

CHAPTER 13: OFFICIAL STREETS & HIGHWAYS PLAN

The Official Streets and Highways Plan (OS&HP) provide a means for the community to prepare for future development. It does this by establishing the location, classification and minimum right-of-ways of those streets and highways required to accommodate the highway transportation needs of the community in years to come. The OS&HP complements the Municipality of Anchorage's Comprehensive Plan by contributing to the achievement of the community goals expressed by that plan. Streets and highways are closely linked with community development. Planning for land use and the highway system should be integrated as much as is practicable.

The Official Streets and Highways Plan (OS&HP) for the Municipality of Anchorage consists of two parts. The first establishes the policies and standards that will guide the community in creating the necessary highway transportation system. The second part consists of maps that graphically depict the hierarchy of streets and highways, both existing and planned, that will form the highway transportation system. The OS&HP maps are based on the policies and standards set forth in this document; however, where maps conflict with the policies and standards the maps shall govern.

The OS&HP prescribes the location and classification of present and future primary roads within the Municipality of Anchorage. It governs decisions on right-of-way widths and major right-of-way alignments for proposed subdivisions reviewed by the Platting Board. In addition, the OS&HP guides the Planning and Zoning Commission in its review of conditional uses, site plans, and zoning actions. The OS&HP supplements Title 21 of the Municipal Code in regard to the major highway system serving Anchorage.

In a developing community such as Anchorage, the location of major and minor arterials and collector streets must be established in advance of land subdivision activity, in order to avoid the need to acquire the necessary right-of-ways for planned highways and streets at a higher cost in later years. However, final alignments may vary somewhat from those shown on the OS&HP maps. Most freeway, expressway, and major and minor arterial alignments are finally determined after environmental impact review. Collector and local road alignments are often determined during the process of design and platting of new subdivisions.

The development of the Official Streets and Highway Plan is closely related to the development of updated Long-Range Transportation Plans (for both the Anchorage Bowl and for Chugiak Eagle-River) for the Municipality by the Anchorage Metropolitan Area Transportation Study (AMATS) process. Information acquired during the update of the Long-Range Transportation Plans is relied upon heavily for the necessary data required in determining highway and street patterns and locations shown in the OS&HP. A considerable amount of analyses of new demographic and transportation data is completed before extensive computer modeling techniques are used to determine future highway transportation system needs.

Although the AMATS Long-Range Transportation Plan is subject to annual review and possible revision, the major highway facilities that are identified are considered to be essential for the effective development of Anchorage's highway system. The Long-Range Transportation Plans, which focus on streets classified collector and above, form much of the basis for the recommendations contained in the OS&HP. The OS&HP, in fact, becomes the implementing instrument for the Long Range Transportation Plan by officially identifying, by ordinance, the locations, classifications, and minimum right-of-way requirements of the street and highway system needed to meet long range transportation goals over the next 25-year period.

Traffic projections prepared in conjunction with the Chugiak-Eagle River Long-Range Transportation Plan show that several area roads will be congested by the year 2023, primarily due to increases in population. There is more to traffic congestion than total number of cars, however. In order to ensure that the roadway system will work right, the functional classification of the primary roadway system (collectors, arterials, expressways, and freeways) needs to be accurately identified. At least some of the difficulty in moving people and goods in cities results from various elements of the circulation system being called upon to fulfill functions for which they were not designed. Misuse and failure of the transportation system is sometimes the result of misunderstanding the appropriate function of different streets.

Street classification affects roadway capacity in two ways. First, the design of the roadway is largely based on its classification. Roadway characteristics such as width, design speed, right-of-way, and intersections vary depending on whether a road is classified as a freeway, arterial, collector, or local roadway. Traffic engineers look to these classifications to provide guidance regarding what standards to use. For example, freeways, which are intended to serve as conduits for large volume, long-distance traffic, will be designed with grade-separated interchanges and wide medium strips. Collector streets, which are intended to provide access into and out of neighborhoods, will be designed with lower speeds in mind and at-grade intersections. If roads are misclassified, the design may be inappropriate for the function it is intended to serve.

