Chapter 2
Design Standards Policies and Processes

Page	*Existing Text*	*Revision Made*	*Rev. #*
2-2	• 2002 ODOT Highway Design Manual in the 2002 ODOT Highway Design Manual	• 2003 ODOT Highway Design Manual in the 2003 ODOT Highway Design Manual	4-1 4-1
2-3	ODOT minimum vertical clearance on Interstate Freeways shall be 17 feet.	ODOT minimum vertical clearance on Interstate Freeways shall be 17 feet-6 inches and on the remaining State system it shall be 17 feet.	4-1

Chapter 3
Survey and Design Procedure

Page	*Existing Text*	*Revision Made*	*Rev. #*
3-19	ODOT Highway Design Manual (2002)	ODOT Highway Design Manual (2003)	4-1

Chapter 5
General Design Standards and Design Elements

Old Page	*New Page*	*Existing Text*	*Revision Made*	*Rev. #*
5-17		Table 5-3 Note # 3 the safe speed is lower that the selected design speed. See Figure 5-7 in this chapter	the safe speed is lower than the selected design speed. See Table 5-6 in this chapter	4-1
	5-34 Thru 5-35	Add Criteria for including Median Trees in roadway projects	Add new page nos. 5-34 and 5-35	6-1
	5-35	Add	Figure 5-10 Median Tree placement	6-1
5-34 Thru 5-68	5-36 Thru 5-72	Renumber from page 5-34 thru 5-68	to page 5-36 To 5-72	6-1
5-35	5-37	Figure 5-10 End Treatment	Figure 5-11 End Treatment	6-1
5-36	5-38	2nd full paragraph, 5th line Add	On Interstate Freeways the minimum horizontal width for one-lane traffic shall be 19 feet exclusive of traffic control devices.	6-1
5-39	5-41	1st paragraph, 2nd line with a vertical clearance of 17' from the top … as shown in Figure 5-11	with a vertical clearance of 17 feet-6 inches and on all other State Highways shall be designed and constructed with a vertical clearance of 17 feet from the top … as shown in Figure 5-12(a) and 5-12(b)	6-1

Chapter 5
General Design Standards and Design Elements

Old Page	New Page	Existing Text	Revision Made	Rev. #
		Add 2nd paragraph	The lateral clearances shown in Figure 5-12(a) are to the face of rail and assume the barrier is warranted. In addition the 19 feet-0 inch dimension includes off tracking. The design engineer may determine that accommodation for off tracking is not required in tangent sections and may use a minimum dimension of 18 feet-0 inch.	
		3rd paragraph height of structures ….for both rural and urban sections.	height of structures over the entire roadway width for Interstate Freeways when between 16 feet -17 feet shall not be reduced and for non-Interstate highways the height shall not be less than 16 feet for both rural and urban sections.	
		less than 14 feet. The Designer….	less than 14 feet. For Interstate Freeways where the clear height is below 16 feet, raising the structure and/or lowering the roadbed will be considered. The designer…	
		If proposing to decrease vertical clearance but end result is still greater than 17'- notify MCTD	If proposing to decrease vertical clearance but end result is still than 17 feet-6 inches for Interstate Freeways and 17 feet for non Interstate highways - notify MCTD	
		If proposing to decrease vertical clearance below 17' - consult the MCTD	If proposing to decrease vertical clearance below 17 feet-6 inches for Interstate Freeways and 17 feet for non-Interstate highways - consult the MCTD	
	5-44	Add	Figure 5-12(a) Interstate Clearance Envelopes for Single Lane	6-1
5-42	5-45	Figure 5-11 Freeway & Highway Clearances	Figure 5-12(b) Freeway & Highway Clearances	6-1
5-43	5-46	Figure 5-12 Railroad Clearances	Figure 5-13 Railroad Clearances	6-1
5-46	5-49	Figure 5-13 Concrete Barrier Placement at Bridge Column	Figure 5-14 Concrete Barrier Placement at Bridge Column	6-1

