

## INVENTORY INTRODUCTION

Land management decisions affecting the Parks Highway's scenic character are routinely being made, often without the benefit of site specific visual information. Examples are state land disposals to private citizens and conveyances to municipal governments, the location of material sites and timber harvests and the routing of utility lines and secondary roadways. Land managers and planners have often expressed a desire for accurate, visually-oriented information on the highway corridor.

A listing of certain visual landscape characteristics such as which lands are visible, the screening ability of existing vegetation and topography, and the quality of visual experience if available would contribute significantly to the land manager's information base. This field inventory, conducted during the summer of 1978 attempts to fill this gap and provide the information necessary to routinely consider the highway's visual characteristics alongside other land use determinants.

## INVENTORY OBJECTIVES

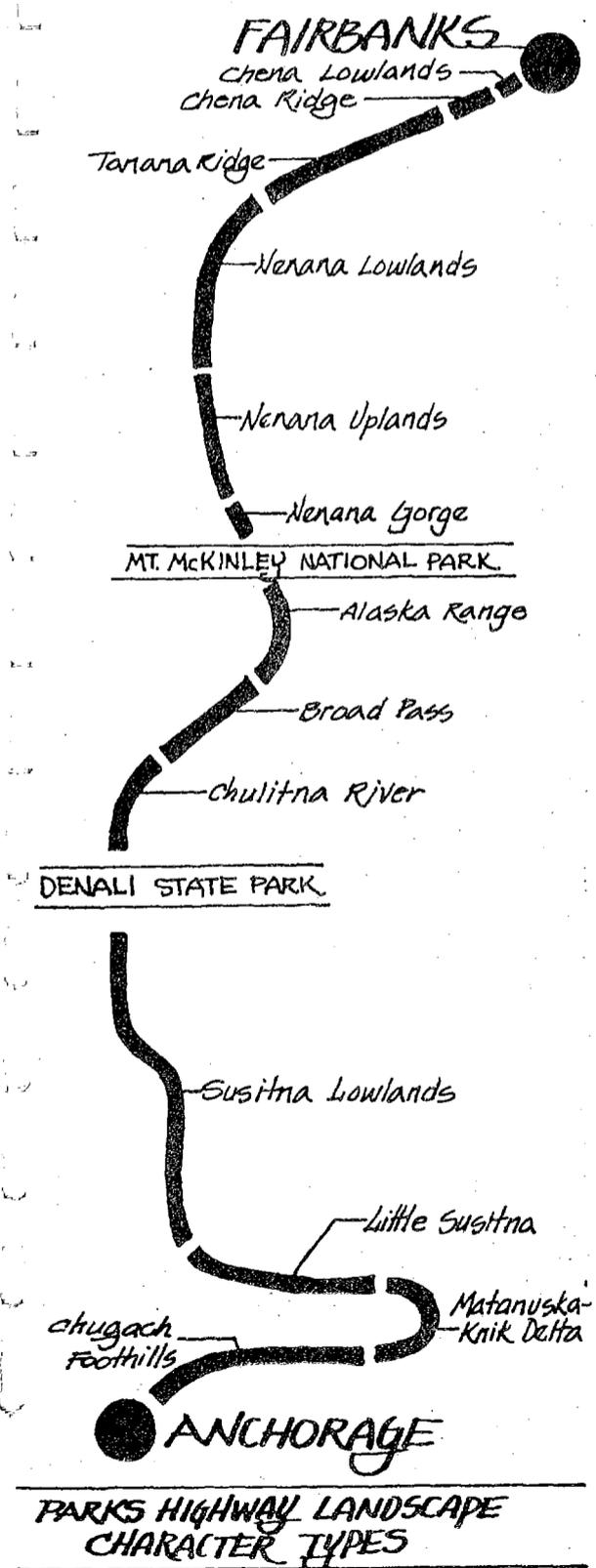
The field inventory attempts to: (1) provide a common terminology with which land managers and planners concerned with scenic resources generally, and the Parks Highway specifically, can begin to discuss their concerns; (2) describe, analyze and assess the intrinsic visual quality of the highway/landscape; (3) describe, analyze and assess the visual impacts of both roadside development and of the roadway itself; and (4) provide other such visual information on the highway corridor as may be needed to incorporate scenic resource considerations into the decision-making process.

## OVERVIEW

1. The highway is divided into visual Character Types. A character type is an area of land that has common distinguishing visual characteristics of landform, rock formations, waterforms, and vegetation patterns. Based primarily on physiographic and vegetative divisions, character types are used as a frame of reference to classify specific highway stretches for their visual qualities. The Parks Highway traverses 13 character types, ranging in length from ten to over fifty miles. (Note the accompanying map.)