The second way street classification affects roadway capacity is in the type of access, which is allowed to and from the street. Freeways are the most efficient means of moving people from one part of the city to another. One of the reasons freeways are so efficient is that they do not allow any access except at interchanges. In general, the more unlimited the access to a street, the fewer cars it can carry. Thus, if a street primarily serves to move traffic through an area, the number of access points should be restricted. On the other hand, if a street primarily is used to gain access to property abutting the street, then unlimited access is not a concern. The conflict between through traffic needs and access to homes and businesses is basically incompatible. When volumes of traffic are low and the abutting land is not used intensively, the conflict is minor, but when traffic volumes are high and the adjoining land is used intensively (such as on the Old Glenn Highway near downtown Eagle River) the conflict increases geometrically, and the capacity of the road is greatly reduced.

I. THE EXISTING STREET CLASSIFICATION SYSTEM

Streets can be divided into five basic categories: local roads, collectors, arterials, expressways, and freeways. Each higher classification acts as collector for a number of facilities of the next lower classification in a cumulative, hierarchical fashion. The following is a description of each of the functional street classifications.

A. Freeways

Freeways are limited access corridors that are intended to provide safe movement of substantial volumes of traffic at high speeds. The freeway has only one function - to carry traffic. Because it is thus specialized, with controlled access, no parking, and no at-grade intersections, it is a highly efficient carrier of traffic and has a much higher capacity per lane than the typical arterial or other type of street. The only existing freeway designation in Chugiak-Eagle River is the Glenn Highway from the Scale house to the MOA Boundary.

B. Expressways

Expressways are basically high-class arterials. They are typically divided highways that are designed primarily for through traffic, with full-or partial-control of access. Intersections are either at-grade or grade-separated. Expressways move traffic efficiently, but less quickly than freeways, due to at-grade intersections. They are like freeways, however, in that they do not provide access to adjacent land uses. (Note: There are no expressway designations in the Chugiak-Eagle River study area.)

C. Arterial Streets

The primary function of arterial streets is to move large volumes of traffic over relatively long distances from one part of the city to another. As a result, arterial streets have a great deal more through trips than collector streets. There are also more restrictions on the number of direct access points than collectors. Land access is a secondary function of arterials. Access to the road is mostly restricted to adjacent major land uses. The reason for these restrictions is to ensure that the flow of traffic is relatively unimpeded.

D. Collector Streets

A collector street collects traffic from local streets and then conducts it to arterials or to local traffic generators such as shopping centers, schools, community centers, or park and recreational facilities. It may supply abutting property with some degree of land service but this should be avoided as much as possible. Collector streets are designed to give priority over local streets in traffic control locations. In commercial areas, traffic volumes are often too high to permit the utilization of collectors. In these areas, local streets are designed to connect directly with an arterial. In large industrial areas where traffic volumes are lower, collector streets are more often needed.

The main function of a residential collector street is to conduct traffic from local residential areas to arterials. Land access should be a secondary function of the residential collector, and both curb and driveway access should be discouraged except at

those locations where traffic movement patterns may be effectively controlled. A collector may also function as an easement for utilities. Collectors may also be designed to provide access functions for commercial and industrial development, interconnecting such areas with adjoining residential districts. Such facilities should also be designed to minimize curb and driveway access except at those locations where traffic movement patterns may be effectively controlled. Parking along collectors should be discouraged.

The location of residential collectors is influenced by their function as well as by the density of urban development and topography.

The following guidelines should be followed in planning for new collector streets:

- Collector streets should serve to collect traffic from local streets of all types and transmit this traffic to the arterial street system or to important trip generating activities within small residential areas.
- The collector street system should be designed so that through traffic is discouraged between larger residential areas or between larger residential areas and major activity areas. In residential areas, collector streets should be planned to not exceed one-half mile in length if possible, and to discourage continuous links between arterials.
- Collector streets should be designed to provide priority to through traffic movement, as compared to the access function of local streets. They should provide some degree of access control, in order to maximize safety and minimize traffic maneuvering problems, and they should provide a limited land service function to abutting property. New subdivisions should be designed to not allow direct driveway access to collectors. In areas of low density residential development, limited direct driveway access to collectors may be allowed but only if the collector street will not become a major link in the future to more densely developed areas. Reverse lot design should be used in subdivisions, in order to minimize driveway access onto collector streets.
- Collector streets should provide access to local neighborhood schools and neighborhood recreation areas. Pedestrian facilities should be provided along collectors to allow for safe access between these activity centers.
- Residential collectors should be designed to provide only two travel lanes, with limited widths on shoulder areas for emergency parking.
- On-street parking is not appropriate on collector roads. Designs should be developed to discourage curb parking.

