1.0 Executive Summary

1.1 Purpose

The "Status of the System Report" represents the first attempt at a comprehensive look at the performance of Anchorage's transportation system. This assessment is based on a set of 16 performance measures. The performance measures cover all modes of travel including the automobile, public transportation, vanpooling, carpooling, walking, and bicycling. An extensive effort was undertaken to collect data for each of the performance measures. This information was then reviewed to see what conclusions could be drawn concerning the magnitude and nature of congestion in Anchorage today.

The following executive summary contains the highlights from these findings by mode of transportation.

1.2 Status of the Road System

Seven out of the sixteen performance measures are primarily used to assess the status of the road system, including:

1. Roadway Segment Level of Service (How well does a particular stretch of road function?)
2. Intersection Level of Service (How well do our intersections operate?)
3. Vehicle Miles Traveled (How much traveling by automobile are we doing?)
4. Vehicle Miles Traveled per Capita (How many miles per day does an average person travel?)
5. Total Vehicle Miles Traveled Under Congested Conditions (How many miles do we travel when conditions are at there worst?)
6. Travel Time by Corridor (How long does it take us to get from one place to another?)
7. Travel Time Ratio by Corridor (How much slower is it to travel on a particular road during the busiest time of day compared to the midday period?)

Based on the analysis conducted for each of the above performance measures, intersection level of service appears to be the key determinant of congestion in Anchorage. Intersections at various critical locations on the Anchorage transportation network are often the cause of bottlenecks or delays. Many of the congested intersections are concentrated in the central part of the Anchorage Bowl where major east-west and

north-south arterial streets cross each other. There are relatively few congested intersections in the southwest and southeast parts of the Anchorage Bowl and in Chugiak-Eagle River.

Intersection congestion appears to be the worse during the afternoon peak period. During this period, 20 out of the 30 (67%) intersections analyzed in this report operate at poor levels of service ("D" to "E"). For comparison purposes, 12 intersections operate at levels of service worse than "D" in the morning peak period. (Note: Level of service is categorized into six levels, A through F, with LOS A representing the best possible condition and LOS F representing the worst.)

Some of the worse performing intersections are those that are congested not only during the morning and afternoon peak periods but are also congested during the middle of the day. The names of these 8 most congested intersections will not surprise many Anchorage residents. They include the following:

- Boniface Parkway and Northern Lights Boulevard
- Bragaw Street and DeBarr Road
- C Street and Tudor Road
- Lake Otis Parkway and 36th Avenue
- Lake Otis Parkway and Northern Lights Boulevard
- Lake Otis Parkway and Tudor Road
- New Seward Highway and 36th Avenue
- Old Seward Highway and Dimond Boulevard

While intersection bottlenecks are generally the cause of most of the delay on the roadway system both the roadway segment level of service analysis and the travel time by corridor analysis reveal congestion along some of the major roadway corridors. Consistent with the intersection analysis, the afternoon peak period is more congested than the morning peak period.

Congestion appears to be particularly intense along the east-west corridors. Arterial roadways serving east Anchorage are widely spaced, some as much as one mile apart (e.g., Northern Lights Boulevard and Tudor Road). As a result, there is simply not enough roadway capacity available on the major east-west corridors to handle the traffic demand, especially during the afternoon peak period when people want to travel the most.

Northern Lights Blvd. East of LaTouche (5:15 p.m. on August 7, 2000)

Two of the four major east-west corridors show poor to severe levels of service over a significant portion of their roadway segments. The Glenn Highway between Medfra Street and Airport Heights Road operates at a LOS F in the afternoon peak period. This section of the Glenn Highway is characterized by a bottleneck where the number of lanes is reduced from three to two lanes. Tudor Road between the New Seward Highway and Boniface Parkway is another corridor experiencing severe congestion problems with a roadway segment LOS of "E".

The two remaining east-west corridors also experience their share of traffic delays which are reflected in some of the slowest travel times in Anchorage. The average speed of travel along the DeBarr Road / 15th Avenue corridor during the afternoon peak period is about 21 miles per hour compared to an average speed of 30 miles per hour during the midday period (an increase of about 31% in the amount of time it takes the average driver to travel the length of the corridor). Drivers on Northern Lights Boulevard are also required to slow down considerably in the afternoon peak with travel speeds falling to an average of about 18 to 19 miles per hour from the midday speed of about 27 miles per hour. In other words it takes about 43% longer to travel this corridor during the afternoon peak as compared to the midday period.