2. The character types are further divided into Assessment Units. An assessment unit is a small highway section, limited to a maximum of 3 miles, exhibiting distinct visual characteristics and used as the basic analysis unit or increment. Along the Parks Highway between Anchorage and Fairbanks there are 192 assessment units excluding those lands within Denali State Park and Mt. McKinley National Park.

3. Each assessment unit is evaluated for its Intrinsic Visual Quality. Intrinsic visual quality is defined as the degree of expression exhibited by a landscape through the interplay of its various components or elements; the landscape's ability to create visually distinctive and pleasing patterns of form, line, color, and texture. An underlying assumption here is that diversity plays a major role in creating visually distinctive landscape experiences. Thus, those landscapes exhibiting a greater variety in their combination of natural elements (land-sky interface, landform, landcover, waterform) generally are of higher intrinsic visual quality. These elements are evaluated from



predetermined criteria for each landscape character type. Other factors used to determine the intrinsic visual quality of an assessment unit include surprise, anticipation, sequential diversity, and views. To the extent possible, the intrinsic visual quality is evaluated without consideration of human development, as if the landscape were in an untouched state.

4. Human activities are inventoried and, where appropriate, their visual impacts are assessed. The Cultural Impacts heading encompasses a broad range of human activities occurring adjacent to the highway's right-of-way. Typical categories are residential, commercial, recreational and institutional land use, historical and/or cultural sites and visual clutter.

5. The Roadway Impacts heading addresses the immediate highway right-of-way area and how it affects the visual experience. Roadway factors are inventoried and where appropriate assessed. These include shoulder characteristics, number and types of intersections, management of the right-of-way, and the impacts of the road's design.

6. The Composite Visual Quality rating is a measure of the assessment unit's existing visual quality, and is derived from its intrinsic visual quality, its cultural impacts and its roadway impacts. It is a measure of the unit's relative scenic value as it presently exists.

7. Additional characteristics of each unit are also provided in mapped form. Each map indicates the assessment units' location, areas seen from the unit ("viewsheds"), vegetative screening potentials, visual magnitudes of adjacent lands, and views outward to distant landscape features.

Definitions of the above terms, as well as a more detailed description of how each factor was evaluated follow.

## DEFINITIONS AND METHODOLOGY

The intrinsic visual quality is calculated from the following 9 factors: Land sky interface, landform, landcover, waterform, surprise, anticipation, sequential diversity, lateral views, and unique visual elements. These were evaluated in both directions. The total intrinsic visual quality for each assessment unit here was calculated as the arithmetic average.

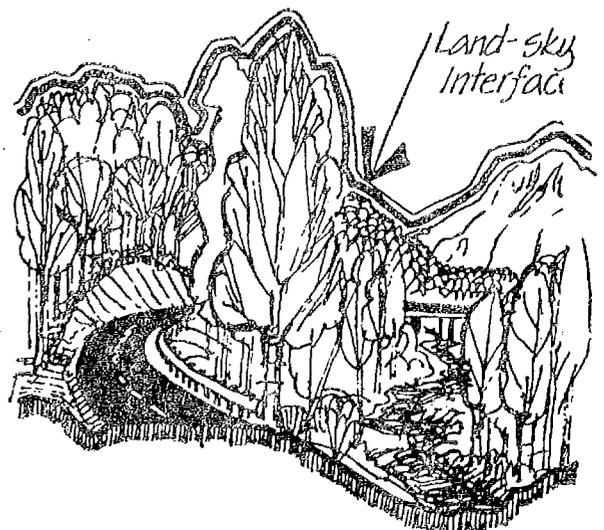
### LAND SKY INTERFACE

This element addresses the visual expression of the horizon, or the edge between land and sky. One of four basic components used in Character Type descriptions, Land-Sky Interface is most highly valued when displaying diverse shapes and forms.

Assessment units are evaluated for landsky interface with criteria developed for each of the 13 Character Types, and take the following general form:

3 (Distinctive): Horizon displays a wide variety of slopes, shapes and textures in several distance zones.

### INTRINSIC VISUAL QUALITY



2 (Common): Intermediate characteristics between those described above and those below.

1 (Minimal): Horizon displays little diversity of form or shape and is generally confused to a single distance zone.

## ● LANDFORM

One of the four basic Character Type descriptors, Landform addresses the unit's topographic expression, such as plains, valleys, mountains, and moraines. As with the other basic descriptors, diversity of expression is highly valued.

LANDFORM criteria are developed for each of the 13 Character Types, and take the following general form. Assessment units are evaluated from these criteria.

3 (Distinctive): Landform expression is significant, displaying a great deal of topographic diversity seen in all distance zones, providing visual variety and allowing for viewer awareness of his position in the landscape.

2 (Common): Intermediate characteristics between those described above and those which follow.

1 (Minimal): Landform expression is limited, displaying little topographic diversity and limited awareness of the overall landscape context.

