to go around existing development. It could be classified as a freeway or expressway.
Collector	A road designated to carry traffic between local streets and arterials, or from local street to local street.
Dwelling unit	A building, or portion of a building, that contains separate living facilities.
Express bus	Bus transit service with a limited number of stops, either from a collector area directly to a specific destination or in a particular corridor with stops en route to major transfer points or activity centers.
Expressway	A road with full or partial control of access with limited access via at-grade or grade-separated intersections whose function is to carry through-traffic at somewhat slower speeds than a freeway.
Feeder bus	Local bus transit service that provides passengers with connections to main-line arterial service, an express bus service station, or an express bus stop or terminal.
Freeway	A limited access, high-speed road with grade-separated interchanges whose function is to carry traffic.
Limited stop bus	Bus transit service that serves only specific stops with the intent of serving important destinations such as major employment centers efficiently.
Local street	A road designed to provide access to adjacent properties.
Wetland Classification: A, B, and C	The Anchorage Wetland Management Plan (MOA, 1996) designates freshwater wetlands based on values and functions. These designations are based on a hierarchical value system, with "A" wetlands representing the most important sites, "B" wetlands being of moderate to high values, and "C" sites representing the lower value areas. The "A," "B," and "C" designations are often termed Preservation Wetlands, Conservation Wetlands, and Developable Wetlands, respectively.

Introduction

The objective of the East Anchorage Study of Transportation . . .

Find long-range solutions to travel mobility within and through the study area.



East Anchorage Study Area

Study Overview

State and local officials commissioned the East Anchorage Study of Transportation (EAST) to examine transportation improvements for the East Anchorage study area.[1] The study's purpose was to identify current problems; forecast future transportation demands and deficiencies (through the year 2023); and then analyze approaches to improve our ability to travel safely and efficiently within and through the study area. The study focused on accessibility, mobility, and public safety, as well as relieving congestion at major eastside intersections. The map to the left depicts the study area boundaries.

To achieve those goals, the study was designed to develop quality data and analysis and to make recommendations within an open and thoughtful process that involved and educated the public in meaningful ways. The following objectives framed the study process.

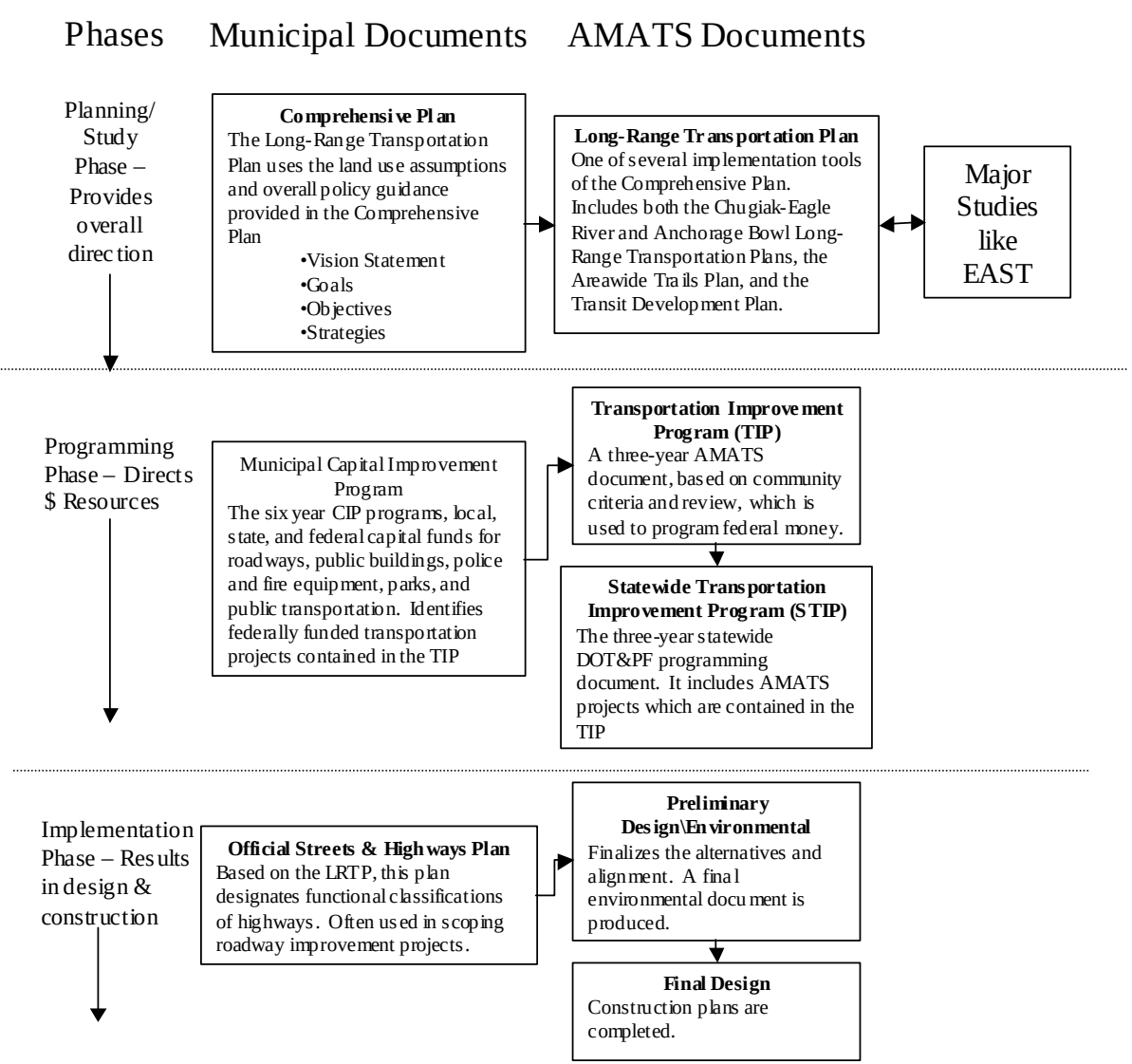
- Develop and conduct a credible study process.
- Develop the study to be consistent with, and as a means of implementing, Anchorage 2020.
- Coordinate with other key transportation and land use planning studies including the Glenn Highway and Seward Highway Major Investment Study (MIS) projects, the update of the long range transportation plan, the Ship Creek Access project, neighborhood plans, and town center plans.
- Involve the public in meaningful ways that bring good ideas to the forefront and lend credibility to, and acceptance of, the study results.
- Collect meaningful data on existing and future conditions (through 2023) to help identify transportation needs and support study conclusions.
- Identify transportation problems and needs that should be resolved to improve accessibility, mobility, safety, and livability, and deal with congestion in East Anchorage.
- Develop screening criteria and performance measures to consider alternatives.
- Develop a full range of concepts for meeting East Anchorage's transportation needs that consider all modal and demand management strategies, including land use analysis.
- Conduct sound transportation and land use analysis in identifying problems and evaluating potential solutions.
- Make recommendations to fulfill long-range transportation and mobility needs.

[1] Defined as the geographic area bounded by the Glenn Highway to the north, Rabbit Creek Road to the south, the Old Seward Highway to the west, and the Ft. Richardson Military Reservation and Chugach State Park to the east.

Study Context

As the diagram to the right shows, EAST, considered an "area-wide study," is a part of a much larger process. The planning phase of that process began with the Anchorage 2020 Comprehensive Plan (MOA February 2001) and will continue through the 2003/2004 update of the long-range transportation plan (LRTP). The comprehensive plan provides the framework (in the form of goals, objectives, and policies) to guide future development in Anchorage. With this framework in place, EAST focused attention on how that future vision of the city would be served by our transportation system.

EAST's recommendations, data, and analyses provide a wealth of information for the LRTP and other planning processes to use to make choices about future public transportation, sidewalk, trail, and road improvements. It is important to note that EAST is not a decisional document — no new projects or policies will result directly from this study. Instead, it is the LRTP update (scheduled to occur during 2003/2004) that will establish Anchorage's future transportation policies and projects. Part of the LRTP work will be to revisit EAST findings and recommendations and engage the community in a discussion about the balancing of community values and the costs and tradeoffs associated with transportation system improvements.