Although the roadway segment level of service analysis showed some congestion on north-south streets (primarily C Street south of Tudor and the Old Seward Highway between Dowling and Dimond Boulevard) these corridors are soon to be reconstructed.

C Street is programmed to be improved as a limited access highway and expanded from two to four lanes. The Old Seward Highway is scheduled to be expanded from two to four-lanes with a center turn lane. This will leave the New Seward Highway as the only major north-south corridor that experiences significant congestion.

1.3 Status of the Transit System

Seven out of the sixteen performance measures are primarily used to assess the status of the public transportation system (bus, carpooling, and vanpooling), including:

8. Commuter and Total Transit Mode Share (What percentage of Anchorage trips are made by bus?)
9. Auto Occupancy Index (How many people are in each car/truck?)
10. VMT per Year Saved by Bus Transit Service (Of the total miles traveled, how much of it is reduced by people using transit?)
11. VMT per Year Saved by Share-a-Ride (Of the total miles traveled, how much of it is reduced by the Municipal carpool program?)
12. VMT per Year Saved by Vanpool Program (Of the total miles traveled, how much of it is reduced by the Municipal vanpool program?)
13. Frequency of Bus Service (How often do the buses run?)
14. Ratio of Bus Travel Time to Auto T ravel Time (What is the time difference between the same two points when traveling by car versus the bus?)

The results of the performance measure analysis reveals that the bus transit, capooling, and vanpooling programs contribute to a substantial reduction in the number of vehicle miles traveled on the roadway system with a combined reduction of over 23 million vehicle miles traveled per year.

Bus transit alone accounts for about 1.8 percent of all commuter trips and has recently been accruing substantial ridership gains. The automobile occupancy rate as measured by an annual survey, has risen from 1.12 persons per vehicle in 1985 to 1.19 in 1998 thanks largely to the success of the Municipal Share-A-Ride program. The auto occupancy rate has remained steady the last several years. Of the three programs, vanpool is the newest and growing the fastest. The vanpool service to the Mat-Su Valley is experiencing particularly strong growth.

The transit performance measures point out several areas where improvements to the bus transit system might improve the transit mode share. Both the time between buses and the ratio of bus to automobile travel time performance measures indicate that bus service in Anchorage is well below the national average.

In general, the auto travel times are considerably faster than the transit travel times. On average, it takes about twice as long to travel by bus to midtown, downtown, and the University area employment centers than by automobile. The industry standard for bus travel time is 1.5 times the auto travel time. Bus headways (or frequency of service) also

fail to meet industry standards. The average time between bus departures is 72 minutes in the morning peak period, 88 minutes during the midday peak period, and 61 minutes in the afternoon peak period. The industry standard for bus headways is 15 minutes for peak periods and 30 minutes for non-peak periods. In order to influence riders to use the bus system, the amount of time a trip takes on transit should not be excessively longer than the time in an auto. Frequent bus service is also strongly correlated to higher ridership levels.

1.4 Status of the Pedestrian and Bicycle System

Due to the difficulty of collecting good information, only two performance measures were utilized to keep track of pedestrian and bicycle modes of transportation. They include:

15. Number of Miles of Bicycle Paths
16. Pedestrian Environmental Factors (How easy is it to get around using sidewalks and trails?)

The Pedestrian Environmental Factors performance measure was designed to assess the quality of the pedestrian environment of Anchorage neighborhoods using criteria such as sidewalk availability, street connectivity, and topological barriers. **The resulting composite scores show that much of Anchorage (with the exception of downtown and its surrounding neighborhoods) has a relatively poor pedestrian environment.** This affects the performance of other transportation modes such as bus transit and carpooling which rely on walking to either access the mode or provide mobility once the destination is reached.

A total of 124 miles of paved bike trails currently exist in the Anchorage Bowl. The Chugiak-Eagle River area appears to be substantially underserved by bicycle paths with only 20 miles of paved pathways available for use. It should be noted that the number of miles of bicycle paths does not address the issue of connectivity. Thus, **while the number of miles of bicycle paths may be substantial, there may be important gaps in the pathway system**.