## ● LANDCOVER

LANDCOVER refers to the character of the land surface. This is generally a type of vegetation community, such as mixed spruce/hardwood forest or black spruce dominated bogs, but may also include such other surface types as exposed bedrock, alpine tundra, and snowfields.

Specific landcover criteria are developed for each of the 13 Character Types. Assessment units are evaluated using criteria specific to each character type which might be generally summarized as follows:

3 (Distinctive): The foreground and middleground distance zones provide visually pleasing colors, patterns and textures created by all or most of the vegetation communities and successional stages possible in this character type.

2 (Common): Intermediate characteristics between those described above and those which follow.

1 (Minimal): Land surface characteristics take one general form, which predominates throughout the assessment unit.

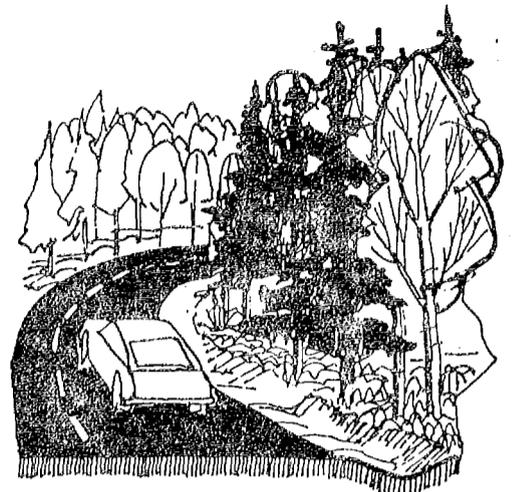
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The WATERFORM category addresses the role of water in the landscape. As with the other basic Character Type descriptors, diversity of expression is highly rated.

Specific WATERFORM criteria are developed for each of the 13 Character Types, but they might be summarized generally as follows:

3 (Distinctive): Several types of waterbodies are present and prominent within the assessment unit, i.e. lakes, streams, marshes, and rivers.

2 (Common): Intermediate characteristics between those described above and those which follow.

1 (Minimal): Water features are entirely absent, or their visual impact is very low.



### SURPRISE ●

A highway, like any linear experience such as a river, trail or railroad offers the potential for surprise as one moves through the sequence of spaces. SURPRISE is a sudden, unexpected view revealed through a change in the highway character (curves, topography, vegetation). This element of surprise adds to the richness, aesthetic value, and diversity of the roadway experience.

Each unit's expression of the unexpected, of surprise, is evaluated, traveling both north and south, as follows:

3 (Present): Some unexpected, yet distinctive or memorable man-made feature, view, landform, or other landscape feature is encountered.

0 (Absent): No unexpected landscape change or feature is encountered.



### ANTICIPATION ●

Anticipation is the quality of the landscape to lead or draw the viewer forward into the following unseen landscape. This is most often accomplished through visual clues such as short, partial views into the following landscape or by vegetation and/or topography leading the viewer's eye forward.

Each roadway assessment unit is evaluated for this ability to instill a feeling of anticipation, in both northerly and southerly travel.

3: A sense of anticipation is present.

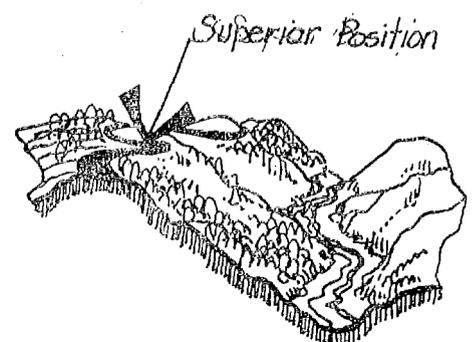
0: No sense of anticipation.

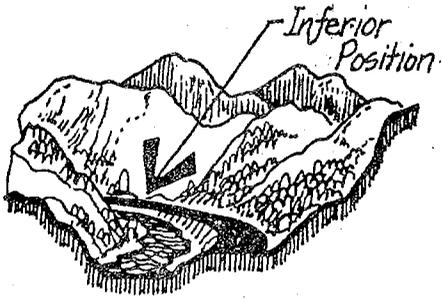
### POINT OF VIEW ●

Point of view is the position of the viewer relative to the surrounding landscape. Three possible points of view exist: superior position, equal position, inferior position, and variable position.

Point of view is recorded in the forward and lateral directions, traveling both north and south.

S (Superior): The viewer is above a major portion of the seen area, increasing distant view opportunities.





E (Equal): The viewer is at the same level as the surrounding landscape, particularly with respect to the foreground and middleground.

I (Inferior): The viewer is below the major portion of the seen area, minimizing most distant views.

V (Variable): Viewer position varies throughout the assessment unit. No position predominates.

### ● SPATIAL EXPRESSION

SPATIAL EXPRESSION is the manner in which the (foreground) topography and/or vegetation create impressions of enclosure, semi-enclosure or openness.