The Transportation Planning, Programming, and Implementation Process

Study Process

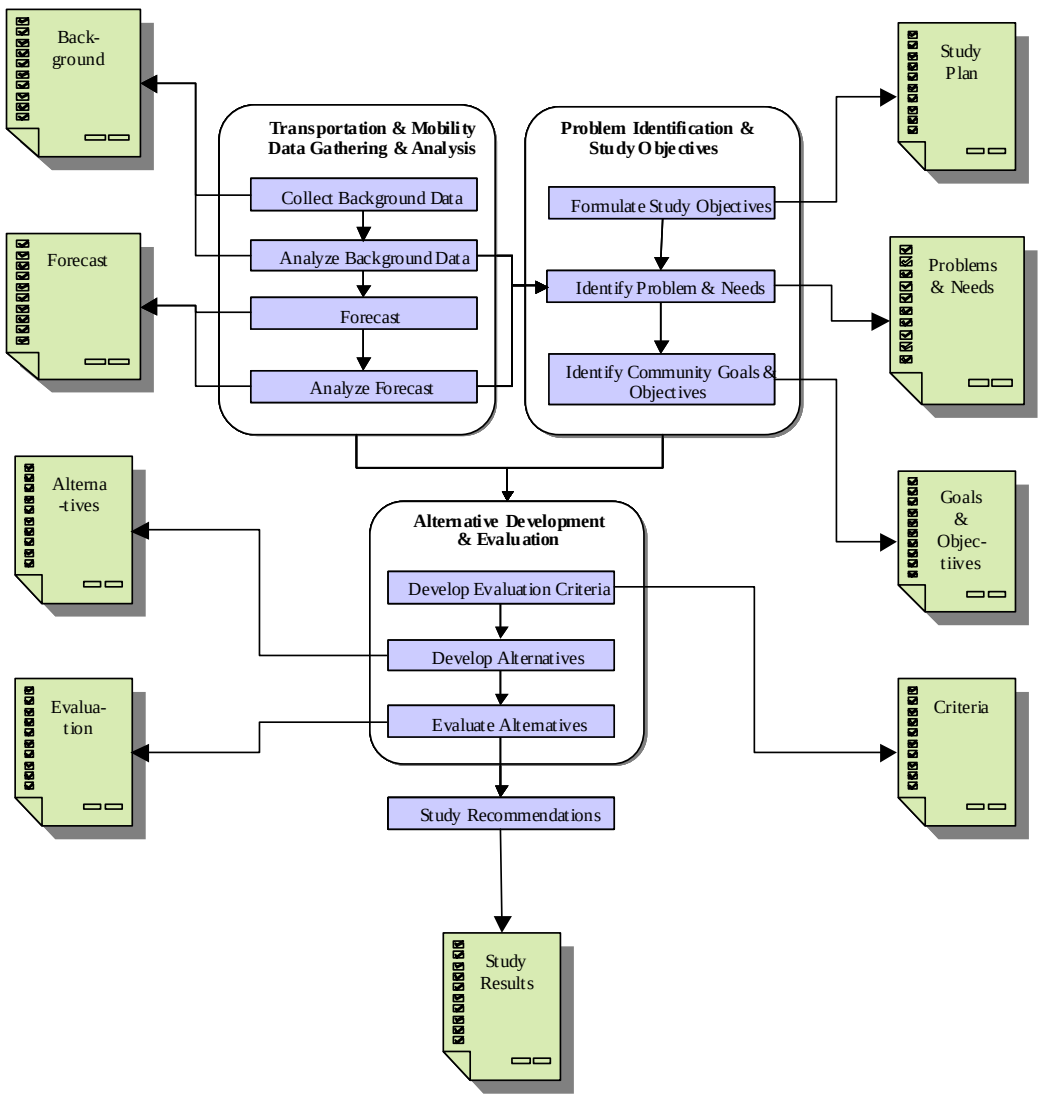
The graphic to the right depicts the phases of work completed during EAST and the information developed during each phase. The following paragraphs describe each study phase. For more detail, see the reports that accompany this document (listed in the Table of Contents and summarized in the "Overview of EAST Reports" section of this introduction).

Transportation & Mobility Data Gathering and Analysis Phase

The primary objectives of this phase of study were to develop an understanding of existing conditions affecting and relating to the transportation system in East Anchorage and to use that information to (a) predict future conditions and (b) to serve as a base of information throughout the study. Primary tasks in this phase of work included collecting and analyzing background information on existing conditions in the study area, and building and analyzing a forecast of future conditions.

Problem and Study Objectives Identification Phase

Running concurrently with the background inventory phase was the problem and study objective identification phase. During this effort, the team refined the objectives of the study; reviewed transportation planning history and existing policy guidance;



EAST Process and Documents

identified goals and objectives to guide future transportation and land use; and developed a vision for transportation decision-making. Information from past studies (comparing community goals and visions with existing conditions) and public input was used for two purposes: (1) to identify and understand transportation problems and needs and (2) to put those problems and needs into the context of historical planning efforts and future transportation-land use desires.

Alternative Development and Evaluation Phase

Developing and evaluating solutions to meet East Anchorage's transportation needs was the heart of the study. EAST's approach was to examine a full range of modal options and land use ideas. The key steps in the process included developing evaluation criteria, developing alternatives, and evaluating alternatives.

Study Recommendations

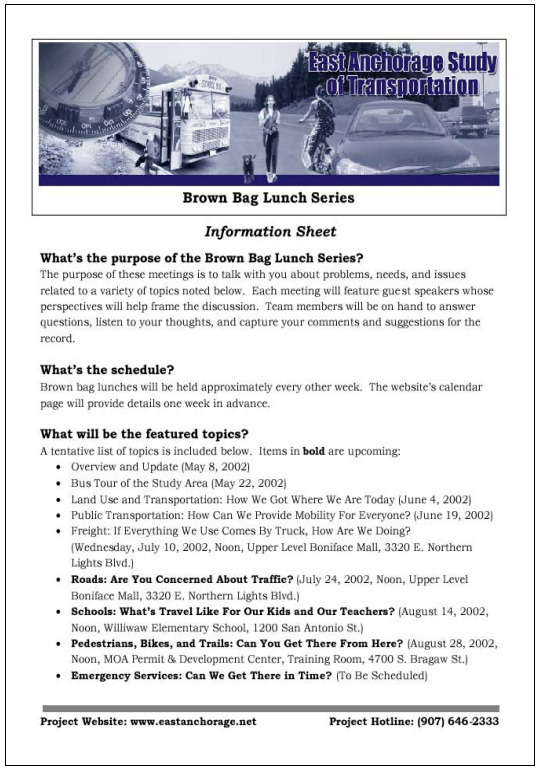
During this task the team worked to ensure that information on all alternatives was presented to the community and that a dialogue began with state and municipal transportation staff, decision-makers, and the public on future transportation improvements and strategies.

Public Involvement

Public participation was incorporated into each phase of the study to bring good ideas to the forefront and lend credibility to and acceptance of the study results. The key objectives of our public involvement/participation process are listed below:

- involve the public in meaningful ways
- strive to bring all voices to the discussion
- listen to comments and suggestions and infuse the input into the study
- demonstrate how that input was used (or, if necessary, explain why it could not be used)
- provide new information for the public to consider
- summarize the public input, pro and con, for decision-makers

An overview of the public involvement toolbox used throughout this study is provided below.



The series of Brown Bag Lunches was well attended and provided an important forum for discussing transportation planning issues.

Agency Working Group. An Agency Working Group was established to share information with municipal, state, and federal agencies like the Anchorage Water and Wastewater Utility, Fire Department, Alaska Department of Fish and Game, and U.S. Fish and Wildlife Service. The group met at different stages of the project to review technical findings and provide input.

AMATS Policy and Technical Advisory Committee Meeting Briefings. Throughout the study, eight presentations were given to these metropolitan area transportation planning and decision-making committees.

Brown Bag Lunch Series. The purpose of this series of 10 meetings was to talk with the public about problems, needs, and issues related to a variety of topics dealing with Anchorage transportation issues. Each meeting discussed a different transportation-related topic and featured a guest speaker.

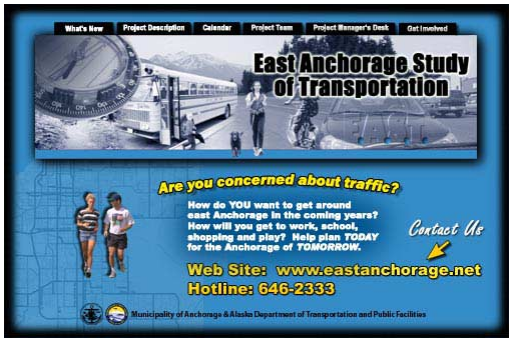
Bus Tour. A guided bus tour exposed attendees to the study area's diversity and competing interests and assisted in raising an understanding of various transportation problems and solutions.

Citizens' Working Group. The Citizens' Working Group (CWG) was an assembly of about 50 people with a wide range of community and business viewpoints. This group met four times to review technical findings and provide input. Members then shared information with other members of the community, such as representatives from community councils, environmental groups, homebuilding and trucking associations, and others.

EAST Update. A regular newsletter summary of project activities, upcoming events, and published reports was prepared and distributed to the approximately 550 people on the study mailing list. This newsletter was published seven times over the course of the study.