Chapter 5
General Design Standards and Design Elements

Old Page	*New Page*	*Existing Text*	*Revision Made*	*Rev. #*
5-48 Thru 5-49	5-51 Thru 5-53	Revise subsection Guardrail Terminals • Design Criteria … The current line of available terminals shows a common trait.	 • Design Criteria The current line of terminals shows a common trait. They are all classified as gating terminals, meaning that, if hit other than head-on (angular impact)	6-1
5-50	5-54	5.8 DRAINAGE	5.9 DRAINAGE	6-1
5-55	5-59	Figure 5-14 Truck Speed Distance Curves	Figure 5-15 Truck Speed Distance Curves	6-1
5-56	5-60	Figures 5-15 and 5-16 show some examples of	Figures 5-16 and 5-17 show some examples of	6-1
5-57	5-61	Figure 5-17 shows the benefits of Figure 5-18 shows a pork chop Figure 5-15 Median Detail with Right In/Out	Figure 5-18 shows the benefits of Figure 5-19 shows a pork chop Figure 5-16 Median Detail with Right In/Out	6-1
5-58	5-62	Figure 5-16 Raised Median Detail – Right In Right Out Figure 5-19 illustrates this design concept	Figure 5-17 Raised Median Detail – Right In Right Out Figure 5-20 illustrates this design concept	6-1
5-59	5-63	Figure 5-17 Vehicle-Pedestrian Conflict	Figure 5-18 Vehicle-Pedestrian Conflict	6-1
5-60	5-64	Figure 5-18 Pork Chop With Non-Traversable Median Figure 5-20 illustrates the use of this design concept	Figure 5-19 Pork Chop With Non-Traversable Median Figure 5-21 illustrates the use of this design concept	6-1
5-61	5-65	Figure 5-19	Figure 5-20	6-1

Chapter 5
General Design Standards and Design Elements

Old Page	*New Page*	*Existing Text*	*Revision Made*	*Rev. #*
		Left Ingress from One Direction Only	Left Ingress from One Direction Only	
5-62	5-66	Figure 5-20 Left Ingress from Both Directions	Figure 5-21 Left Ingress from Both Directions	6-1
5-63	5-67	See Figure 5-21 for frontage road examples	See Figure 5-22 for frontage road examples	6-1
5-64	5-68	See Figures 5-22 and 5-23 for U-Turn treatments	See Figures 5-23 and 5-24 for U-Turn treatments	6-1
5-65	5-69	Figure 5-21 Example of Frontage Road Locations	Figure 5-22 Example of Frontage Road Locations	6-1
5-66	5-70	Figure 5-22 U-Turn at Intersection	Figure 5-23 U-Turn at Intersection	6-1
5-67	5-71	Figure 5-23 U-turn at Midblock	Figure 5-24 U-turn at Midblock	6-1

Chapter 6
Freeway Design (Urban and Rural)

Page	Existing Text	Revision Made	Rev.#
6-5	3rd paragraph The vertical bridge clearance …. shall be a minimum of 17 feet.	The vertical bridge clearance on all new urban and rural Interstate Freeway structures shall be a minimum of 17 feet-6 inches and on all new urban and rural non-Interstate highway structures shall be a minimum of 17 feet.	4-1
6-6	Preliminary Design unit	Engineering Services Unit	6-1
6-8	Table 6-1	Update Vertical Clearance	4-1
6-9	Figure 6-4	Update Figure	6-1
6-10	and for rural areas it is 6 miles for rural areas	and for rural areas is 6 miles.	4-1
6-16 & 6-17	On …over the entire roadway width, including the usable width of shoulder	On Interstate Freeways the clear height of structures will not be reduced when the existing condition is between 16 feet and 17 feet. Existing clear height below 16 feet will require consideration of raising the structure and/or lowing the roadbed. On all non-Interstate highways rural sections, the clear height of structures shall not be less than 16 feet over the entire roadway width, including the usable width of shoulder	4-1

Chapter 6
Freeway Design (Urban and Rural)

6-16

old Table 6 - 6

Table 6-6
Maximum Gradient

Type of Terrain	Design Speed (mph)		
	50	60	70
Level	4%	5%	6%
Rolling	3%	4%	6%
Mountainous	3%	4%	5%

New Table 6 - 6

Table 6-6
Maximum Gradient

Type of Terrain	Design Speed (mph)		
	50	60	70
Level	4%	3%	3%
Rolling	5%	4%	4%
Mountainous	6%	6%	5%

Mar-06

Chapter 7
Rural Non-Freeway Highway Design

Page	*Existing Text*	*Revision Made*	*Rev.#*
7-4	4th full paragraph, line 4 (8 feet for 90km/h design speed) 5th full paragraph, line 2 & 3 an 8 foot left side shoulder for a design speed of 90km/h and..	 (8 feet for 55mph design speed) an 8 foot left side shoulder for a design speed of 55 mph and..	4-1
7-6	Preliminary Design unit	Engineering Services Unit	6-1
7-16	Preliminary Design unit	Engineering Services Unit	6-1

Chapter 8
Urban Highway Design (Non-Freeway)

Page	*Existing Text*	*Revision Made*	*Rev. #*
8-13	These include staff resources from Preliminary Design..	These include staff resources from Engineering Services…	6-1
8-17	Preliminary Design unit	Engineering Services Unit	6-1
8-40	Preliminary Design unit	Engineering Services Unit	6-1