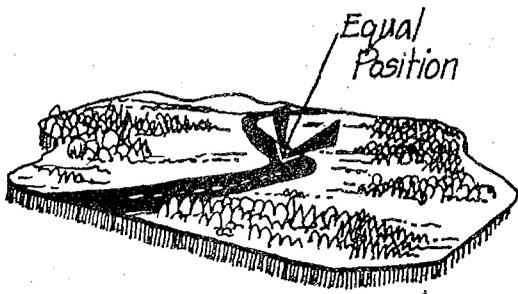
Spatial expression is recorded traveling both north and south, as follows:

N (Enclosed): Foreground vegetation and/or topography on both sides of the roadway create a feeling of enclosure or containment.

SN (Semi-enclosed): Foreground vegetation and/or topography create a feeling of partial enclosure that is open to one side or partially open to both sides.

O (Open): Foreground vegetation and/or topography create a feeling of openness or exposure.

V (Variable): Variable expression within the unit, from feelings of enclosure to semi-enclosure, or any other combination of the above factors.



### ● SEQUENTIAL DIVERSITY

Sequential diversity is an index of degree and frequency of visual and experiential change in the landscape. It is based on changes in point of view and SPATIAL EXPRESSION from one roadway assessment unit to the next.

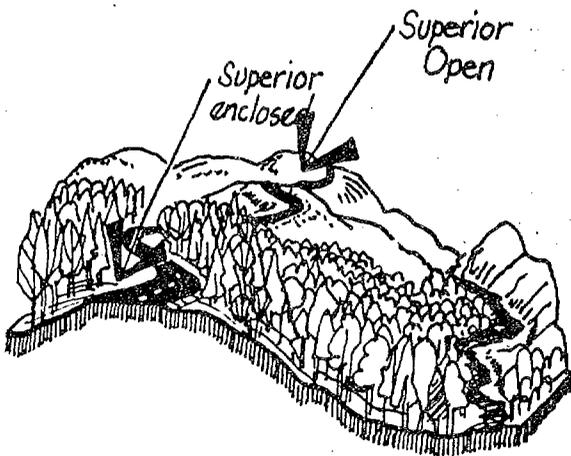
Sequential diversity ratings are derived mathematically. An assessment unit's point of view and spatial expression values are compared with the same values for the previous and succeeding units. Each time there is a change in any one of the elements, one point is recorded. Thus totals for the sequential diversity of an assessment unit range from a high of 8 to a low of 0.

Sequential Diversity is recorded as follows:

3 (High): Point of view and spatial expression differences in this assessment unit compared to the previous and following units are six or greater.

2 (Moderate): Differences in point of view and spatial expression are greater than 2 but less than six.

1 (Low): Differences in point of view and spatial expression are two or less.



## LATERAL VIEWS ●

LATERAL VIEWS attract attention away from the direction of movement and add to the diversity of the scenic experiences.

The number of lateral views on each side of the roadway is recorded and identified in the notes. These lateral views are also indicated on the unit maps.

## UNIQUE VISUAL ELEMENTS ●

Unique visual elements are certain outstanding landscape features, landmarks and scenes, such as Mt. McKinley, Mt. Susitna or other named mountains, volcanoes, glaciers, unique and distinctive rock formations, some rivers, and large valleys.

Quality ratings are not performed. It is assumed that these elements can only enhance the visual experience of driving the highway. Therefore, each unique element seen within the unit is awarded a value of one. These elements are recorded traveling both north and south and are identified in the inventory notes.

## CULTURAL IMPACTS

### LAND USE INTENSITY ●

Because specific land use information is limited for most areas adjacent to the highway, the field inventory records residential, commercial, recreational, and institutional land uses and relative intensities.

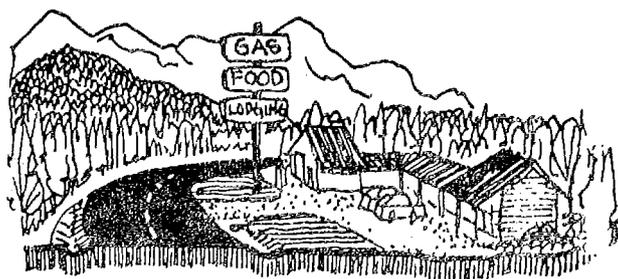
Structures are categorized, counted (to maximum of 20) and recorded. Counts beyond 20 are recorded as "720." Additionally, the overall visual impact of these structures and their associated landscape modification is evaluated as follows:

3 (High): Severe modifications are evident. Land usage and structures occur at such a density or location as to be dominant and out of scale with the surrounding landscape.

2 (Medium): Medium visual impact. Activities and associated structures demonstrate partial modification of the landscape and occur at such a density or location as to detract from the view.

1 (Low): Activities and associated structures are present, but occur at low densities and/or are sited in visual harmony with the scale and character of the surrounding landscape.