E-mail Tree. All project correspondence was sent via e-mail as well as other methods. One of the benefits of this type of outreach was that elected officials, community organizations, and so on could forward study information easily and help get the word out.

Existing Mechanisms. This term describes the use of existing mechanisms like the What's Up e-mail news service published by the Alaska Center for the Environment, the *Anchorage Daily News* community calendar, and the Federation of Community Councils meetings and bulletins.



This advertisement to solicit involvement and interest in the study showed at Fireweed, Totem, Dimond, and Century Theaters during the summer and fall of 2002.

Federation of Community Councils Update. Two presentations were made to the Federation of Community Councils (FCC). FCC members were asked to disseminate this information to their individual community councils.

Facilitated Public Meetings. A series of facilitated public meetings was held over the course of the project at multiple venues to develop and discuss study information. These meetings included a presentation and an open-house-style review of study findings.

Group Presentations. The team made presentations on request to 16 community or business groups over the course of the study.

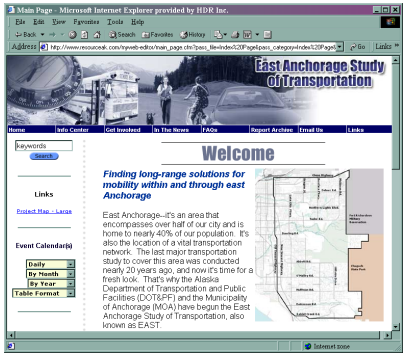
Interviews/Focus Group Meetings. One-on-one and one-to-many discussions with service providers identified issues and problems early in the process. These interviews were used to solicit public input; provide background; and identify roadway, public transportation, trail, and pedestrian deficiencies within the study area.

Listening Log. A study database recorded each comment, the date of receipt, type of comment, response, action required, and team member responsible for seeing the action item through to completion.

Movie Theater Slides. An advertisement was developed for Anchorage movie theater screens that included website, hotline, and contact information. This advertisement was used to get the word out about the study.

Open Channel to the Public. This technique refers to the availability of the study team to listen to and respond to public comment via fax, email, and telephone and in written correspondence. Comments were included in the study's "Listening Log."

Project Hotline (646-2333). Messages were updated as required to keep the public informed of upcoming meetings and to allow another method for providing input.



The study website (www.eastanchorage.net) was used to provide project updates, record comment, and distribute documents for review.

Project Report Distribution. Project reports were distributed to branch libraries, posted to the study website, and made available in CD format. Report availability notices were distributed via e-mail and regular mail.

Public Displays. Project displays were placed at branch libraries and shopping malls to develop interest in the study and to solicit interested parties for the mailing list.

Public Relations and Press Coordination. The team coordinated with the press to allow them to assist in getting information to the public. The result included stories in the *Anchorage Daily News*; on television channels 2, 4, 11, and 13; and on AM and FM radio stations.

Public Service Announcements. This mechanism was used to notify the public about meetings and project milestones.

Listening Posts. Three Listening Posts at area malls and other venues were used to spread the word about the study and to let the general public express their concerns and ideas.

World Wide Website. The project website, www.eastanchorage.net, was used to provide project updates, record comments, and distribute documents for review. An online questionnaire was made available on the study's website during the first two phases of the study.

Overview of EAST Reports

Through the study process, public involvement, and analysis, EAST produced a series of study reports and supporting documents to articulate findings from each of these phases. The reports are summarized below. These reports and documents are bound with this report or are available electronically on the accompanying CD.

Study Reports

Background: Existing Conditions, Problems and Needs. This report depicts existing conditions affecting and relating to the transportation system in East Anchorage. The study of transportation movement as it currently exists and as it is forecast to become was central to the ability to plan for improvements within the study area over the next 20 years. This information served as baseline data throughout the study. The first sections of this report present an overview of existing land use conditions and origin and destination information. The second section of the report describes the existing road, transit, and pedestrian system. The third section identifies deficiencies and problem areas (DOT&PF & MOA May 2002).

Problems and Needs: Transportation Issues and Solutions Identified by the Public. This report discusses the problems and needs related to transportation in the East Anchorage area, compiled from various public outreach and research associated with this study. The first section of the report provides an overview of the study's public outreach, and the last three sections provide an overview of comments pertaining to road, public transportation, and pedestrian and bicycle travel, respectively. Comments pertaining to land use are included in each section (DOT&PF & MOA August 2002).

Forecast. This report presents an evaluation of the MOA Anchorage Transportation Model's prediction of future travel demand and traffic. The model was used to predict travel demand and traffic forecasts and to identify effects on the Eastside transportation system due to future growth, land use shifts, investments in alternative modes, changes in employment type, modifications to the travel network, and other variables. The first sections of the report discuss the methodology used to complete the forecast, and the middle sections of the report depict future land use, pedestrian, transit, and road traffic. The last sections of the report discuss anticipated road and intersection level of service in the year 2023 (DOT&PF & MOA January 2003).

Goals and Objectives Analysis. Community development, transportation, and land use are integrally linked. To develop a transportation system that supports the community's vision for growth, it is important to identify and articulate the relationship between development, transportation, and land use goals. This report reviews previous planning efforts and historic development patterns to identify the decisions, goals, and objectives from those plans and actions that have brought us where we are today. It also reviews current plans to identify and

Understanding the MOA's Anchorage Transportation Model

As the "Forecast" report (DOT&PF & MOA January 2003) discusses, the MOA's Transportation Model was used to develop future travel demand and traffic forecasts. The transportation model:

- *Allocates future development and land use to specific locations and areas based on regional estimates.*
- *Estimates the number and types of trips being made to and from each area, based on land use and development.*
- *Predicts origins and destinations of trips based on local information about likely distances people will travel.*
- *Divides trips into different modes (auto driver, bus rider, etc).*
- *Assigns trips to specific routes from origin to destination.*

On-line Survey Results . . .

What is the best thing about Anchorage?

The most common response was related to recreation, particularly proximity to recreational activities and trails.

What is the worst thing about Anchorage?

The most common response was traffic and congestion.

Based on your experience as a user of the Anchorage transportation system, do you believe that traffic congestion is a problem in East Anchorage?

82.5% said YES, and 17.5% said NO.

articulate future goals and objectives for community development and transportation in the study area. Federal, state, and local goals and objectives are discussed in the first three sections of the report, respectively. The last section summarizes how these policies, goals, and objectives were incorporated into EAST (DOT&PF & MOA August 2002).

Evaluation Criteria. This report translates the general goals and objectives articulated in the Goals and Objectives Report into measurable criteria used to refine and evaluate alternatives. The evaluation criteria were used to consider the relative effectiveness of alternatives and to provide decision-makers with more technical information to support future decisions. Criteria used to consider alternatives included daily and annual vehicle miles traveled; daily and annual vehicle hours traveled; average speed of travel; daily and annual travel delay; residential, industrial, and commercial parcels affected; acres of parkland, natural open spaces, wetlands, and wildlife habitat affected; number of stream crossings affected; right-of-way acquisition costs; and air quality impacts (pounds of carbon monoxide and vehicle miles traveled) (DOT&PF & MOA November 2002).

Alternative Development and Evaluation. Over the course of the study, the study team heard many ideas for solving current and future transportation problems in the greater East Anchorage area—from adding more lanes to existing roads, to constructing expressways across town, to exploring the extent to which land-use changes and transit and pedestrian improvements could make traveling in Anchorage better now and in the future. In response to these ideas, five alternative solution themes were developed as a framework to test the various ideas: Base Case, Implement the Long-Range Transportation Plan, Complete the Network, Widen What We Have, Provide Land Use and Transit Choices, and Provide Major Cross Town Connections. Much like doing an experiment, the solution themes held various elements constant to test the relative effectiveness of the elements that are varied. This report summarizes the solution themes, assesses the elements of each solution theme according to how well they serve travel needs, and presents information on associated tradeoffs. Appendices A through G of the Alternatives Development and Evaluation report present transportation model runs for each solution theme, and provide information on level of service, average daily traffic, and other modeled transportation statistics for each improvement tested (DOT&PF & MOA June 2003).

Study Overview and Recommendations. Study recommendations are included in this report. See the discussion below.

Supporting Documents

Origin and Destination Survey Analysis. This report contains an analysis of origin-destination data from the Municipality of Anchorage (MOA) Household Travel Survey (AMATS 2002) in combination with 2000 Census data and 1998 Municipality of Anchorage land use information (MOA 2001a and 2001b) to better identify general characteristics of trips made within and through the East Anchorage study area. This report is organized by the following four areas of analysis: (1) geographic characteristics of the 14 sub-areas identified in the survey; (2) the purpose of the trips taken within and through these sub-areas; (3) the characteristics of the trips likely to be passing through the Tudor Road and Lake Otis Parkway intersection; and (4) the numbers of trips to and from the 14 sub-areas identified in the survey (DOT&PF & MOA March 2003).