Chapter 9
Intersection and Interchange Design

Page	*Existing Text*	*Revision Made*	*Rev. #*
9-1	Preliminary Design unit	Engineering Services Unit	6-1
9-34	Preliminary Design unit	Engineering Services Unit	6-1
9-36	Preliminary Design unit	Engineering Services Unit	6-1
9-37	Preliminary Design unit	Engineering Services Unit	6-1
9-43	Preliminary Design unit	Engineering Services Unit	6-1
9-43	AASHTO “A Policy on Geometric Design of Highways and Streets, 1994”	AASHTO “A Policy on Geometric Design of Highways and Streets, 2001”	6-1
9-60	Preliminary Design unit	Engineering Services Unit	6-1

Chapter 10
Special Design Elements

Page	Existing Text	Revision Made	Rev. #
10-9	Add Exceptions section Renumber from page 10-10 thru 10-27	Page 10-9 to 10-10 to 10-11 thru 10-27	1-30
10-35	" *ODOT Standard Specifications For Highway Construction- 1996* "	*"Oregon Standard Specifications For Construction-2002"*	6-1
10-51 & 10-52	Vertical Clearances for highway traffic All new structures are to be designed with a minimum of 17 feet vertical clearance .	• All new structures on Interstate Freeways are to be designed with a minimum vertical clearance of 17 feet-6 inches. • All non-Interstate-Highways are to be designed with a minimum vertical clearance of 17 feet.	4-1
	Horizontal Clearance during construction Minimum width of 16 feet between face …	• On Interstate Freeways the minimum width of 19 feet between face of rail for one-way/one lane traffic, plus additional clearance to falsework behind rails. Above 8 feet vertical on each side an additional 2 feet horizontal is required. • On non-Interstate highways the minimum width of 16 feet between face of rail for one-way traffic, plus additional clearance to falsework behind rails.	4-1
10-54	Preliminary Design unit	Region Tech Center / Engineering Services / through Aviation Department	6-1

Appendix A
Functional Classification

Old Page	*New page*	*Existing Text*	*Revision Made*	*Rev.*
	A-1	Add new page A-1	Add Alpha-Numeric Listing of Oregon State Highways	6-1
A-1 Thru A-11	A-2 Thru A-12	A-1 to A-11	A-2 to A-12	6-1

Appendix H
Directory of Figures and Tables

Page	Existing Text			Revision Made			Rev. #
H1	Add			Figure 5-10	Median Tree placement	5-35	6-1
	Figure 5-10	End Treatments	5-35	Figure 5-11	End Treatments	5-37	
	Add			Figure 5-12(a)	Interstate Clearance Envelopes for Single Lane	5-44	
	Figure 5-11	Freeway and Highway Clearances	5-42	Figure 5-12(b)	Freeway and Highway Clearances	5-45	
	Figure 5-12	Railroad Clearances	5-43	Figure 5-13	Railroad Clearances	5-46	
	Figure 5-13	Concrete Barrier Placement at Bridge Column	5-46	Figure 5-14	Concrete Barrier Placement at Bridge Column	5-49	
	Figure 5-14	Truck Speed Distance Curves	5-55	Figure 5-15	Truck Speed Distance Curves	5-59	
	Figure 5-15	Median Detail with Right In/Right Out	5-57	Figure 5-16	Median Detail with Right In/Right Out	5-61	
	Figure 5-16	Raised Median Detail-Right In/Right Out	5-58	Figure 5-17	Raised Median Detail-Right In/Right Out	5-62	
	Figure 5-17	Vehicle-Pedestrian Conflict	5-59	Figure 5-18	Vehicle-Pedestrian Conflict	5-63	
	Figure 5-18	Pork Chop with Non-Traversable Median	5-60	Figure 5-19	Pork Chop with Non-Traversable Median	5-64	
	Figure 5-19	Left Ingress from One Direction Only	5-61	Figure 5-20	Left Ingress from One Direction Only	5-65	
	Figure 5-20	Left Ingress from Both Directions	5-62	Figure 5-21	Left Ingress from Both Directions	5-66	
	Figure 5-21	Example of Frontage Road Locations	5-65	Figure 5-22	Example of Frontage Road Locations	5-69	
	Figure 5-22	U-Turn at Intersection	5-66	Figure 5-23	U-Turn at Intersection	5-70	
	Figure 5-23	U-Turn at Mid-Block	5-67	Figure 5-24	U-Turn at Mid-Block	5-71	

Appendix J
English Alignment Guide

Page	*Existing Text*	*Revision Made*	*Rev. #*
1	Preliminary Design Unit Roadway Design Section 207 Treansportation Building	Engineering Services Unit Roadway Engineering Section 222 Transportation Building	6-1