166th Avenue NE Safety Improvements Project from NE 85th to NE 100th Street

Frequently Asked Questions

Question: Why is the City of Redmond restriping 166th Avenue NE from four to three lanes plus two bike lanes?

Answer: The 166th Avenue NE corridor has a safety problem. There have been 104 collisions on the four lane section of 166th from just south of NE 85th Street to just north of NE 100th Street in the past ten years, including one pedestrian fatality at NE 95th Street. Previous conversions from four to three lanes within the City have resulted in a measureable decrease in collisions and improved sense of safety for both cyclists and pedestrians.

Question: Is there a reason for the persistent collision pattern and side street delay on 166th Avenue NE?

Answer: Many of the side street intersections do not meet current intersection sight distance standards. The reduced sight distance makes it difficult to see traffic when entering 166th Avenue NE. Cars are speeding uphill between NE 95th and NE 97th Street, and downhill between NE 85th and NE 87th Street. Higher speeds require longer sight distances. The restriping will help reduce speeding and create more consistent speeds along the corridor. Several collisions were a result of drivers creeping into the travel lane to see conflicting traffic. Some drivers weren't able to make right or left turns because they could not see the available gaps. The restriping will move vehicles farther away from the curb (with the addition of 5.5-foot bike lanes on both sides) improving visibility for side street traffic trying to cross or enter onto 166th Avenue NE.

Question: How will the restriping help pedestrians?

Answer: The three lane section allows for safer pedestrian crossings because there are fewer vehicle lanes for a pedestrian to cross - only one lane of through traffic in each direction and a center turn lane median that can provide additional pedestrian refuge. The proposed project includes the addition of two flashing beacon crossings for pedestrians. An over roadway Rapid Rectangular Flashing Beacon (RRFB) will be installed on the south leg of the intersection of NE 95th Street and 166th Avenue NE. A RRFB with School Zone speed signing in will be installed near NE 91st Street. Additionally, bike lanes separate pedestrians from vehicles, improving pedestrian safety along the entire corridor.

Question: The City keeps talking about complete streets. What is a complete street?

Answer: A complete street provides space for all roadway users including motor vehicles, bicycles, pedestrians, and transit. Providing separate travel lanes dedicated for each mode of travel improves safety and efficiency. Complete streets safely move more people. The City's current street standards are based upon Redmond's Complete Streets Ordinance (Ordinance 2359 adopted on Sept 4, 2007). All new roadways are built to a complete streets standard.

Question: Why doesn't the four to three lane rechannelization include bus pull-outs along the corridor?

Answer: Bus pull-outs would require the City to purchase right-of-way along the corridor, which would dramatically increase the cost of this project. During peak hours of the day, there are a total of four buses per hour using the 166th Avenue NE corridor, northbound and southbound. Given the low frequency of buses and limited ridership it was determined that bus pull-outs are not necessary for this section of 166th Avenue NE. The City will work with Metro Transit to consolidate existing stops to improve the overall operation of the corridor.

Question: Will the City of Redmond make 166th Avenue NE a snow-plow/de-icing route to reduce issues with a three lane roadway?

Answer: 166th Avenue NE is already designated as a "First Priority" roadway to be plowed and de-iced during snow and ice events. Converting 166th Avenue NE from a four to three lane roadway will not impact the prioritization of 166th during snow events. Refer to www.redmond.gov/Transportation/StreetOperations/SnowandIceRemoval/ to see the City of Redmond's Snow and Ice Removal protocol and mapping.

Question: If there is an accident, how does an emergency vehicle respond on a three lane roadway?

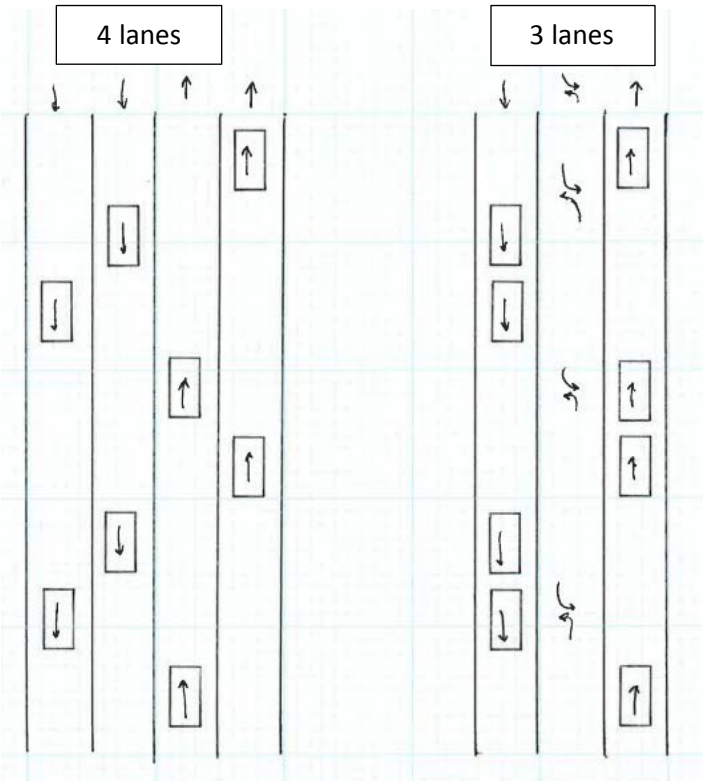
Answer: During an emergency, the traveling public is required to pull over and stop, allowing emergency vehicles to pass. Police, Fire, and/or EMT vehicles are allowed to travel in any lane necessary to reach an accident including the two-way left turn lane or opposing lanes, if necessary.

