

**APPENDIX A**  
**DESIGN DESIGNATIONS**

**State of Alaska**  
**Department of Transportation and Public Facilities**



**Parks Highway**

**MP 44 - 52.3**

**Lucus Road to Big Lake Cutoff**

**ENVIRONMENTAL DOCUMENT AND PRELIMINARY  
ENGINEERING**

**57178/IM-0A4-1(23)**

# **Design Designations**

**September 27, 2007**

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**and**  
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## **1. Design Designations**

Average Annual Daily Traffic (AADT) are located in Attachment A and have been provided for roadways within the project limits for 2005 and 2030 under various scenarios. The Mat Su Borough transportation model, updated in January 2006, provided the basis for 2030 AADTs. Where AADTs were not provided but centroidal trip generations were, minor road approach AADTs were estimated by distributing the trips by proportion of developable land between the minor road approaches.

The 2005 AADTs are primarily based on the most recent AADTs provided by the *2004 Central Region Annual Traffic Volume Report* and Mat-Su Borough Planning. A few of the 2005 AADTs for minor road approaches were estimated based on either recent traffic counts and recent DOT&PF area permanent traffic recorder information or by similar methods used for 2030 AADTs in distributing projected 2000 base year centroidal trip generations.

Table 1 summarizes traffic design designations that should be used for alternative development and evaluation. Equivalent Single Axle Loads are not presented here, as they will depend upon the roadway lane configurations.

	Existing Year	Construction Year	Mid-Life Year	Future Year
	2005	2010	2020	2030
<b>Lucas Road to Church Road, Functional Class Rural Principal Arterial, Interstate</b>				
Average Daily Traffic (ADT)	21,615	24,763	32,502	42,660
Design Hour Volume (DHV) %	10%	10%	10%	10%
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Directional Distribution Percent	65/35	65/35	65/35	65/35
Percent Recreational Vehicles	4%	4%	4%	4%
Percent Commercial Trucks	8%	8%	8%	8%
Compound Growth Rate	2.90%	2.90%	2.90%	2.90%
Pedestrians (Number/Day)	N/A	N/A	N/A	N/A
Bicyclists (Number/Day)	N/A	N/A	N/A	N/A
<b>Church Road to Pittman Road Functional Class Rural Principal Arterial, Interstate</b>				
Average Daily Traffic (ADT)	16,522	18,832	24,465	31,784
Design Hour Volume (DHV) %	10%	10%	10%	10%
Peak Hour Factor (PHF)	0.90	0.90	0.90	0.90
Directional Distribution Percent	60/40	60/40	60/40	60/40
Percent Recreational Vehicles	4%	4%	4%	4%
Percent Commercial Trucks	8%	8%	8%	8%
Compound Growth Rate	2.69%	2.69%	2.69%	2.69%
Pedestrians (Number/Day)	N/A	N/A	N/A	N/A
Bicyclists (Number/Day)	N/A	N/A	N/A	N/A
<b>Pittman Road to Big Lake Road Functional Class Rural Principal Arterial, Interstate</b>				
Average Daily Traffic (ADT)	10,608	12,409	16,982	23,240
Design Hour Volume (DHV) %	10%	10%	10%	10%
Peak Hour Factor (PHF)	0.90	0.90	0.90	0.90
Directional Distribution Percent	60/40	60/40	60/40	60/40
Percent Recreational Vehicles	4%	4%	4%	4%
Percent Commercial Trucks	8%	8%	8%	8%
Compound Growth Rate	3.78%	3.78%	3.78%	3.78%
Pedestrians (Number/Day)	N/A	N/A	N/A	N/A
Bicyclists (Number/Day)	N/A	N/A	N/A	N/A

**Table 1 - Traffic Design Designations**

## **Attachment A- Traffic Volumes**

**Recent Turning Movement Counts**

As provided below the Meadow Lakes Intersection (below) was counted in 2005. The remainder of this appendix includes intersection counts that were taken in the Fall and Winter of 2004 and coincide with those provided in the *Draft Traffic and Safety Elements Report*.

