

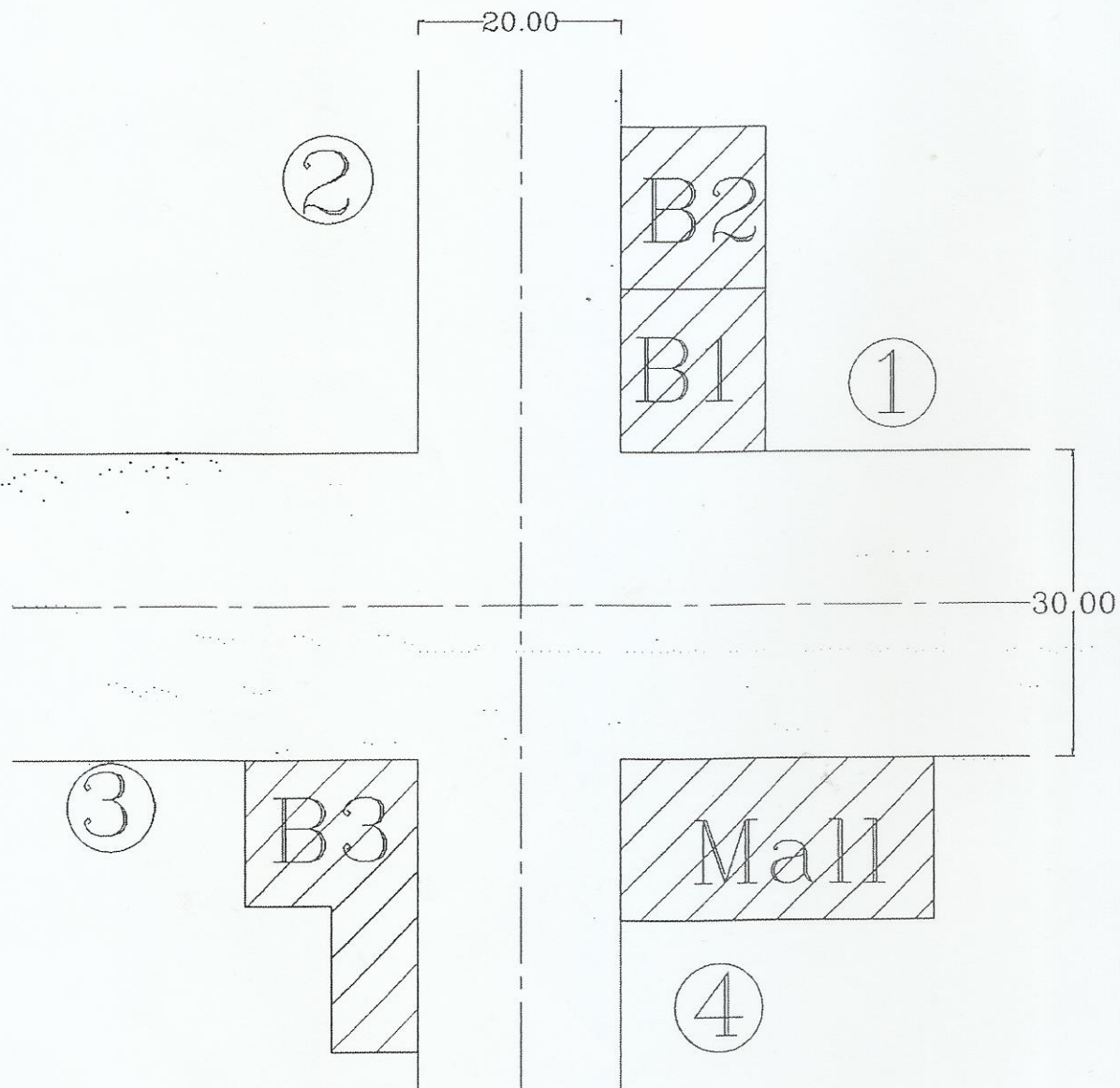
2014 - 2015

Traffic Engineering

Assignment (4) – Geometric Design of Intersections

1. For the following intersection, the OD matrix was given as follows:

From / To	1	2	3	4
1	--	170	900	140
2	120	--	190	750
3	800	100	--	500
4	250	600	80	--

