HIGHWAY IMPROVEMENT TYPE DEFINITIONS

Improvement Type & Abbreviation	Definition	Examples	Design Standards
Resurfacing RESUR **Design Timeline:** **18 – 24 mos.**	Placing a new surface on an existing roadway to extend or renew the pavement life. Generally no improvement in capacity or geometrics is performed. No additional R/W is required; except minor acquisition for drainage and intersection improvements. Overlay must be placed directly on top of existing pavement (no intervening base course)	• Asphalt or PCC overlay without removal of existing pavement. • Mill/grind a portion of existing pavement & overlay. • Diamond grind pavement. • Repair or patch joints in existing pavement and place overlay. • Overlay existing driving lanes & pave shoulders. • May include spot replacement of curb and gutter in urban areas. • Widen existing driving lanes and either reduce shoulder width or steepen the shoulder inslope to match existing subgrade shoulder point. • Resurfacing may include some elimination or shielding of roadside obstacles, culvert replacements, signals, marking, signing and intersection improvements.	Interstate: • FDM 11-44-1 Expressway/Freeway: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-40-2 All others: • FDM 11-40-1
Pavement Replacement PVRPL **Design Timeline:** **18 – 24 mos.**	Removing the total thickness of all paving layers, existing asphalt and concrete, from an existing roadway and providing a new paved surface without changing the subgrade. Generally no improvement in capacity or geometrics and no increase in roadbed width is performed. May include transfer of width between pavement and shoulders. Pavement replacement may include some of the same types of associated work as resurfacing. Additional R/W will typically not be required. Does not include storm sewer construction. (No change to subgrade means location of shoulder points is not changed.)	• Remove & reinstall pavement only. • Remove & reinstall pavement and add shoulder paving. • Mill & reprocess or relay existing asphalt pavement as base course, reinstall pavement. • Remove existing pavement, modify base course, reinstall pavement ⇒ Add to or delete from thickness of existing base course ⇒ Add OGBC with drain collection system • Remove and reinstall urban pavement and curb and gutter to same line and grade • Rubbilize existing concrete pavement and overlay with new pavement	Interstate: • FDM 11-44-1 Expressway/Freeway: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-40-2 All others: • FDM 11-40-1
Reconditioning RECON **Design Timeline:** **24 –30 mos.**	Work in addition to resurfacing or pavement replacement. Reconditioning includes improvement of an isolated grade, curve, intersection or sight distance problem to improve safety, or changing the subgrade to widen shoulders or to correct a structural problem. Reconditioning projects may require additional R/W. Does not include increasing the number of driving lanes & does not include adding continuos lanes. May include reconstruction not to exceed 50% of the length of the project May include replacement of curb and gutter in urban areas with up to 50% of new curb and gutter on new horizontal or vertical alignment	• Resurfacing or pavement replacement plus any of the following: ⇒ Regrading of individual horizontal or vertical curves ⇒ Relocating parts of the project. ⇒ Continuously widening subgrade to allow pavement or shoulders to be widened along existing horizontal and vertical alignment ⇒ Adding non-continuous (turning, climbing or passing) lanes ⇒ Continuously or intermittently grading ditches and slopes to improve drainage or flatten vehicle recovery areas ⇒ Adding parking lanes in urban areas • Placing “gravel lift” (new base course) over existing pavement and a new pavement on top of that • May include replacing and/or expanding existing storm sewer systems. • May include continuos shoulder pavement or subgrade widening	Interstate: • FDM 11-44-1 Expressway/Freeway: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-40-2 All others: • FDM 11-40-1
Reconstruction RECST **Design Timeline:** **42 - 48 mos.**	Total rebuilding of both the pavement and subgrade of an existing highway. Removing parking together with pavement replacement is in this category, because the traffic carrying capacity of the roadway is increased without actually constructing new through travel lanes. It includes minor widening of urban streets to widen lanes or to add parking, bicycle accomodations or auxillary lanes. Normally, this type of reconstruction will require additional R/W. Work which either changes the location of the existing subgrade shoulder points or removes all of the existing pavement and base course for at least 50% of the length of the project.	• Improving horizontal or vertical alignment for more than 50% of the length of the project • Replacing pavement structure and widening subgrade to widen lanes and/or shoulders • Upgrading existing interchanges (i.e.: realigning or reprofiling ramps, lengthening ramp tapers, etc.) • Adding continuous parking or auxiliary lanes • Replacing existing urban pavement, curb and gutter and storm sewer • Converting a rural roadway to an urban roadway with the same number of driving lanes • May include elimination or shielding of roadside obstacles.	New Construction: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-20-1
Expansion RECSTE **Design Timeline:** **42 – 48 mos.**	Same as reconstruction and also involves the construction of additional through travel lanes beyond the work associated with reconstruction. In some cases, expansion may include construction of an entirely new street or highway on new alignment. May or may not include rebuilding the existing roadway. Relocation means changing the horizontal alignment sufficiently so that old and new R/W are no longer contiguous. Substantial R/W may be necessary. Major projects are excluded from this definition.	• Relocating a roadway for more than 50% of the length of the project • Adding one or more travel lanes for more than 50% of the length of the project • Constructing a 2-lane or 4-lane community bypass • Converting a rural 2-lane roadway to an urban roadway with four driving lanes • Constructing new interchanges or adding lanes to existing interchange ramps	New Construction: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-20-1