Transportation Issues: Survey Results. This report provides a summary of the responses given during EAST's online questionnaire. This online questionnaire was linked to the study website to collect information on the condition of the transportation system and other information such as what people value, characteristics of their transportation system use, and recommendations for improvement. A total of 339 respondents completed the survey over a period of seven months (between July 2, 2002, and February 10, 2003). Because the survey was self-selecting (survey respondents volunteered to take the survey), the results are not statistically significant but still provide valuable information (DOT&PF & MOA April 2003).

Public Involvement Summary: Getting meaningful involvement from the public during the study phase of transportation development is critical but often challenging. This report includes the public outreach activities proposed in the study's public involvement plan (March 2002), as well as a chronology of strategies and activities employed (DOT&PF & MOA July 2003).

Study Plan. This report describes in detail how the study team planned to gather information, identify problems and objectives, develop and evaluate alternatives, and involve the public (DOT&PF & MOA May 2001).

Overview of this Report: Study Overview and Recommendations

The remaining sections of this document culminate the study by presenting a number of transportation improvements and other measures recommended by EAST to resolve Anchorage's transportation challenges over the next 20 years. The recommendations are organized by the following topics:

- Roadway Recommendations
- Transit Recommendations
- Bicycle and Pedestrian Recommendations
- Land Use Recommendations

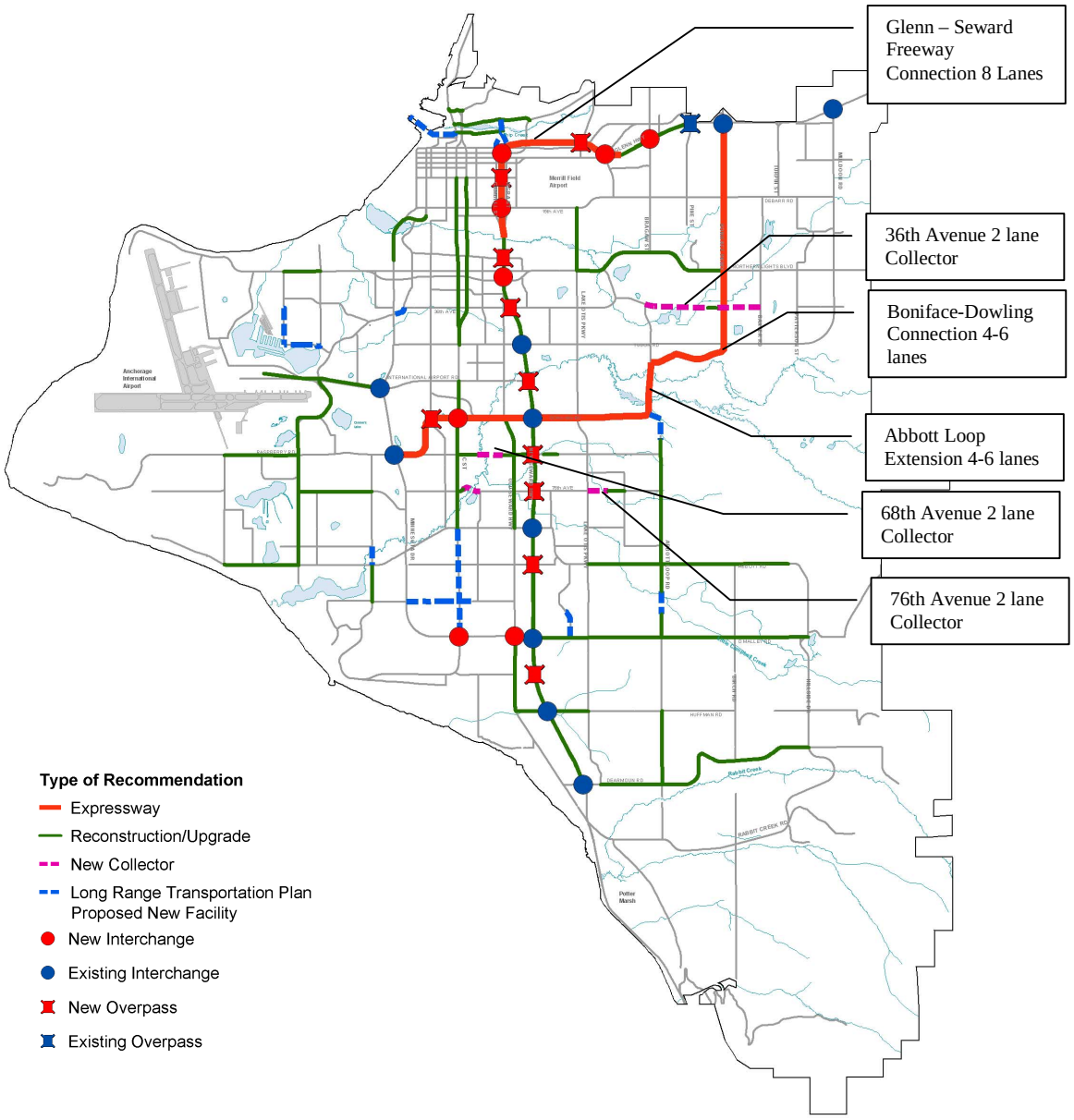
Roadway Recommendations

The roadway recommendations focus on East Anchorage but recognize that the entire roadway network is interconnected. Based on the findings from the Alternatives Development and Evaluation Report, the following recommendations are suggested.

- ***Complete the projects identified in the Long Range Transportation Plan (LRTP 2001).*** EAST found that projects in the study area previously approved in the LRTP and Major Investment Studies (and not yet completed) are needed to improve capacity, connectivity, and/or safety. Question-marked connections (those connections noted by question marks in the current LRTP) are discussed below.

- ***Past solutions are not enough***. To resolve congestion over the next 20 years, more road connections are needed. The higher functional classes will have greater effect on mobility and congestion relief. Carrying longer, cross-town trips on a completed freeway-expressway will make those trips more efficient and relieve the arterial network of some traffic burden. Less congestion on arterials will be better for transit, pedestrians, and adjacent neighborhoods. The following roadway improvements are recommended.

Glenn-Seward Highway Connection. A continuous freeway through Anchorage connecting the Glenn and Seward Highways. As envisioned in the study, the route would



Completing our highway system by eliminating at grade intersections through town is one of the top recommendations for reducing congestion and delay and accommodating the forecast of additional traffic anticipated over the next 20 years.

* The study team specifically examined road **connections marked with question marks** in the 2001 LRTP. As described in the paragraphs at the right, the study recommends the Boniface-Dowling Connector in a modified alignment, the Abbott Loop Extension, and the Elmore Extension. Bragaw Street through the University is not recommended; see "University-Medical District Access" (at right) for more information.

diverge from the existing Glenn Highway near Airport Heights Drive and would be depressed under Mountain View Drive, Commercial Drive, and 3rd Avenue, and would then run in its own alignment north of 3rd Avenue. Each of these roads would continue to function for local access, crossing over the top of the highway. The road would follow a sweeping curve into an alignment along Hyder Street in a depressed section to the Chester Creek Valley. Gambell and Ingra Streets would remain intact and would be connected to a frontage road system through Midtown and to the Old Seward Highway. Modeling suggests that eight lanes would be required. The area between Downtown and Midtown would be the heaviest traveled and could require additional capacity.

- **Boniface-Dowling Connector.*** This expressway (parkway) would connect Boniface Parkway with Dowling Road, similar to what has been proposed in past long range transportation plans, except the connection would be moved onto Public Lands and Institutions-zoned property parallel to Tudor Road. The primary function of the connector is for cross-town efficiency, de-emphasizing access to adjacent property. As envisioned in the study, the route would have limited or partial control of access and be four to six lanes, depending on demand, with speeds somewhat slower than a freeway. Depending on intersection volumes or other conflicts (railroad crossings), grade-separated intersections may be needed.

- **Abbott Loop Extension.*** This road is recommended to be upgraded to four lanes from Abbott Road to 68th Avenue, with a new connection from there to Bragaw Street. It would connect with and complement the Boniface-Dowling Connector. The route provides parallel capacity to Lake Otis Parway, thereby reducing traffic demand on that transit development corridor.

- **Elmore Connection.*** As part of the 1-mile grid network, the connection of Elmore Road to Abbott Loop Road would provide an important route for emergency service vehicles, fire protection, and school bus access. The connection is important given the location of the new South Anchorage High School.

- **Collector Road Connections.** Two east-west collector road connections are recommended to promote connectivity from high density areas on the lower Hillside to north-south arterials leading into the midtown and downtown employment centers. It is recommended that 68th Avenue and 76th Avenue be completed. Other collector and local road connections to improve connectivity are advised and should be determined during neighborhood or subarea planning to improve connectivity between neighborhoods and residential areas and nearby destinations.