0 (None): No activities and/or structures are apparent within the viewed area.



### VISUAL CLUTTER ●

VISUAL CLUTTER is a measure of the degree to which the

natural landscape has been encroached upon by man-made objects, such as refuse (trash, litter, abandoned cars) and objects such as billboards, and commercial signs.

The inventory records the type of visual clutter, its location and distance zone, and its visual impact. Impact ratings are as follows:

3: (High): Seen area, especially the foreground dominated by the the presence of man made objects which significantly detract from the surrounding landscape.

2: (Medium): Visually distracting objects present and visible but of a quantity and location to be of only moderate visual dominance.

1: (Low): Visually distracting man made objects present, but of only minor visual dominance.

0: (None): Visual clutter absent.

#### ● MANAGEMENT ACTIVITY

MANAGEMENT ACTIVITY is a record of the types and impacts of land management practices. Included in this category are timber harvests, gravel extraction and storage, road construction and maintenance, construction staging areas, mining, agriculture, power generation and transmission facilities, communications structures, and docks, pilings and other water-related structures.

The field inventory notes management activity type its viewed distance zone, and its visual impact, as follows:

3 (High): Severe modifications are evident, and/or occur at such a density or location as to be dominant and out of scale and character with the surrounding landscape.

2 (Medium): Medium visual impact.

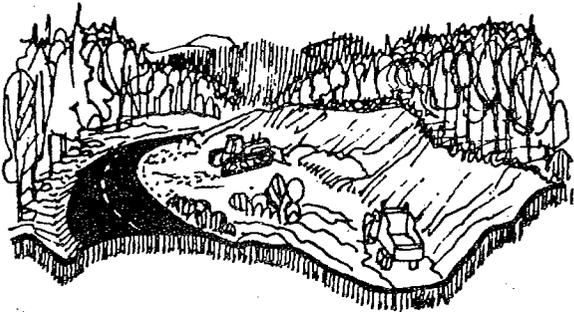
1 (Low): Activities and associated structures are visible, but occur at low densities, are partially screened by vegetation and topography or are sited in visual harmony with the scale and character of the surrounding landscape.

0 (None): No management activities and/or associated structures are visible within the viewed area.

#### ● HISTORICAL/CULTURAL SITES

This category identifies sites of cultural and/or historical significance. Included here are such things as old highway and railroad bridges, original school sites, archeological sites, railroad stations, and roadhouses.

Types, locations and distance zones of historical or cultural sites are noted. Visual impacts are not assessed.



## INTERSECTION COMPLEXITY

Intersection complexity refers to the number and type of roadways entering or crossing the highway. This factor is an indicator of the road's potential for modification such as overpasses, turning lanes, road widening, and traffic control mechanisms as well as the intensity of surrounding land usage.

Within each assessment unit, the number and type of intersecting roads are recorded, using the following symbols:

O: Overpass

P: Paved

G: Gravel

U: Unimproved; road is passable by passenger vehicles, but no gravel or rock has been added to increase bearing capacity and drainage.

R: Recreation; some indication of use by four-wheel drive or other recreational vehicle. Road is generally impassable for passenger cars.

T: Turnout; off-road access, but leading only back to highway, i.e. litter barrel turnouts, scenic overlooks.

RR: Railroad tracks

## RIGHT-OF-WAY MANAGEMENT

The right-of-way immediately adjacent to paved portion of the highway has important visual quality implications. This foreground area dominates the viewshed and serves as a frame for more distant views. Management practices in this prominent area therefore assume increased importance. The width of tree and brush clearing and landscaping are aspects of right-of-way management having particularly strong influences on scenic values.

The inventory measures the width of right-of-way clearing and/or landscaping effects as follows:

10: Maintained and/or landscaped area extends less than 10 feet from the pavement edge.

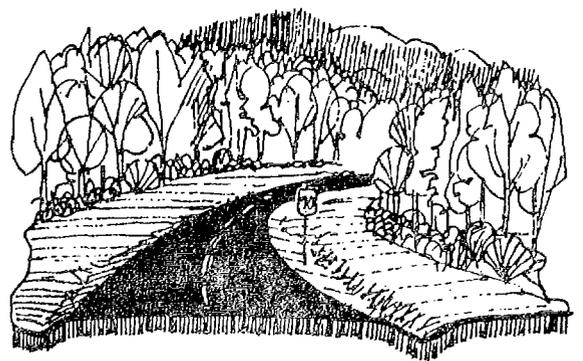
10-35: Maintained and/or landscaped area extends between 10 and 35 feet from the pavement edge.

35: Maintained and/or landscaped area extends more than 35 feet from the pavement edge.

In addition to the maintenance width measurement, the right-of-way is evaluated for its effects on the seen area's visual quality, taking into consideration its width, visibility, vegetation, and slope in relation to the surrounding landscape. Visual impact is then recorded as follows:

3 (High): The highway right-of-way is visually dominant and of such character as to detract from the scenic quality of the surrounding landscape.