E. Local Streets

The principal purpose of a local street is to provide access to property abutting the public right-of-way. Moving traffic is a secondary function of the local street. Since land service is its primary purpose, the local street should not carry through traffic. Buses and heavy trucks should be excluded except where the local street is in a commercial or an industrial district of the city. All streets not designated as a collector, arterial, expressway, or freeway on the Official Streets & Highways Plan are considered local streets.

F. Country Lanes

Country Lanes are a special type of local or collector street having unique scenic attributes. Generally speaking, there are two basic types of Country Lanes:

- Narrow, gravel roads having very light traffic volumes.
- Two lane paved roads with relatively light traffic volumes.

The Official Streets and Highways Map do not contain any Country Lane designations for the Chugiak-Eagle River area. Instead, the determination as to what local roads and collectors will be considered for Country Lane design standards will be made on a case by case basis by the Chugiak, Birchwood, Eagle River Rural Road Service Area Board. This determination will be made prior to upgrades or improvements of local or collector roads and shall be based on the following guidelines:

- The character of the surrounding area should be aesthetically pleasing, containing natural settings or landscaping.
- In rural settings, the development along the road should be predominately residential and should include no industrial, commercial, or resource extraction land uses.
- In urban settings, the roadside development should be institutional or residential and should include vistas of natural features.
- Roadways should conform to the natural topography.
- Scenic vistas may be a very strong factor in designating a Country Lane where these conditions predominate. Easements may be acquired to protect areas crucial to the maintenance or enhancement of visual quality.

Local roads or collectors, which have been determined by the CBERRRSA Board to fit the Country Lane criteria, shall be designed according to the following standards:

1. Utility Lines

- a. Every attempt shall be made to minimize conflicts and duplications of effort when installing water, natural gas, and electric lines.
- b. After underground installation of any utility lines, landscaping shall be used to restore the area as quickly as possible to a natural condition.

2. Lighting

Streets designated as Country Lanes should be equipped (when lights are deemed necessary) with low-profile, low-density illumination lamps of a design that is compatible with the surrounding natural environment.

3. Construction and Maintenance

- a. Clearing should be done within the right-of-way only as necessary to assure adequate snow storage and roadway associated drainage. Areas cleared for construction, but not needed for snow storage and roadway associated drainage, must be restored as quickly as possible to a natural appearing condition. Care shall be taken to retain scenic views and protect or enhance the visual quality of the roadway.
- b. Ditches, where necessary, shall be no wider or deeper than required for drainage of the roadway and adjacent development.
- c. Easements may be acquired to protect areas crucial to the maintenance or enhancements of visual quality.

4. Subdivision and Development Review

- a. Subdivision and development review shall take place to assure conformity of development street designs to Country Lane Standards.
- b. Consideration shall be given to preserving natural vegetation and enhancing visual qualities as part of the subdivision or development design when adjoining Country Lanes.

5. Duplicate Designation of Country Lanes

Where a road carries a duplicate designation such as Collector and Country Lane, for the purposes of site plan review and construction design, extra attention should be given to enhancing the scenic quality of the road. Inclusion of necessary facilities, such as turn outs, are to be provided. This is not to preclude the construction of walkways, etc., but to address how they are constructed.

II. CLASSIFICATION CHANGES AND STUDY AREAS

The purpose of this section of the Transportation Plan is to update the street classification system for Chugiak-Eagle River, last updated in 1996.

Changes to the 1996 Official Streets & Highways Plan for Chugiak-Eagle River involve a few changes to the collector system as well as to designated study areas. The Official Streets and Highway Plan map currently shows Study Areas A through I; Study Areas A to D are within the Anchorage Bowl, and Study Areas E to I are in the Chugiak-Eagle River Area. Therefore, Study Areas on the OS&HP map for this LRTP Update show only E through I. It should be noted that while the same letters are used as in the 1996 Plan, study area designations have changed, and some refer to different areas than in the 1996 Plan.