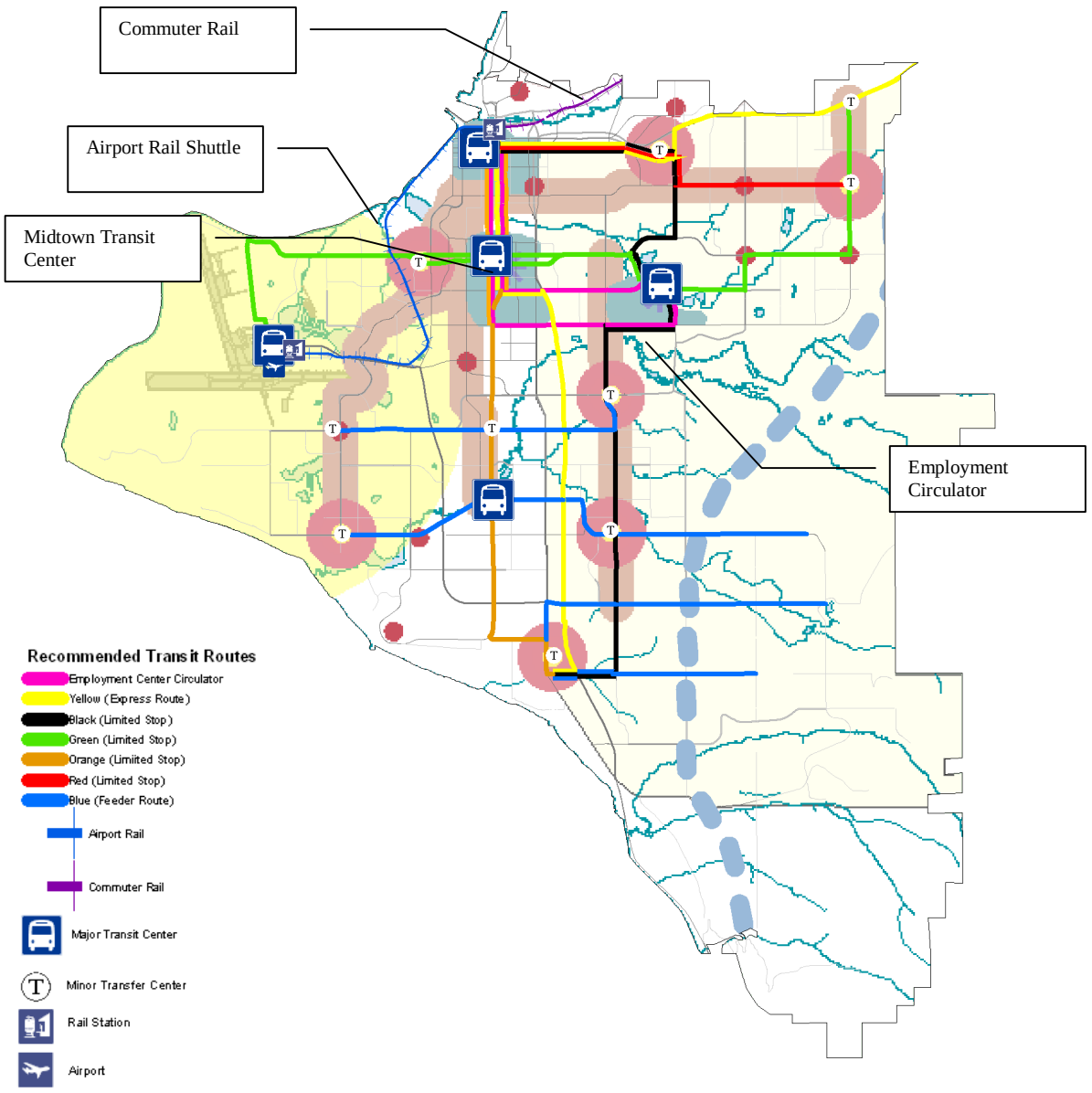
- **University-Medical District Access.*** The University-Medical District is a concentrated employment area. Currently, access is limited to three points that are poorly located to accommodate demand from the north or east (areas of high originating traffic). The study recommends consideration of 36th Avenue as a collector road into the area from the east side of the district. Options that could also be considered include: Bragaw Street from Northern Lights Boulevard; a diagonal connection to Northern Lights Boulevard near Pine Street; or via Tudor Center Drive. To keep the route from becoming a through route, design considerations could be used to discourage cut-through traffic. Other measures such as gated access available only to students or employees could be used.

Transit Recommendations

The role of transit will become increasingly important in the effort to create better balance in our transportation system and offer more choices to Anchorage citizens. The challenge will be to move from serving only a largely transit-dependent ridership to attracting "choice" riders (a term used to describe travelers who choose transit from among a range of travel options) as we implement Anchorage 2020. The study recommends the following improvements for consideration.

- **Employment Circulator**. One major challenge for increasing transit ridership beyond the transit-dependent population is the multiple destinations created by multiple employment centers. To better tie the three major employment centers together, an employment circulator route is recommended. Buses on the circulator would make frequent trips clockwise and counterclockwise on a set route. Wherever a feeder bus intersected the circulator route, a transfer would allow riders to connect to any of the three employment centers. The circulator would tie together transit transfer stations at Downtown, Midtown, and the University-Medical Area.

- **Midtown Transit Center.** Midtown is geographically located in the center of Anchorage. It is also the center of employment and a major shopping area. A transit center in Midtown near the intersection of the A-C couplet and Northern



Implementation of Anchorage 2020, the city's comprehensive plan, holds promise for reducing the growth rate of automobile trips by creating walkable areas with housing and services in close proximity.

Lights-Benson Boulevards would be at the crossroads of (1) a north-south line drawn between Downtown, Midtown, and the Dimond Center, and (2) and an east-west line drawn between Anchorage International Airport, Midtown, the University area, and the Muldoon Town Center. A major transfer center at this central location would allow easier connections to any of the destinations along these major axes of Anchorage.

- **Implement Anchorage 2020.** Implement Anchorage 2020 transit frequencies, land use densities, transit development corridors, and other transit supportive measures. Anchorage 2020 transit supportive measures were built into the study and assumed to occur with the traffic modeling conducted. Historically, Anchorage has not supported transit to the level articulated in planning documents. Without implementation of Anchorage 2020, traffic congestion will be worse than modeled.

- **Expand Service.** Achieving the level of ridership envisioned by Anchorage 2020 and the current LRTP will require an increase in transit service levels including additional routes, service frequency, and hours of service. In addition to the transit routes recommended in the People Mover Route Restructuring study, consideration should be given to the following (see the map on the previous page):

    - **Express Bus Service.** Completion of the highway system through Anchorage will provide an enhanced opportunity to connect outlying areas directly to employment centers with express buses. Additional express bus service should be considered on both the Glenn and Seward Highways.

    - **Limited Stop Service.** Limited stop service should be instituted on a number of routes that connect town centers directly with employment centers. Limited stop service would run primarily during morning and evening commute times and would focus on getting people to work. Fewer stops will improve the transit times.

    - **Additional Feeder Bus Service.** Increase accessibility to the transit system by developing additional feeder bus service.

    - **Expand the Transit Focus Area.** Modify the size and shape of the transit focus area in the LRTP to include all of the Anchorage 2020 policy areas. Areas along the lower Hillside within the Lake Otis Transit Development Corridor are outside the transit focus area of the LRTP as depicted in the 2001 LRTP.

- **HOV/Transit Only Lane Management.** There is sufficient demand forecast in the highway corridors for encouragement of high occupancy vehicles (HOV) to make a substantial contribution to the capacity of those corridors. With additional lanes added to the Glenn and Seward Highways, there will be increased opportunity to begin managing some of the lanes for transit-only service or for HOV. As demand builds, we recommend implementation of lane management for transit/HOV use.

Anchorage must continue recent efforts to create attractive bus stops as an important means of encouraging people to use transit.

Snow maintenance on sidewalks and around bus stops must be improved to encourage winter use of the pedestrian and transit system.

- **Bus Pullouts.** Consider the use of bus pullouts in congested corridors at high-ridership transit stops to allow vehicle traffic to flow while the bus is stopped. To make it easier for the bus to efficiently get back into traffic, make it a law to yield to a bus that is re-entering the roadway. In certain corridors or at certain stops, evaluate curbside extensions at bus stops to allow the bus to stay in the traffic lane so the bus does not have to wait for a traffic break to continue the route.

- **Continue to Improve Bus Stops.** Consider providing posted schedules and maps, shelters, benches, vending facilities (newspaper stand/rack, food cart, etc.), lighting, trash bins, telephones (pay phone), landscaping, artwork, and overhead heaters at all major transit stops. Winter pedestrian access (snow clearing) to bus routes and stops must be a priority.