2 (Moderate): The right of way is visually evident as



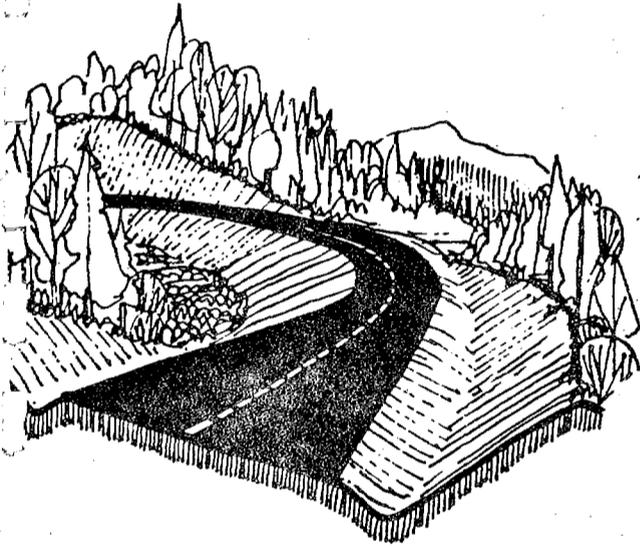
being out of character with the surrounding natural landscape but does not demonstrate extreme alteration.

1 (Low): The right-of-way is not visually dominant and detracts only minimally from the surrounding landscape's scenic quality.

0 (None): The highway right-of-way is visually subordinate to the entire viewshed and has no negative impact.

### ● DESIGN IMPACT

The DESIGN IMPACT category addresses the highway's interaction with the landscape topography. It is an index of how the highway design reconciles engineering requirements for gentle curves and gradual gradients with sometimes severe topographic conditions. Because "cutting and filling" is the construction technique most commonly employed to achieve engineering requirements, it is used as the indicator of design impact.



Highway design impact is evaluated as follows:

3 (High): Roadway reflects extreme landscape modification, with large and numerous cuts and fills.

2 (Medium): Roadway follows topography, with cutting and filling present but less obvious due to reduction in size and frequency.

1 (Low): Topographic nature of land is such that cutting and filling is only rarely noticeable.

0 (None): No apparent cuts or fills.

### ● HIGHWAY CLUTTER

The types, amounts, and visual impacts of highway-related objects such as signs, right-of-way fencing, and lighting, are evaluated in this category. Because of their foreground location, visual implications are significant.

Both the types of objects and their visual impacts are recorded, with visual impact ratings as follows:

3 (High): Number, location, size and design of objects dominate and distract from the view.

2 (Moderate): Moderate impacts.

1 (Low): Number, location, size, and design of signs, fences, etc. makes them fairly unnoticeable.

0 (None): No noticeable highway-related facilities within the assessment unit.

### ● HYDROLOGIC INTERFERENCE

The hydrologic interference category is one indicator of how the highway accommodates the surface and subsurface

movement of water. There are obvious direct implications for wildlife and fisheries, and more subtle implications for development suitabilities of surrounding lands.

The number and types of hydrologic interferences are recorded based on the following symbols:

B Bridge

C Culvert

F Fill

### SHOULDER CHARACTERISTICS

Highway shoulder type is an important consideration with respect to road safety, efficiency of travel flow, bicycle access, and turnout space for recreational access.

Shoulder width is recorded in feet. Surface type is recorded as follows:

P (Paved): Shoulder surface is the same as the highway.

G (Gravel): Gravel shoulder.

The following characteristics are displayed in map format for each assessment unit.

### MAPPED INFORMATION

### VEGETATIVE SCREENING POTENTIAL

Screening potential is a relative indicator of the vegetation's ability to screen objects from sight, and is dependent on density, seasonal character (coniferous/deciduous) and canopy height. It is an important measure of an area's sensitivity to visual modification, and is useful in anticipating visual impacts of proposed land uses.

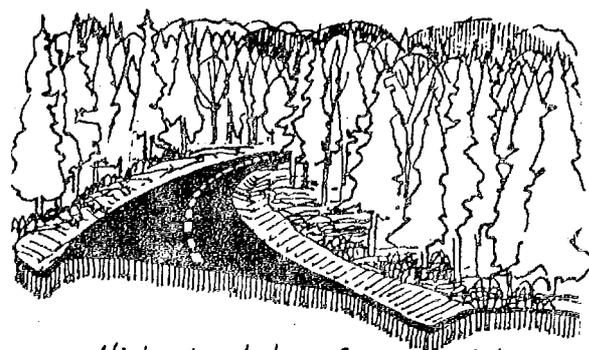
The inventory evaluates the vegetative screening potential of all seen areas. The ratings appear on the assessment unit map, as the numerator of the fraction. The numerical rating is as follows:

3 (High): Tall, dense stands of evergreen or mixed evergreen/deciduous treecover provide an effective year-round visual screen.