There are two types of collector designations: those that affect existing streets and those that affect future streets. Existing streets, which are designated as collectors in this plan, are not expected to change substantially in character. Improvements to these streets, if they occur, will generally be limited to sidewalk improvements and upgrades from strip paved and/or gravel roadways to Municipal standards. The right-of-way and speed limits will remain the same (generally 60 feet and 25 miles per hour respectively) and no attempt will be made to increase the capacity of the roadway by adding additional lanes. The exception to this rule may be collectors, which are included as major roadway improvements in this Plan: i.e., Hiland Road, South Birchwood Loop Road, Homestead Road and Eklutna Lake Road.

South Fork Access Study Area (deleted)

The South Fork Access Study Area was deleted from the OS&HP map. Hiland Road is the main collector servicing the residences along the south Fork of the Eagle River. The existing roadbed is inadequate for a number of reasons. The Study Area was designated to study possible alternatives for alignment of Hiland Road as a possible solution to correct these problems. While the need still exists, the Study Area was deleted, as a study of possible alternatives will be conducted as part of the Hiland Road roadway improvement recommendation. Therefore, the South Fork Access Study Area has been deleted.

Driftwood Bay Drive Study Area (deleted)

The Driftwood Bay Drive Study Area was also deleted from the OS&HP Map. This study area was designated to address a couple of issues: the need to extend Driftwood Bay Drive and to provide secondary access to Eagle River Road for newly developing areas in the Parkview Terrace East Subdivision of Eagle River. Because there were too many unknowns to make a specific recommendation, the study area designation was used to require that the secondary access issue be examined in more detail through a Traffic Impact Analysis (TIA) prior to future subdivision approvals. In 1998 a feasibility study of alternative access routes in to Eagle Crossing, Eagle River Valley Sub-Area Circulation Study, was completed for the Municipality of Anchorage. The study did not make a strong recommendation for any one secondary access alternative, but presented evaluated four alternatives for future reference. In 2000, platting actions were taken that provide for Driftwood Bay Drive extended, and connecting with a new portion of Eagle River Lane which will be required to connect with the existing portion of Eagle River Lane which provides access to Eagle River Road. Thus, the secondary access issue for Eagle Crossing has been addressed. Changes to the OS&HP map show both of these changes. Because of increased development to the east of Eagle Crossing, Driftwood Bay Drive is shown as being extended by an arrow, indicating exact alignment is to be determined later. The need for another collector, approximately .5 miles to the east of Eagle River Lane is shown that will give access from Eagle Crossing and the Johnson Homestead to Eagle River Road. The exact location of that collector will be determined later as well, as indicated by an arrow.

Oberg Road Extension Study Area (deleted)

The area of Peters Creek between the Glenn Highway and Knik Arm has been developed largely without the benefit of a collector system. As a result, traffic circulation in the area is circuitous, adding unnecessary mileage to most trips in the area. Better connections are needed to access the new Middle School on Lake Hill Drive from the residential areas in the northwestern portion of Peters Creek. The feasibility of extending Oberg Road to Reese Road extended was examined when the preliminary plat for GlennView Estates Subdivision was submitted. Oberg Road currently ends at North Wood Subdivision. Such a connection would greatly improve access to the new Middle School to be located just north of Reese Road. In addition, strong public support was expressed during the public review period for the proposed recommendations for this 2003 LRTP Update to build a collector connecting Oberg Road to connect with Reese Road extended. It was decided at a meeting of the CBERRRSA Board, with participation from the developer, to delete the study area for the Oberg Road extension, and show a collector (Deer Park Drive) connecting Oberg Road with Reese Road extended. In the event that Reese Road is not extended in the future due to cost and other factors, the proposed plat provides for circulation from the new development both to Oberg Road as well as to existing Reese Road and the Old Glenn Highway, even though very circuitous. The decision whether or not to extend Reese Road is further discussed under the Mixed Use Study Area G, Eklutna Lands between the Glenn Highway and Knik Arm west of the Mirror Lake interchange.