- **Establish Transit Signal Priority for Buses.** A signal preemption system will allow transit vehicles to control traffic signals to improve transit travel time, improve on-time arrivals, and reduce delays to transit vehicles. Giving a time advantage to transit vehicles can help increase ridership. The MOA "Intelligent Transportation System Architecture" advises such a system (MOA 2002).

- **Institute Smart Fare Box.** A smart fare box system allows riders to use "smart cards" to pay for transit. The system can help to record ridership, fare, and origin-destination information, which can be analyzed to make system improvements. Prepaid cards shorten stopping times, leading to increased on-time arrivals and improved transit travel times. The MOA "Intelligent Transportation System Architecture" advises such a system (MOA 2002).

- **Speed Up Boarding.** Encourage prepaid transit cards to reduce stop time. Decreasing congestion at the doors can reduce transit time. Encourage boarding at the front of the bus but exiting from the back doors to speed up passenger boarding.

- **Stop on Demand Service.** Allow stop-on-demand service at night and during non-peak hours. This allows riders to stop closer to their destination, which can reduce the rider's walking distance and make them feel safer because there is less distance to walk in the dark.

- **Increase Information Availability.** Have transit maps and schedules available on all buses. Increase availability of printed schedules in lobbies of office buildings, university student centers, libraries, etc. Have bus operators make on-board announcement of major transit stops. Use the Internet to provide up to date transit information. Have an email list to send service changes and other announcements. Consider establishing a system that reports real-time schedule updates by use of closed-circuit TVs, the global positioning system, and a phone system with updated estimated times of arrival.

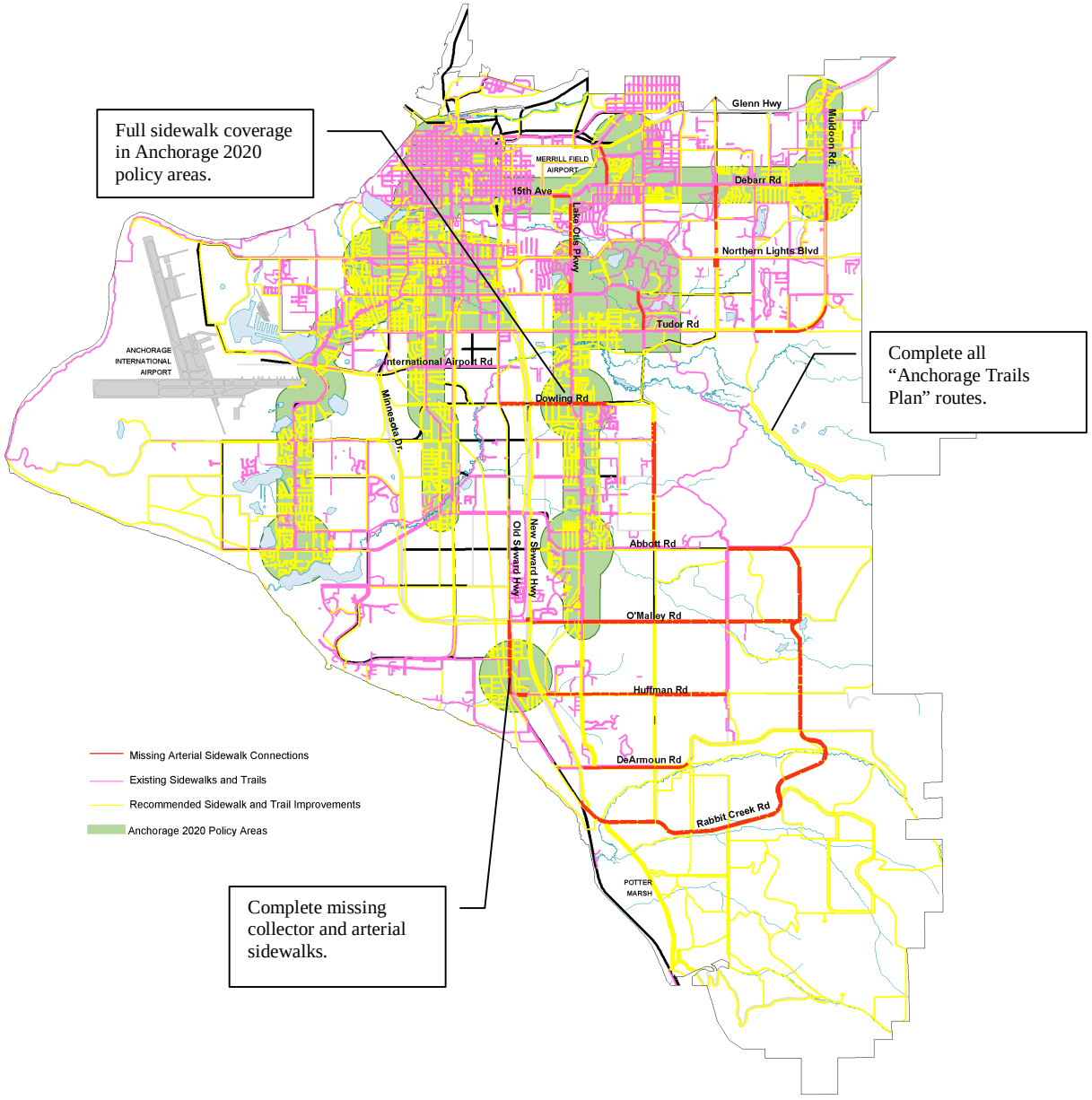
- **Establish a Stable Funding Source.** Transit in Anchorage has historically suffered from a lack of stable funding. To achieve the ridership called for in Anchorage 2020, we will need to add transit service – routes, frequency, and hours of operation. Such a vision will require increased transit funding. We must back up our stated commitment to improved transit with the money it will require to achieve those goals.

Pedestrian and Bicycle Recommendations

Just as Anchorage has not completed its roadway network, the pedestrian network is also incomplete. To achieve better balance in our transportation system, we must complete the pedestrian system. Missing pieces of the sidewalk and trail network discourage use and can lead to unsafe conditions. To improve the pedestrian network and achieve a more balanced transportation system, we recommend the following:

- **Implement Anchorage 2020.** Implement the measures called for in Anchorage 2020 that encourage pedestrian oriented design in all transit corridors, town centers, and employment centers. Anchorage 2020 pedestrian improvements that create a more walkable environment were built into the study and assumed to occur with the traffic modeling conducted. Without follow-through on the pedestrian improvements called for in Anchorage 2020, traffic congestion will be worse than modeled.

- **Complete missing components of the sidewalk network.** We recommend that all collector and arterial streets have sidewalks or separated trails along their entire length on both sides of the street. Local roads in new subdivisions and reconstructed local roads in existing subdivisions should have complete sidewalk coverage.



Anchorage must complete the missing pieces of the sidewalk system. Poor maintenance and missing links make sidewalk use unsafe and act as barriers to its use.

Roadway design must safely accommodate pedestrian and transit. Here inadequate separation, a dirt path, and ominous vegetation create a potentially unsafe pedestrian-transit environment.

Pedestrian sensitive design is recommended. Here a separated sidewalk, with adequate lighting and amenities, help to encourage sidewalk and transit use.

- **Make Sidewalk/Trail Maintenance and Snow Clearing a Priority.** Anchorage could do a better job at sidewalk/trail maintenance, particularly winter snow removal. A commitment to sidewalk maintenance including winter snow clearing is needed to make sure that the pedestrian network is useable year round. As a means of prioritizing maintenance (summer and winter) consider bus routes and accessibility at transit stops as top priorities.

- **Provide Adequate Funding.** Historically, Anchorage did not display a solid commitment to developing our pedestrian network. As a result, we have considerable catching up to do if we are going to realize Anchorage 2020. Adequate and consistent funding is needed for both sidewalk construction and maintenance. We recommend continuing recent high levels of funding dedicated to pedestrian systems or even increasing that commitment. Additional funding should be dedicated to winter maintenance.

- **Develop Bike Lanes.** Bike lanes are preferred by commuters and serve to separate bikes from slower moving pedestrians and faster moving vehicles. Bike lanes need to be clearly marked and free of obstructions such as rumble strips.

- **Increase/Establish Bike Patrols on Trail System.** To address concerns about personal safety, consider additional bike patrols on trails, particularly in areas that have had a high incidence rate.

- **Improve Connectivity.** Much of Anchorage is characterized by curvilinear streets and cul-de-sacs, long blocks, and noise fences along arterials. These design features are bad for pedestrians and tend to isolate neighborhoods. During sub-area or neighborhood planning, identify local connections between neighborhoods and between residential areas and schools, parks, employment and walking destinations, to provide pedestrian connections through cul-de-sacs, rough terrain, noise fences, and other barriers.