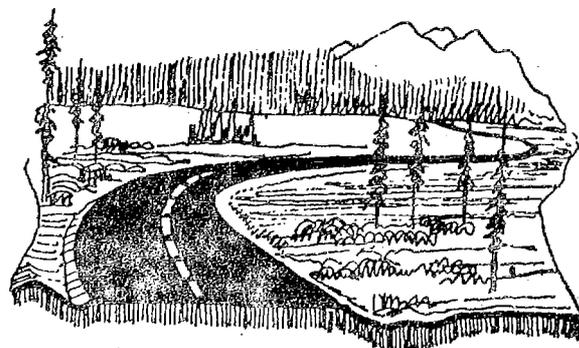
2 (Medium): Primarily open to semi-open stands of deciduous or mixed evergreen/deciduous treecover provide moderate screening potential.

1 (Low): Scattered trees and low shrubs provide limited screening ability. Extreme depths of vegetation are required to adequately screen a structure or activity.

0 (None): Open grasslands and low shrubs prevent visual screening.



*High Vegetation Screening Potential*



*Low Vegetation Screening Potential*

## ● VISUAL MAGNITUDE

VISUAL MAGNITUDE refers to the slope of the visible land in relation to the position of the viewer. For example, a surface perpendicular to the line of sight allows the entire surface to be seen. This surface would have a high visual magnitude. A surface in the viewer's same plane creates a line of sight so oblique that most areas are barely visible. This surface would have a low visual magnitude.

Visual magnitude is delineated on all seen area maps, as the denominator in the fractions. Ratings are as follows:

3 (Low): Visible landscape surface parallel to or sloping away from viewers line of sight.

2 (Medium): Visible landscape surfaces gently sloping (25%) to somewhat steep (100%) as perceived from viewer position.

1 (High): Visible landscape surface vertical or nearly vertical as perceived from viewer's position.

## ● VISUAL ABSORPTION CAPABILITY

VISUAL ABSORPTION CAPABILITY is an indicator of the landscape's ability to absorb visual modification such as roads, housing development, and timber harvests. It is here derived from vegetative screening potential and visual magnitude information.

A relative index of the Visual absorption capability is evaluated for all seen areas, using the following mathematic formula:

Visual Absorption Capability (VAC) = Vegetative Screening Potential (VSP) + Visual Magnitude (VM)

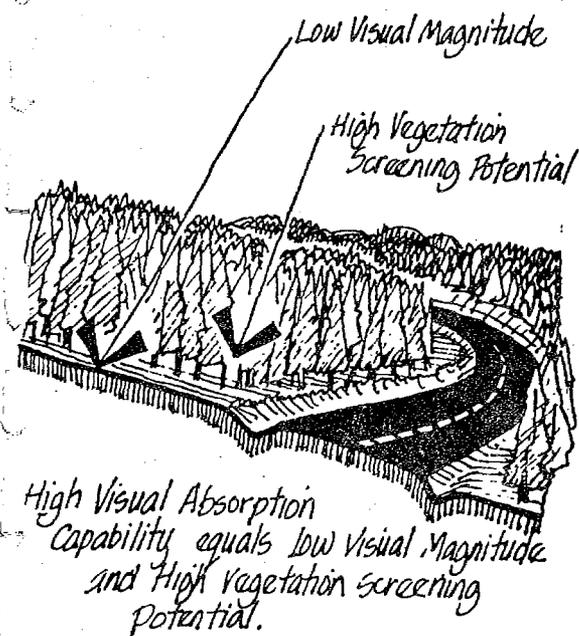
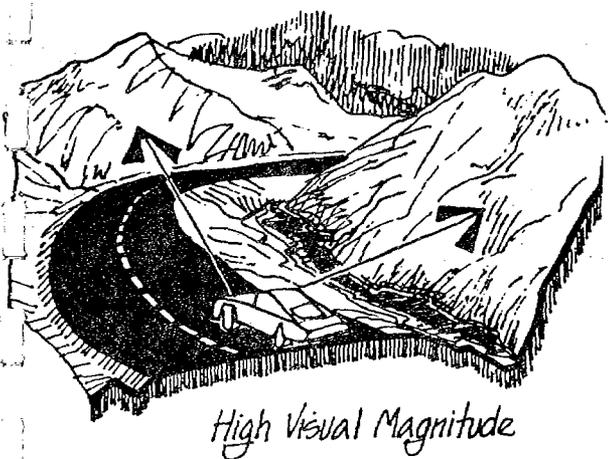
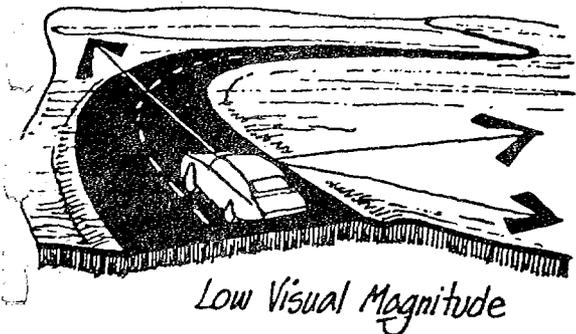
Capability ratings are as follows:

3 (High): Vegetative screening potential and visual magnitude together indicate that most landscape modifications can readily be screened if properly sited and designed.  $VSP + VM = 4$ .