Mirror Lake Interchange Study Area (H)

Thousands of acres of undeveloped land, owned by Eklutna, Inc., lie between the Glenn Highway, and Knik Arm east of the Mirror Lake interchange. Although it is unclear exactly how this area will develop (it is designated as Mixed Use in the Chugiak-Eagle River Comprehensive Plan), it will no doubt generate a substantial amount of traffic. Most of this traffic will end up on the Glenn Highway. Thus, it is important that there is an adequate access to the Highway from the undeveloped land. Two existing interchanges exist which could serve this property: the North Peters Creek Interchange and the Mirror Lake Interchange. The Peters Creek Interchange is probably best suited to serve the southern portion of the undeveloped lands to the south of Edmonds Creek, but should not be required to handle the full load. In order to reduce the distance to the freeway interchange and avoid overburdening existing residential roads, the Mirror Lake Interchange will need to be utilized as the freeway access to the undeveloped land between Edmonds Creek and Eklutna Village. Use of this interchange will require the construction of an access road (collector or greater) through Edmonds Lake Regional Park.

Prior to the subdivision of the undeveloped Eklutna land, a study should be conducted as a part of the Traffic Impact Analysis to determine the advisability of using the Mirror Lake Interchange as the primary access to the development and determine the best route through the park in order to minimize its impact.

Mixed Use Study Areas: (E, F, G, I)

The Chugiak-Eagle River Comprehensive Plan designated three large undeveloped tracts owned by Eklutna as mixed use areas including: the Powder Reserve (Study Area E), located west of the Glenn Highway near the North Eagle River Access Road interchange; Eklutna 770 (Study Area F) bounded by the Old and Glenn Highways and North and South Birchwood Loop Roads; and the Eklutna lands between the Glenn Highway and Knik Arm west of the Mirror Lake interchange (Study Area G), and farther north (Study Area I).

The mixed-use classification allows a wide range of residential, commercial, institutional, open space or light industrial uses and densities. As a result, the future land use patterns and densities cannot be accurately predicted. Neither is it possible to make reasonable recommendations regarding a system of collectors and arterials prior to the actual subdivision or zoning submittal.

The circulation system for these large undeveloped parcels of land can best be planned through the Planned Community (PC) Master Plan process, which requires a description of the principal circulation elements. This procedure worked well in the Tract A, Powder Reserve rezoning and is supported by policies contained in the Chugiak-Eagle River Comprehensive Plan which state that the mixed use areas be implemented through a Planned Community District or through an alternative zoning package. By avoiding piecemeal development, it is hoped that an integrated network of local, collector, and arterial streets can be established for these undeveloped areas.

The Master Development Plan for Tract A of the Powder Reserve, approved May 2001, shows a total of 1,830 development units planned, at densities varying from 2.7 to 9.0 DU/acre, with an average of 3.4 DU/acre. The need exists to provide for future connectivity between the Powder Reserve north to Chugiak High School, and south to Artillery Road interchange. The latter connection is indicated on the OS&HP Map, with an arrow, indicating that alignment will be determined in the future. A future connection to the north is not indicated on the map at this time, pending outcome of unresolved issues pertaining to the NW ¼ Section 25 Land Use Study. A road corridor should be reserved through NW ¼ Section 25 in the final Section 25 Land Use Study in the event a future study indicates the need for a collector road alignment through that area. The alignment of the connection to the north will depend in part on the future updated master plan for the expanded Powder Reserve area.

Study Area G, the Eklutna lands west of the Mirror Lake interchange, will need to require a rigorous alternatives analysis for circulation affecting the North Peters Creek area. The decision whether or not to extend Reese Road, and the resulting increased traffic that will be loaded onto Lake Hill Drive, must be addressed in an areawide study. Lake Hill Drive was originally constructed as a local residential street and was not intended to serve as a collector. There are several strategies which, when taken together, could help reduce the volume of traffic on Lake Hill Drive. One involves extending the Old Glenn Highway as an arterial into this area, that could connect with a new collector to the north of existing

Reese Road, and which could serve the new subdivisions, including Glenn View Estates. Another strategy involves utilization of the Mirror Lake interchange of the Glenn Highway as the principal access to this undeveloped Eklutna land (see section H above).