- **Create a More Pedestrian-Friendly Environment Through Design.** Until recently, pedestrian amenities in Anchorage tended to be an afterthought and were the first item cut, if the road project was over budget. To encourage usage of the pedestrian system, we must continue our recent strides in pedestrian-friendly design. Among the items to consider are better lighting (along sidewalks and trails and at intersections); establishing a wider minimum pathway width; creating better and safer buffers from traffic with planters, trees, or a wider separation (particularly on our faster arterials); increasing crossing opportunities, e.g., establishing mid-block pedestrian signals on particularly long blocks; and making safer crossing opportunities such as refuge islands on wide arterials or additional pedestrian overpasses.

Land Use Recommendations

Cumulative Impacts. Seemingly small and unrelated land use decisions can add up to a big cumulative effect on our ability to influence transit ridership, walking, and biking trips. The following is a snapshot of some land management decisions made over the past several years. Added together, these decisions exemplify the challenges we face in realizing the promise of Anchorage 2020.

- *Shifting public employees from downtown to Bragaw Street dilutes the employment density downtown, thereby reducing transit effectiveness.*
- *Continued trends of auto-oriented retail in Midtown (Arby's, Boston Market, etc), a prime candidate corner for high-density office employment and a transit center.*
- *Continued dispersed office development in Midtown (ASCG building at the south end, URS building along the Seward Highway). Imagine the transit supporting concentration of employees if all office buildings, banks, and the DMV, built in Midtown over the last 5 years, were within walking distance of the intersection of A Street-C Street/Northern Lights-Benson.*
- *Time limits were extended and prices reduced on parking meters outside the core of downtown to make it easier for employees to park.*
- *Eliminating the parking authority Downtown reduced the enforcement of the small amount of parking fee charged.*
- *Locating administration functions at the University Mall disperses the concentration of campus functions, which had previously been walking distance to other campus buildings, and despite providing for a shuttle bus, likely erodes the transit mode share to the area.*

- **Implement Anchorage 2020.** All of the modeling completed for the study was conducted using land use density assumptions from Anchorage 2020. Anchorage 2020 was envisioned to achieve densities that would support transit and walking as a greater percentage of our trips and to reduce the growth rate in automobile use. If we do not follow through with Anchorage 2020, traffic volumes are likely to be higher than is indicated by the modeling completed for the study.

- **Plan for Additional Traffic Congestion in Town Centers and Other Policy Areas.** Despite the promise Anchorage 2020 holds for reducing the rate of growth in automobile trips, there will be an increase in automobile use as we add an additional 80,000 people to the Anchorage Bowl over the next 20 years. Areas where Anchorage 2020 calls for added density coupled with improved transit service will see an increase in transit ridership, but those areas will also experience an increase in automobile use. Town center plans for Muldoon, Northway, and Abbott have begun to evolve, and are being designed to serve a sub-area market of 30,000 to 40,000 people each. This implies they will attract automobile trips from beyond their boundaries into the town center. The increase in residential density and associated automobile use from inside the town center boundaries, coupled with the market draw from outside the boundaries, will increase traffic and could exacerbate congestion surrounding the town centers. Appropriate roadway access into, out of, and surrounding the town centers should be planned for and programmed as part of each town center plan.

- **Land Use Effect on Reducing the Growth Rate in Automobile Trips Will Depend on Title 21.** One of the most important tools for implementing Anchorage 2020 will be the rewrite of Title 21 (Anchorage's zoning code). Most importantly, Title 21 will set the supply of parking, the size and mix of office and retail land in employment centers, and many of the design standards for new development. There is, arguably, no more important tool for determining the success of Anchorage 2020's affect on transportation. Transportation planners will have difficulty meeting transit ridership goals if, for example, the "B-3" zone remains: plentiful and dispersed, lax on types of land uses allowed, auto-oriented in terms of design standards, and overly generous on the amount of parking required. The extent to which our leaders are willing to change these development standards, coupled with follow-through on transit service levels, will govern the success of transit at serving our employment centers.

- **Address Parking Supply and Price.** To have a greater affect on transit ridership, Anchorage needs to address the supply and price of abundant, cheap parking in our employment centers. Reducing the supply and/or increasing the price are two options. Recognizing that we have multiple employment centers, we must address the issue at each of them, or risk further shifting employment from downtown (the only employment center with parking price and supply disincentives) to other locations.

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Appendix A
Recommended Road Network Model Runs

This appendix contains information from the MOA's Transportation Model and other analysis completed for the recommended roadway improvements.

Findings:

- Reduces the daily vehicle hours traveled on the network by 28,142 hours (14%).
- Reduces the annual vehicle hours traveled on the network by 10,271,830 hours (14%).
- Reduces the daily delay across the network by 364 hours (62%) as compared to the base case.
- Reduces annual delay across the network by 132,897 hours (62%) as compared to the base case.
- Increases average speed of travel on the network by from 31.6 MPH to 33.6 MPH over the base case.
- Reduces carbon monoxide (CO) emissions by 15,000 pound per day (17%) across the network as compared to the base case.
- Reduces vehicle miles traveled in the CO Nonattainment area by 18,068 miles per day (0.5%) as compared to the base case.

Analysis Results

Model Statistics

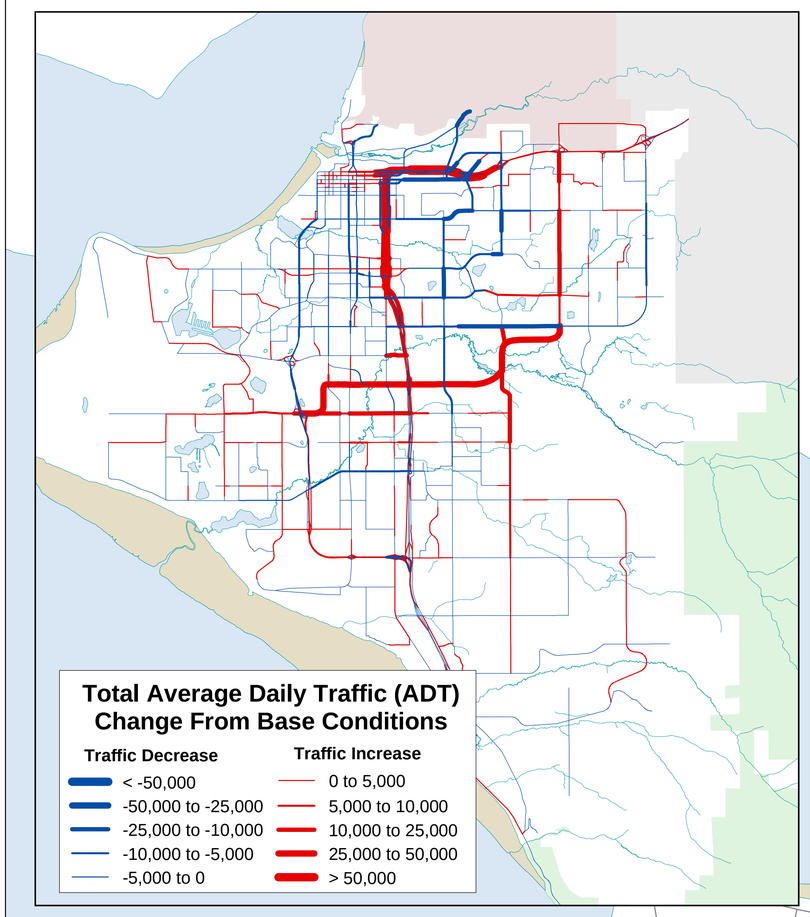
Model Run	Daily VMT (Miles)	Annual VMT (Miles)	Daily VHT (Hours)	Annual VHT (Hours)	Avg. Speed (MPH)	Daily Delay (Hours)	Annual Delay (Hours)
Recommended Network	6,769,923	2,471,021,895	169,150	61,739,750	33.6	228	83,220
Base Case	6,779,826	2,474,636,490	197,292	72,011,580	31.6	592	216,117