Date: 3/1/06	MEADOW LAKES From North				PARKS From East				MEADOW LAKES From South				PARKS From West			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Start Time																
4:00 PM	11	0	7	0	14	0	0	0	0	0	0	0	0	0	7	0
4:15 PM	11	0	6	0	9	0	0	0	0	0	0	0	0	0	7	0
4:30 PM	6	0	4	0	10	0	0	0	0	0	0	0	0	0	8	0
4:45 PM	11	0	8	0	12	0	0	0	0	0	0	0	0	0	7	0
5:00 PM	11	0	10	0	11	0	0	0	0	0	0	0	0	0	6	0
5:15 PM	13	0	6	0	11	0	0	0	0	0	0	0	0	0	7	0
5:30 PM	8	0	5	0	14	0	0	0	0	0	0	0	0	0	2	0
5:45 PM	11	0	6	0	6	0	0	0	0	0	0	0	0	0	11	0
peak Hr	43	0	29	0	48	0	0	0	0	0	0	0	0	0	22	0
DHV	<b>45</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>0</b>

**2005 Hourly Turning Movement Counts**

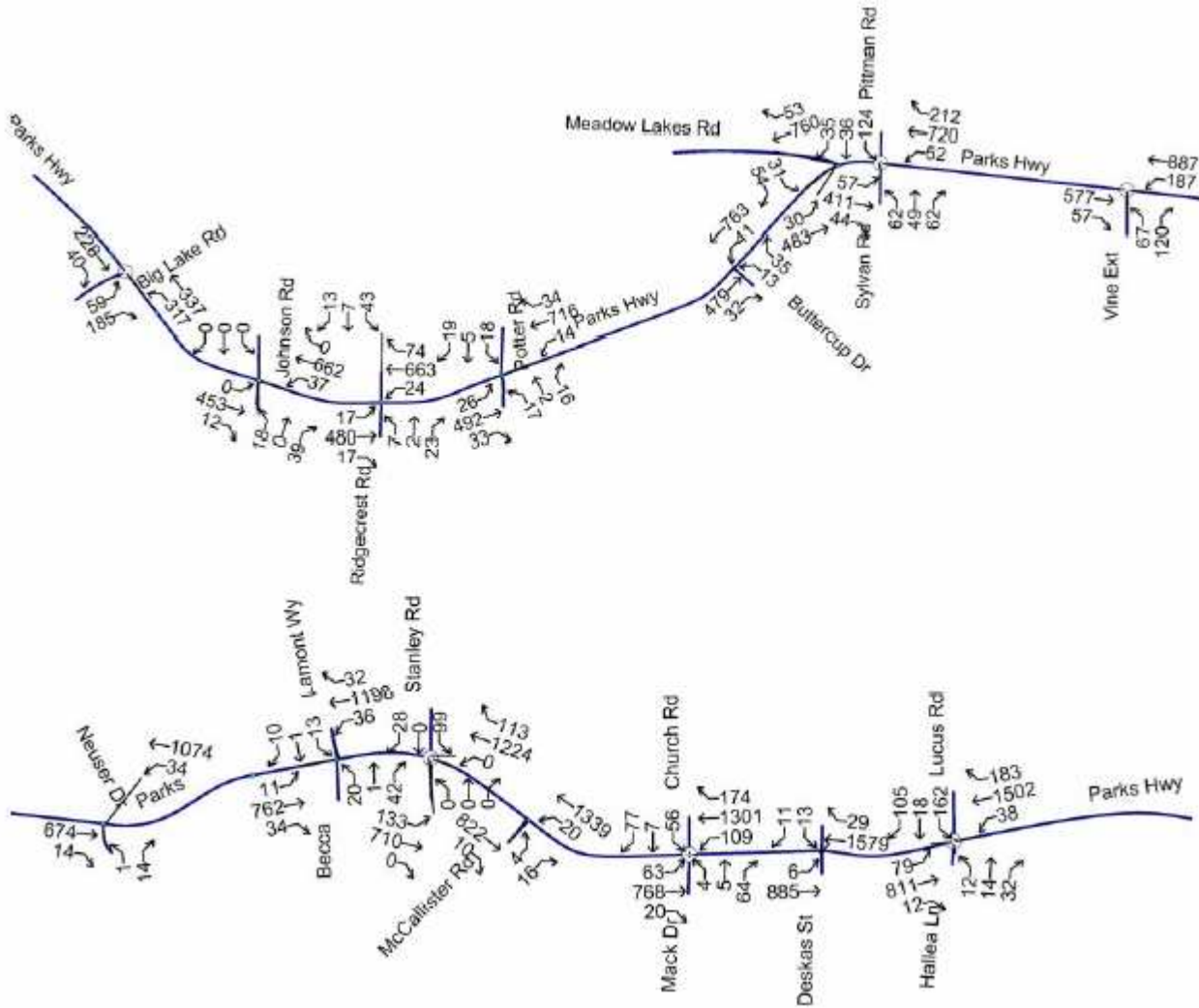
The following hourly counts were taken in the fall and winter of 2004 and are also provided in the *Traffic Analysis And Alternative Development Report*.