Question: How will three lanes make it easier to turn onto 166th Avenue NE, compared to the existing four lane roadway?

Answer: Although all the traffic will be consolidated to one lane in each direction (minus those in the two-way turn lane), vehicles on side streets will find it easier to see gaps in traffic on 166th Avenue NE because there will be a clearer line of sight to oncoming traffic. By improving the sight distance, the turning vehicle can better judge speeds of oncoming traffic. Additionally, the two-way left turn lane can be used as a refuge location, allowing vehicles to cross one conflicting flow of traffic at a time.

Overall, motorists will see an increase in the time it takes to make a right turn, but a decrease in the time it takes to make a left turn.

Below is an example of how gaps remain in the traffic flow after a conversion:



Question: How have community comments from the last public meeting (October 2013) been incorporated into the project?

Answer: The public provided a variety of comments and suggestions, many of which have been incorporated into the project:

- High friction pavement markings have been specified to address the sliding that occurs on the plastic arrows and crosswalk markings at NE 85th Street.
- Sight distance corrections will be investigated at all intersections and may include vegetation management, fence relocations (if located in the public right-of way), or minor grading.
- Strong neighborhood support for a roundabout or traffic signal at NE 95th Street was shared with the City Council and will be considered in future budgeting.
- The City has worked with Metro Transit to understand the impact of bus operations and improve pedestrian safety on 166th Avenue NE by adjusting crossing and median locations to better align with the bus stops, or bus stops will be combined or relocated.
- Northbound protected left turn phasing will be added at NE 85th Street. NE 100th Street will be restriped to be consistent with the rest of the corridor. NE 104th Street signal timing will be monitored to improve efficiency and safety.

Question: I'm concerned about being stuck behind slower moving vehicles going up 166th Avenue NE. Did the City consider a passing lane?

Answer: In general, less than 10 % of the traffic on 166th Avenue NE is going slower than 25 MPH. The number of vehicles exceeding the 30 MPH speed limit by more than 5 MPH is close to 50%. What appears to be a slow moving vehicle is often a vehicle going the speed limit. For this reason a passing lane has not been recommended. Trucks with more than three axles comprise only 0.3% of the traffic on 166th Avenue NE, which averages to about 2 trucks an hour. This low volume of trucks does not support a climbing lane.

Question: I'm concerned about being trapped behind buses going up 166th Avenue NE. Did the City consider the impacts of buses on traffic congestion?

Answer: Buses account for less than 1% of the traffic volume on 166th Avenue NE. Data does show that bus speeds are only low near the stops. This is not a high enough proportion of traffic to recommend a passing lane. The City will continue to work with Metro Transit to monitor the bus stops on 166th Avenue NE to reduce the impact of buses on uphill traffic.

Question: Won't reducing 166th Avenue NE from two lanes to one lane in each direction cause more congestion?

Answer: Significant PM peak queuing was observed northbound at NE 104th Street. This queuing is a result of heavy traffic turning right at the signal and is controlled by signal timing. The queuing is of relatively short duration, peaking for about 20 minutes. The changes proposed at NE 85th Street will continue to provide a southbound through lane and a southbound to westbound right turn lane so the southbound capacity at the intersection will not be changed. No changes are proposed at NE 104th Street as part of this project. Motorists will see some increase in vehicle queues in the AM and PM peak travel hours.

Question: Why are bike lanes being added to 166th Avenue NE?

Answer: The primary purpose of the 166th Avenue NE rechannelization project is to improve safety for vehicles, bicycles, and pedestrians. Providing three vehicle lanes, one in each direction and a two-way left turn lane separates through vehicles from turning vehicles, which significantly improves vehicle safety. The remaining pavement is being used for bike lanes. Marking bike lanes has multiple benefits, including separating pedestrians from traffic, providing significant sight distance improvements for vehicles entering 166th Avenue NE from side streets and providing emergency parking for stalled vehicles or during snow conditions. Bike lanes also keep slower moving bikes out of traffic and faster moving bikes off of the sidewalks.

Question: Why did the City choose to position cyclists in the southbound vehicular lane at the intersection of NE 85th Street/166th Avenue NE instead of adding a bike lane at the curb?

Answer: In designing the southbound biking facility toward this intersection, the project team chose to position cyclists in the southbound through lane (shared lane) as the best option, a treatment similar to what is in use at other Redmond locations primarily for the following reasons:

- As the current best practice~~s~~, positioning bicyclists in lane for steep downhill sections with turning movements is preferred over a bike lane to the right side of a right-turn lane. Regardless of slope, there is a higher risk of collisions with right-turning vehicles turning across the bike lane at the curb.
- The merge from the bike lane to a shared lane will be designated both with signage and pavement markings that indicate to drivers that they are entering a shared lane.
- Compared to a southbound bike lane at the curb, the design will make southbound cyclists crossing NE 85th Street more visible to drivers making northbound left-turns or eastbound right-turns.
- This project is limited to the available pavement area from curb to curb because of lack of additional funding and right-of-way. Limitation in the right-of-way makes it impractical to add a separate bike lane or other bike facilities like cycle tracks. For example, a separate bike lane at the curb would push all lanes on the northbound side of the intersection to the east, which means the northbound bike lane would not fit.