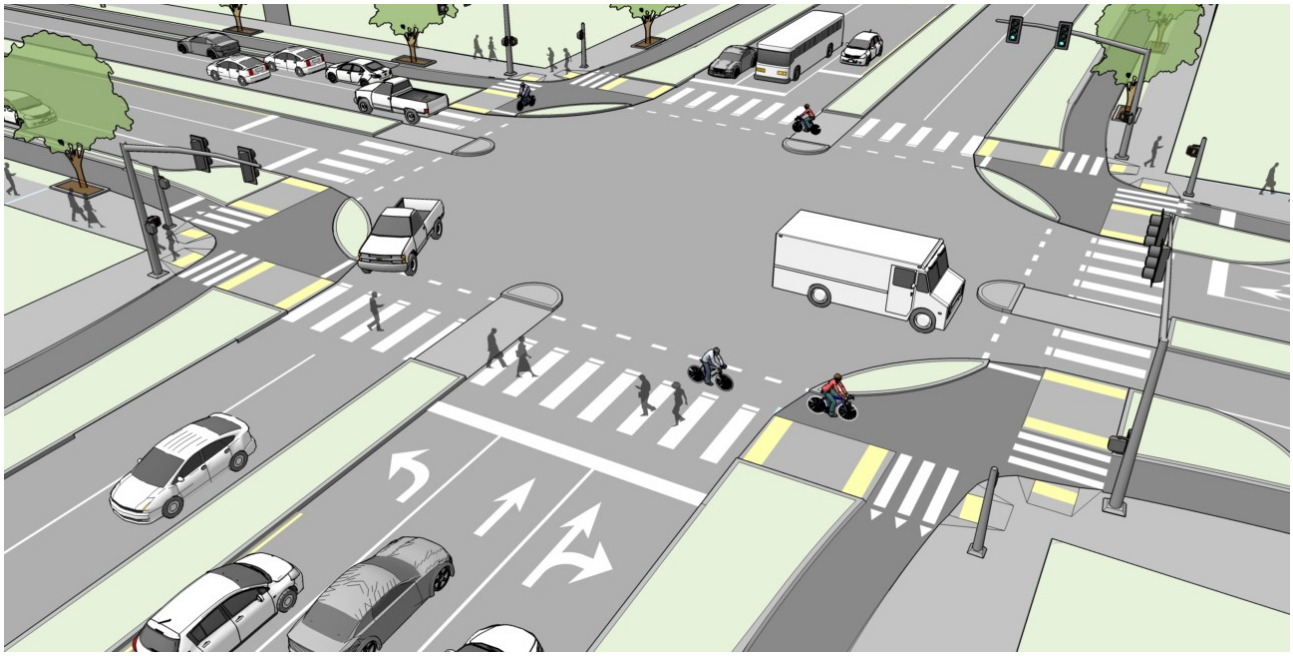
Design Thinking

Design an intersection where two perpendicular roads meet. Both roads have one lane of traffic traveling in opposite directions. The intersection must meet minimum federal and state safety standards for vehicular and pedestrian traffic.

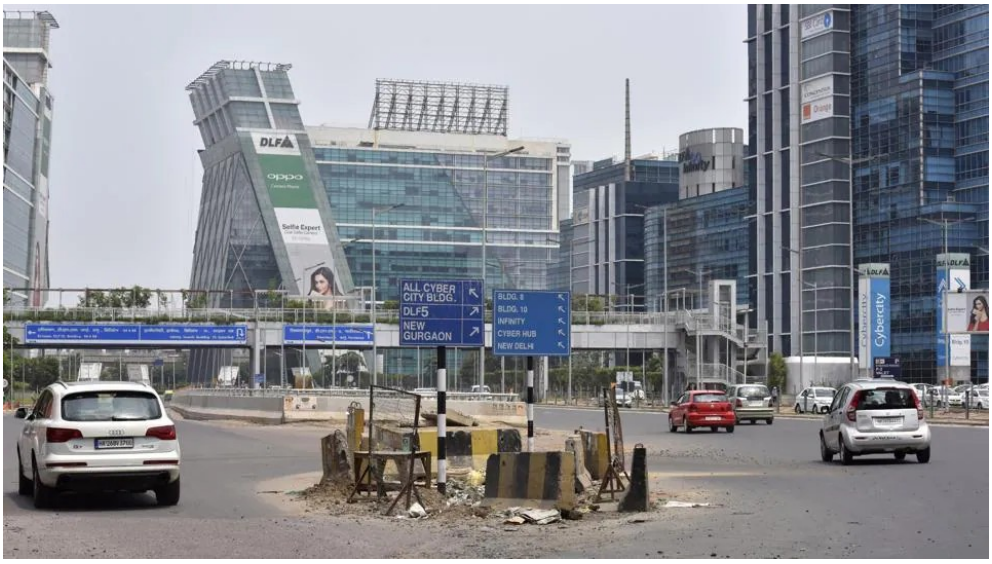


Every solution has three contraints : Cost, Efficieny and Quality of service.
The marketing principle states that one need to exceed in one field while meeting the acceptable norms in other two fields.

Lets categorize the idea with having each constraint as focus object.
Cost:
The highway can be same as presented in image, with addition of jurisdiction norms and camera to ensure traffic laws are obeyed at peak hours. That value can fund emergency services availability to provide critical support and help remove clogging in case of accidents. A increase in patrol and parking restriction at junction and parking meters at market place will also crub illegal parking near the junction.

Efficiency:
As statistically proved roundabouts are more efficient in ensuring smooth flow of traffic than traffic lights. Creating a round about will decrease the stop time at the intersection. It will be slightly costlier to implement in terms space and structure. At the same time Emergency services and traffic patrol is critical to ensure safety and traffic law compliance.

Quality of Service:



A Roundabout with overhead bridges with lifts, bike tracks to cross over, will ensure smooth traffic below, a safe crossing of pedestrians and bicycles riders from overhead bridges.

The common scale of solutions are :
1. Preach the necessity and benefits of working in harmony. Traffic signs, good driving habbits, messages about following traffic laws.
2. Restrictions – Speed limits, Speed breakers at junctions, traffic lights, penalization of Jaywalker or exaggerated traffic fines and penalties.
3. Segregate – One way, Bike and pedestrian only – Example was Connaught place Raahgiri day
4. Eliminate the conflict – Its costly but the most effective solution, as it makes both systems independent of each other with points of transitions.

The correct solution to the design problem will be based on the current traffic situation at the intersection, and anticipated growth of traffic at the junction.