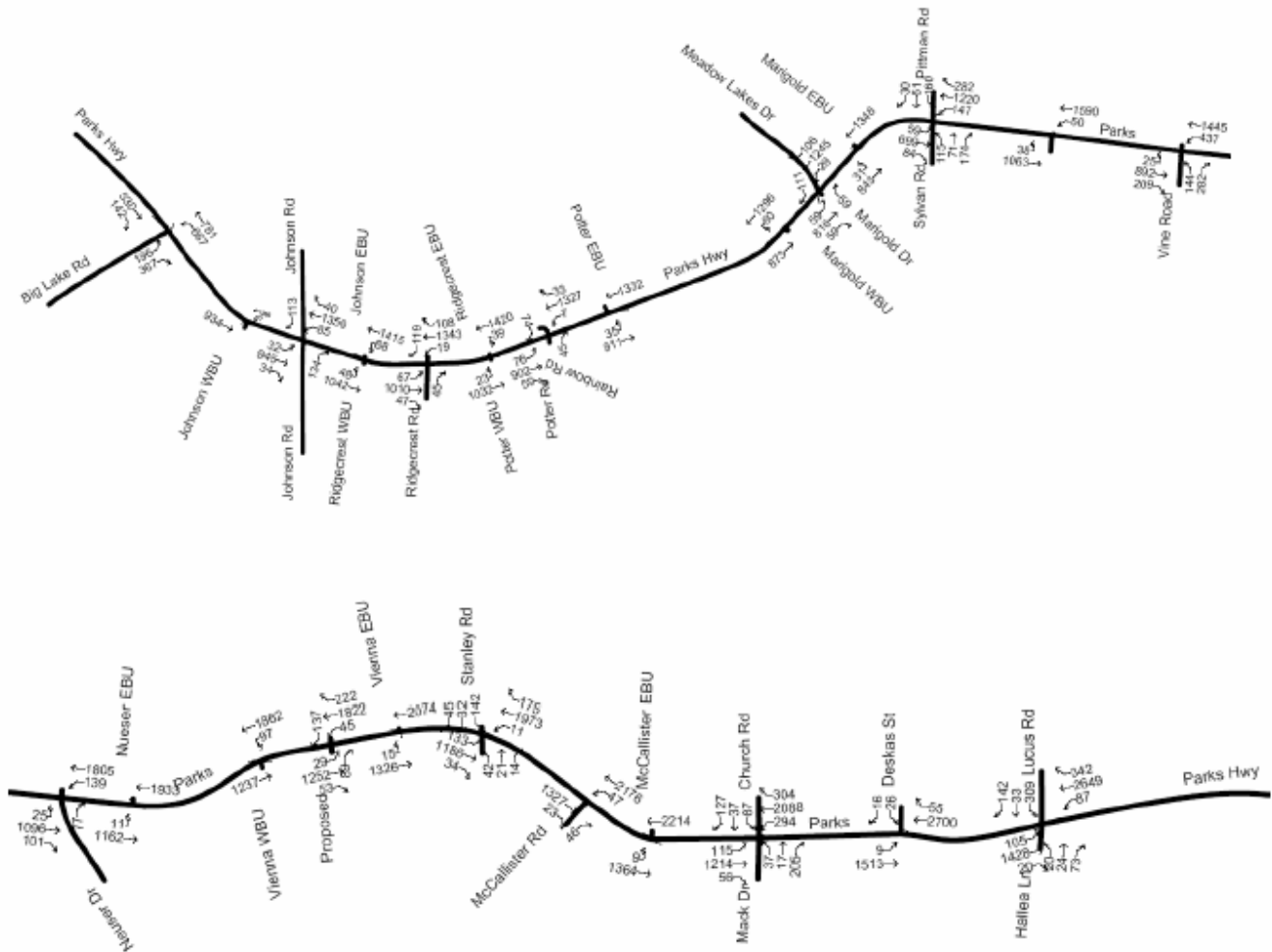




**2010 Hourly Turning Movements for Conventional Intersections**



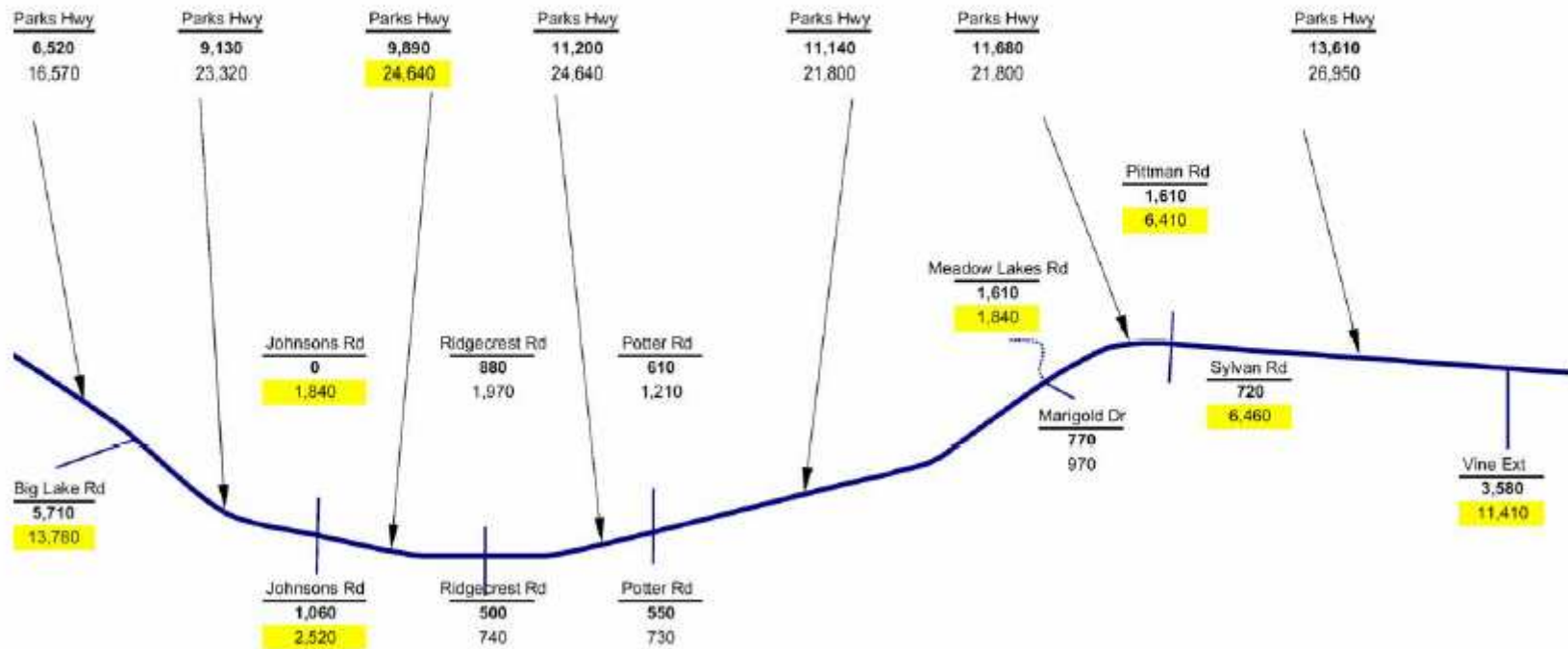
**2030 Hourly Turning Movements for Conventional Intersections, No Alternate Corridor and No Knik Arm Crossing**



Year 2030 Hourly turning movement volumes were derived for combinations of scenarios that include either an Alternate Parks Highway Corridor or the Knik Arm Crossing or both. This information is available on request.

**Average Annual Daily Traffic**

**Legend**  
 99,999 - 2005 AADT (Estimated)  
 99,999 - 2030 AADT



### Average Annual Daily Traffic

**Legend**  
 99,999 - 2005 AADT (Estimated)  
 99,999 - 2030 AADT