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Major MAJOR **Design Timeline:** **48 – 60 mos.**	Project with cost of more than $5 million and which involves any of the given examples. WisDOT may perform needs assessments, preliminary engineering and design work for possible major highway projects not enumerated. No major highway project may be constructed unless the project is enumerated. WisDOT may not within any 6-year period, construct a highway project consisting of separate contiguous projects which do not individually qualify as major highway projects but which in their entirety would constitute a major highway project without fist submitting the project to the Transportation Projects Commission for it's recommendations and report. Substantial R/W may occur with these types of projects.	• Constructing a new highway 2.5 miles or more in length • Reconstructing or reconditioning an existing highway by either relocatin g 2.5 miles or more of an existing highway or adding one or more lanes for at least 5 miles to an existing highway • Improving to freeway standards 10 miles or more of an existing divided highway having 2 or more lanes in either direction	New Construction: • FDM 11-10-5 • FDM 11-15-1 • FDM 11-20-1
Bridge Rehabilitation BRRHB **Design Timeline:** **12 – 18 mos.**	Repair, restoration or replacement of the components of the existing structure, including asphaltic surfacing or concrete overlays, as well as work to correct safety defects. Additional R/W will typically not be required, except minimal acquisitions may be necessary to accommodate subordinate improvements for drainage or for the construction of an abutment or pier.	• Initial or replacement concrete or asphalt/membrane deck overlay • Replace or repair any of the following: ⇒ parapets with or without widening the deck ⇒ deck, girders, joints, delaminated concrete ⇒ portions of abutments or piers ⇒ any superstructure component • Widen deck and substructure units and add girders • Strengthen structural steel by adding plates, rewelding or rebolting • Add fencing • Raise deck to improve vertical clearance below	Interstate: • FDM 11-35-1 • FDM 11-44-1 All others: • FDM 11-35-1 • FDM 11-40-1
Bridge Replacement BRIDG **Design Timeline:** **24 – 36 mos.**	Building of a new bridge at the location of the existing structure or at a new location usually contiguous to the existing structure. A bridge of any length or type may be replaced by any other. Minor acquisition of new R/W may be required.	• Remove and rebuild a 2-lane bridge • Remove and rebuild a 2-lane bridge with wider lanes and shoulders or additional lanes • Replace a 2-lane bridge with a 4-lane bridge • Replace a 4-lane bridge carrying counter directional traffic with a pair of bridges each carrying traffic in a single direction • Replace a small bridge with a triple-cell box culvert 20' (6.0m) long • Remove a railroad/highway grade separation and install an @grade crossing	Interstate: • FDM 11-35-1 • FDM 11-44-1 All others: • FDM 11-15-1 • FDM 11-35-1
Roadway Maintenance (SHRM) RDMTN **Design Timeline:** **6 – 12 mos.** "N/A" for local roads	Projects of this type span the gap between routine maintenance and improvement projects. Their primary focus is to preserve and maintain existing roadways and structures. They are not intended to improve or upgrade highway facilities. Structural and/or safety enhancements would not typically be expected; however, it is permissible to include them when it can be done easily and inexpensively. A single lift of asphaltic concrete (½" - 2") thick will usually suffice for projects of this type but total average thickness shall not exceed 2 ½". No change in roadway or pavement alignment is performed other than pavement elevation changes due to milling or asphaltic resurfacing operations. Typically, no new R/W is acquired. The project must qualify as a Programmatic Type III Environmental Report and total construction cost, including E&C, traffic control, etc.. must be less than $100,000/mile per 2-lane roadway	• Resurfacing (total average overlay thickness of 2 ½" or less) • Shoulder paving • Milling • Rut Filling • Diamond grinding • Culvert pipe liners • PCC joint repairs • Culvert replacement • Beam guard • Shoulder widening	Maintenance Manual

See FDM 21-5-5 for guidance on selecting the appropriate type of environmental documentation required for each type of highway improvement project.