

## Comparison of design concepts

There are three basic design concepts currently under discussion by the Wisconsin DOT for the future of the Zoo Interchange.

- **Replace-In-Kind** - Under this alternative, existing infrastructure is reconstructed in the current configuration to maintain function. Operationally, it is the same as a “No Build” alternative.
- **Spot Improvements** - The goal of these design concepts is to provide localized reconstruction for operational and safety improvements. Right-of-way acquisition will be greater than Replace-In-Kind, but less than Modernization. The Replace-In-Kind and Spot Improvements all maintain the current lane numbers and ramp locations within the core of the interchange.
- **Modernization** - All Modernization alternatives feature a four-level system interchange with right side exits and entrances. This design reduces weaving maneuvers, provides safer operations and will accommodate future lane additions within the median.

### Terms for design discussion

- **System ramp** - The freeway-to-freeway ramps in the middle of the interchange that connect US 45, I-894 and I-94.
- **System interchange** - The freeway-to-freeway (main) interchange in the study area.
- **Service interchange** - The interchanges that connect the freeway to local roads, such as at Greenfield Avenue, Watertown Plank Road, and others.
- **Collector/Distributor roadway (C-D Roadway)**- Is a one-way road with one or more lanes next to a freeway that is used for some or all of the ramps that would otherwise merge into or split from the main lanes of the freeway. An example is along westbound I-94 at Goerkes Corners.
- **Service drive (SD)** - A one-way frontage road or street along the freeway. It consists of one or more lanes and may allow select access points. It carries traffic to and from local roads to freeway exit and entrance ramps, and traffic between successive ramps. An example is O'Connor and Kearney streets along I-94 between 84th Street and 68th Street.
- **Diamond interchange** - An interchange similar to the one currently located at 84th Street. Ramps are straight-line connections to/from the freeway.
- **Weave maneuver** - When a car travels across one or more lanes to get to or from an exit or entrance ramp.
- **Ramp braiding** - When exit or entrance ramps are built at different grades/elevations, with one crossing over the other on a bridge. The ramp braiding technique usually results in smoother operations but typically requires more land to be acquired.



### Three basic design concepts - Comparisons

	Reconfigure to remove left side exit and entrance	Maintain current lane movements in core of interchange	Accommodate future lanes, if needed, building larger medians	Most system ramps converted to two lanes	Compatible with public transit
Replace-In-Kind	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Spot Improvements	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Modernization	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

= no  
 = yes

### Spot Improvement design concepts - S1, S2, S3

	Relocate 84th St. interchange to location between 84th and 76th	Relocate Greenfield Ave. interchange south to between railroad and Greenfield Ave.	Build a collector/distributor roadway at Hwy 100 exit to eliminate weave	Build full access interchange at Bluemound Rd.	Swan Blvd. connection to US 45 north of Watertown Plank Rd.	Reconfigure North Ave. interchange as full access diamond interchange
S1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
S2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
S3	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

= no  
 = yes

### Modernization design concepts\* - M1, M2, M3

	Rebuild 84th St. interchange for more capacity in existing location	Relocate 84th St. interchange to location between 84th and 76th	Relocate Greenfield Ave. interchange south to between railroad and Greenfield Ave.	Add C-D Roadway or service drives between Watertown Plank Rd. and Wisconsin Ave.	Extend Swan Blvd to Innovation Dr.	Reconfigure North Ave. interchange as full access diamond interchange
M1	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
M2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> (C-D)	<input type="radio"/>	<input checked="" type="radio"/>
M3	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> (SD)	<input checked="" type="radio"/>	<input checked="" type="radio"/>

= no  
 = yes

\*Note: We have the flexibility to "mix-and-match" legs from one Modernization Alternative to another to maximize operations and minimize impacts to the greatest extent possible.