2 (Medium): Vegetative screening potential and visual magnitude are such that most landscape modifications remain visible from the highway. The actual visual impact of modifications will depend on its type, design, considerations and siting, but can generally remain subordinate to the overall landscape character.  $VSP + VM = 4$ .

1 (Low): Vegetative screening potential and visual magnitude values indicate that landscape modifications are highly visible and generally cannot be screened.  $VSP + VM = 4$ .

Additional characteristics recorded on the assessment unit maps are the following:





Landscape character type

character type Susitna lowlands

Assessment unit boundary

unit description variable, circled mixed hardwood forest on rolling terrain and semi-open black spruce stands on lowland bogs  
roadway description 2 lane, unshaded  
date 17 July 1978 weather partly sunny  
recorded by kf; mj

Upper part of fraction denotes vegetation screening potential.

Lower number in fraction denotes visual magnitude. Note that all visible lands on the map with the same vegetation screening potential and visual magnitude have parallel lines at same angle.

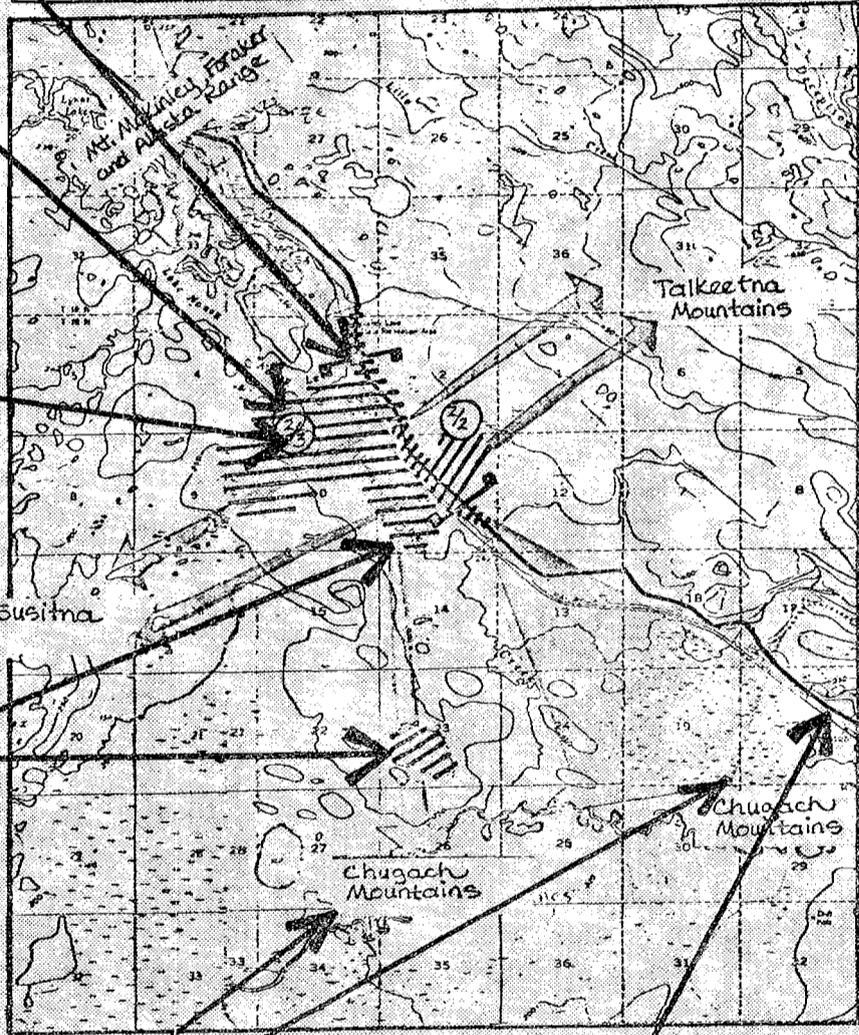
Heavy parallel lines indicate extent of seen area (viewshed) from the roadway.

Distant views indicated by shaded arrows. Notes identify view. Size of arrow suggests expansiveness of view.

assessment unit number

Parks Highway indicated by heavy black line

unit 44



inventory  
george parks highway