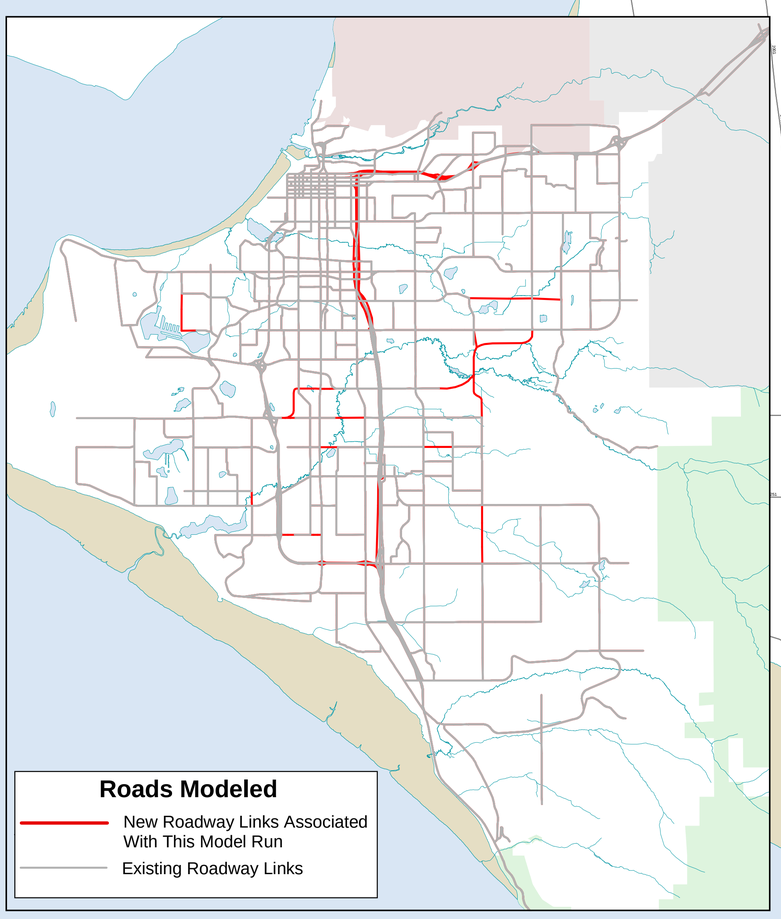
VMT = Vehicle miles traveled; VHT = Vehicle hours traveled

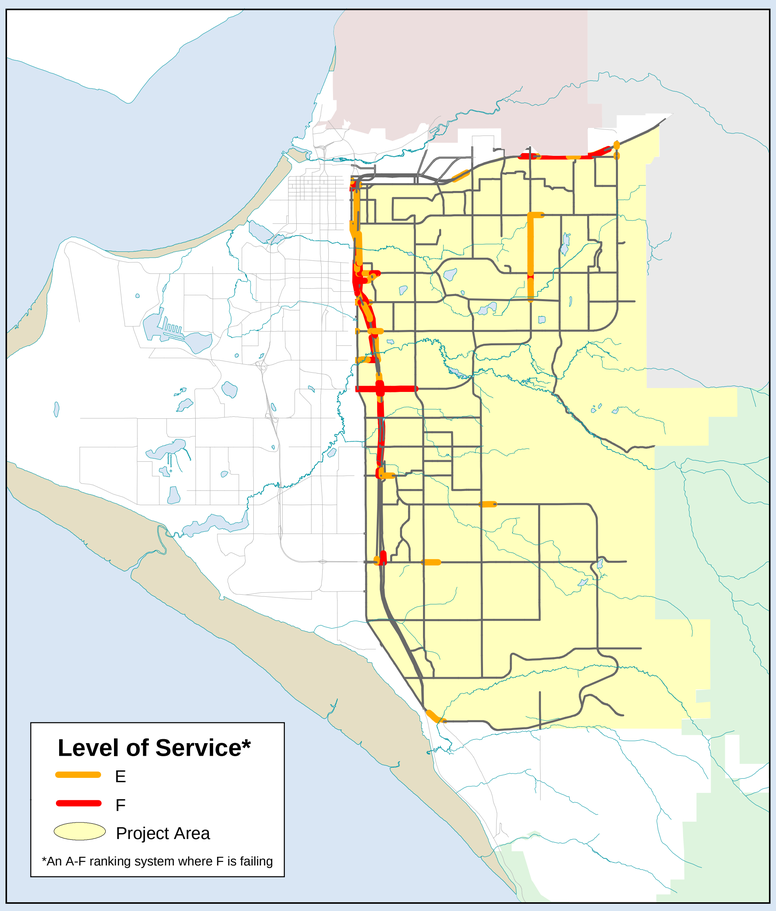
Evaluation Criteria Summary

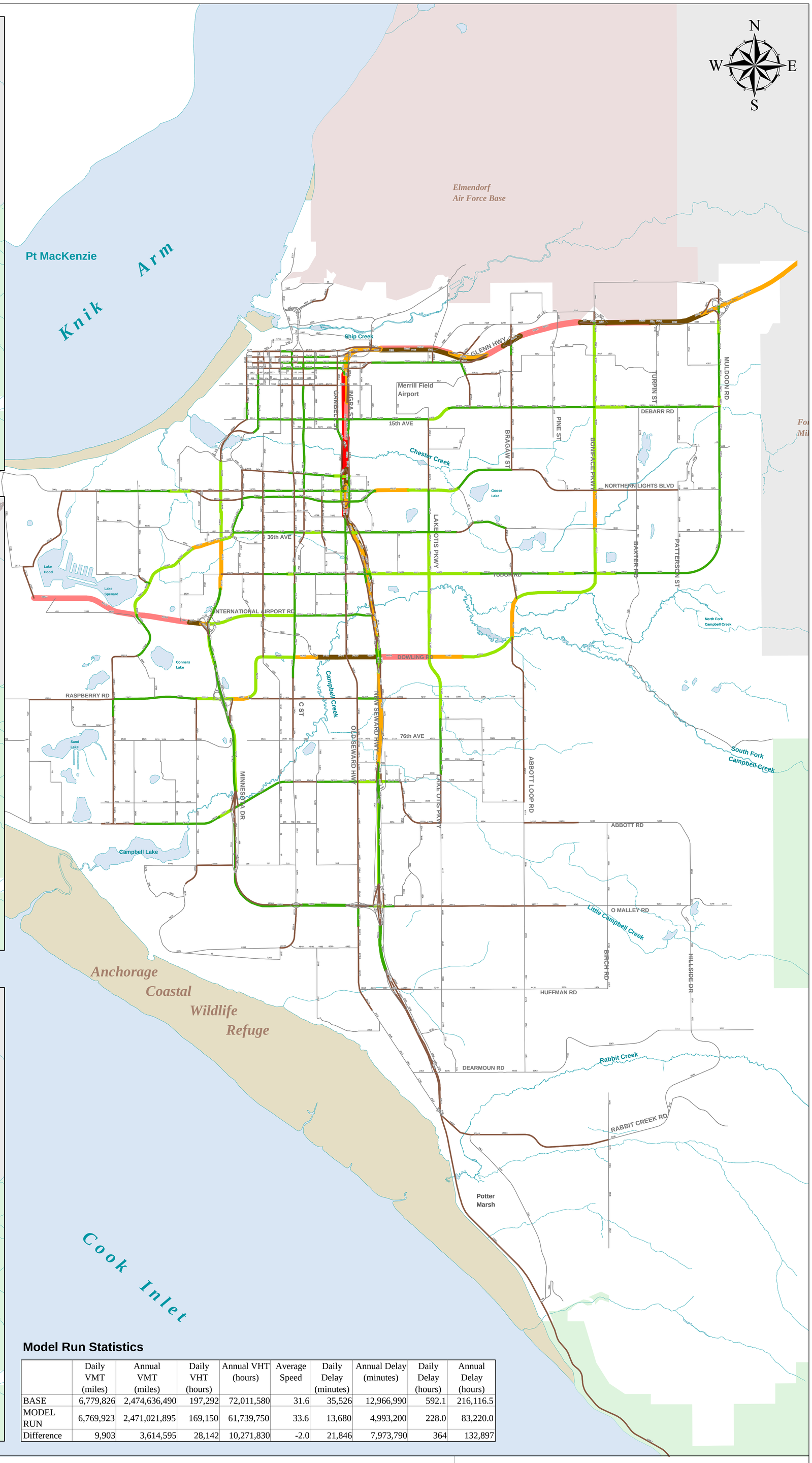
Criteria		Recommended Network
Residential Parcels Affected	#	436
	Acres	35
Industrial Parcels Affected	#	76
	Acres	42
Commercial Parcels Affected	#	281
	Acres	55
Parkland	Acres	22
Natural Open Spaces	Acres	115
Stream Crossings	#	18
Wetlands	Acres "A"	40
	Acres "B"	17
	Acres "C"	13
Wildlife Habitat	Acres	140
Nonattainment Area VMT	Daily miles	3,540,260
Carbon Monoxide	Pounds	74,024
Right of way	$ (M)	$75.7

Note: Based on road footprint impacts only.









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	6,769,923	2,471,021,895	169,150	61,739,750	33.6	13,680	4,993,200	228.0	83,220.0
Difference	9,903	3,614,595	28,142	10,271,830	-2.0	21,846	7,973,790	364	132,897

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

Model Run: Final Recommendations

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