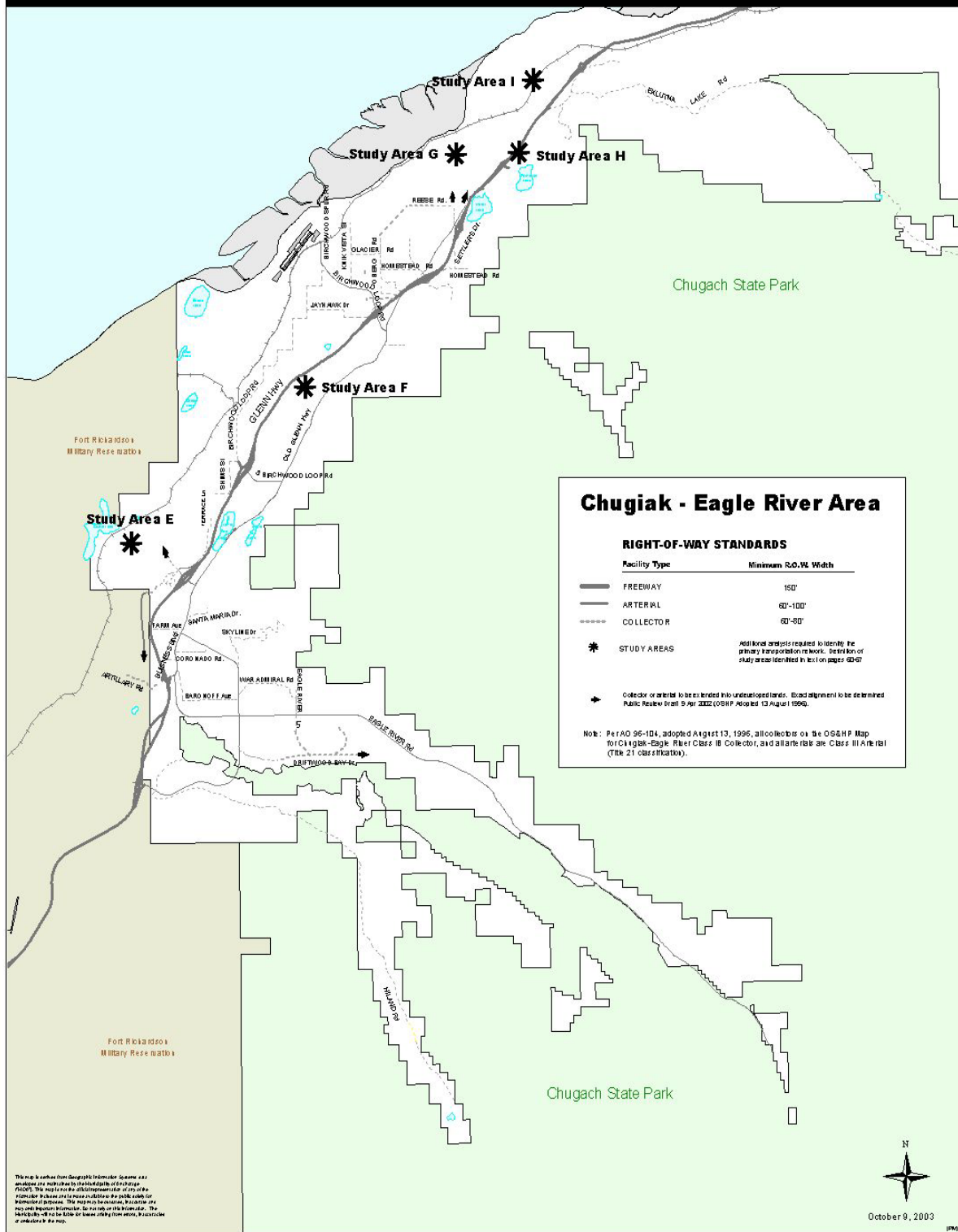
III. OFFICIAL STREETS & HIGHWAY PLAN MAP

Map 5 represents the Official Streets and Highway Plan map for Chugiak-Eagle River and includes all of the above recommendations. When approved, The Map will supersede the 1996 OS&HP for the Chugiak-Eagle River area. Where street and highway alignments on the Plan Map correspond to existing streets, the planned alignment shall conform substantially to the existing alignment. Where street and highway alignments on the Plan Map do not correspond to existing streets, the alignment on the Plan Map is approximate. Such alignments are finally determined by the acceptance of right-of-way dedications on subdivision plats or during the redesign phase of a planned facility. The discussion contained in the preceding part of this section should be used to further refine the Plan Map.



Construction of new collector will provide connection from Oberg Road to Reese Road

Official Street and Highway Map



Map 5