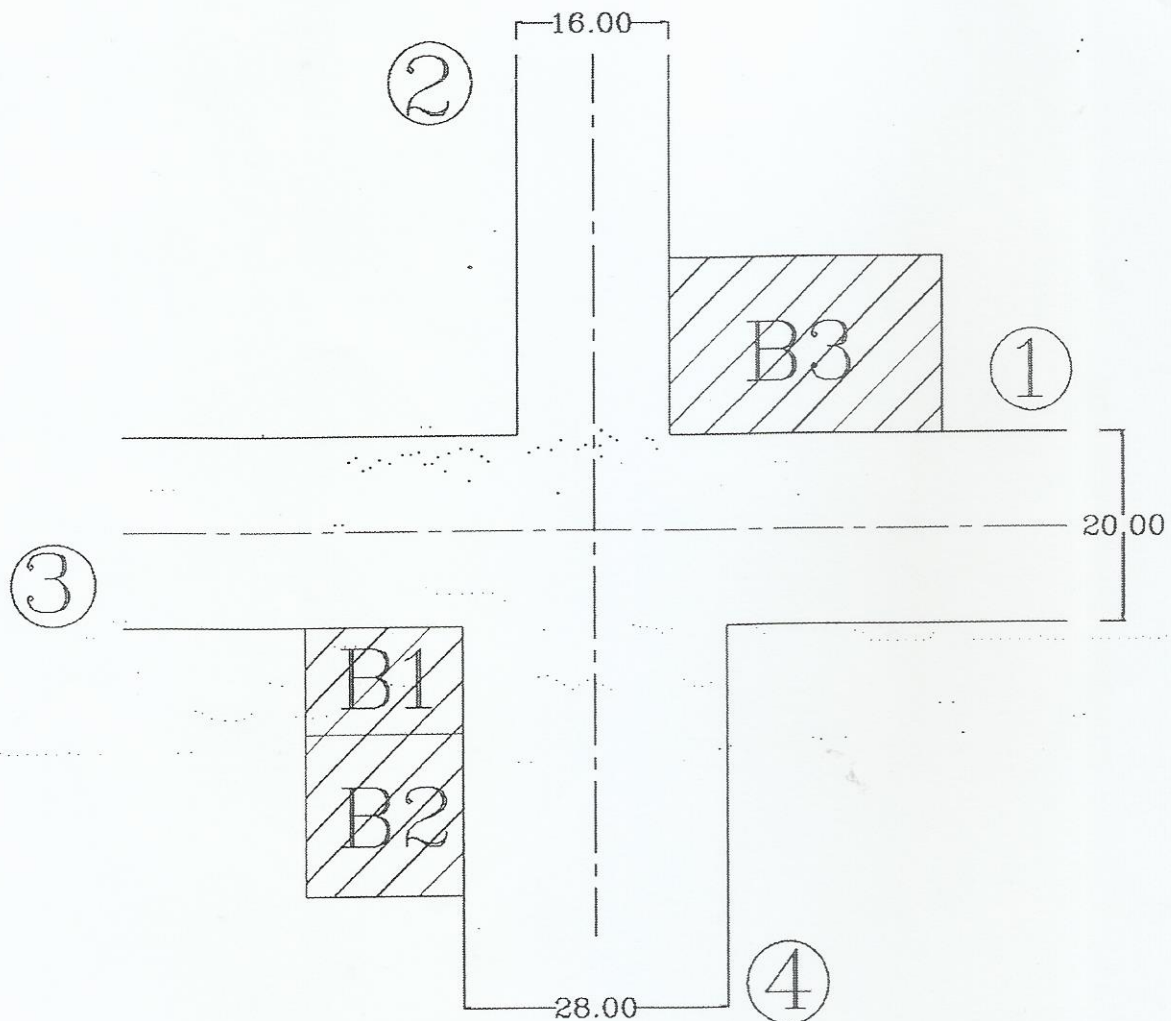


It is required to:

- a- Draw the traffic flow diagram with a reasonable scale
- b- Draw the given intersection using geometric design basics with scale 1:500 given the following,
 - Minimum curb radius is 12 m
 - Minimum sidewalk width is 2 m
 - Minimum median width is 2 m
 - Take into consideration pedestrian movement at the intersection
 Showing all the markings and pedestrian crossings on the roads

2. The traffic flow rates in PCU/hr of the intersection below is given in the following matrix:

From / To	1	2	3	4
1	--	320	500	80
2	--	--	--	--
3	400	200	--	300
4	60	1000	150	--



It is required to:

- a- Draw traffic flow diagram with reasonable scale
- b- Design the geometry of intersection with scale 1:500 considering that there's no pedestrians' movement, showing all the markings and dimensions.
- c- Choose medians, pavements, and road width taking in consideration the number of suggested lanes.

Approach	Number of Lanes
1	2
2	--
3	2
4	3

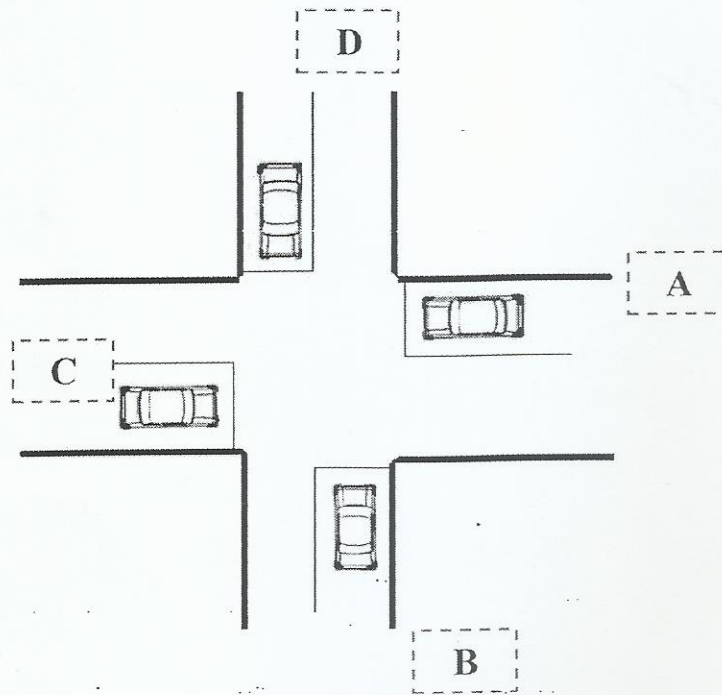


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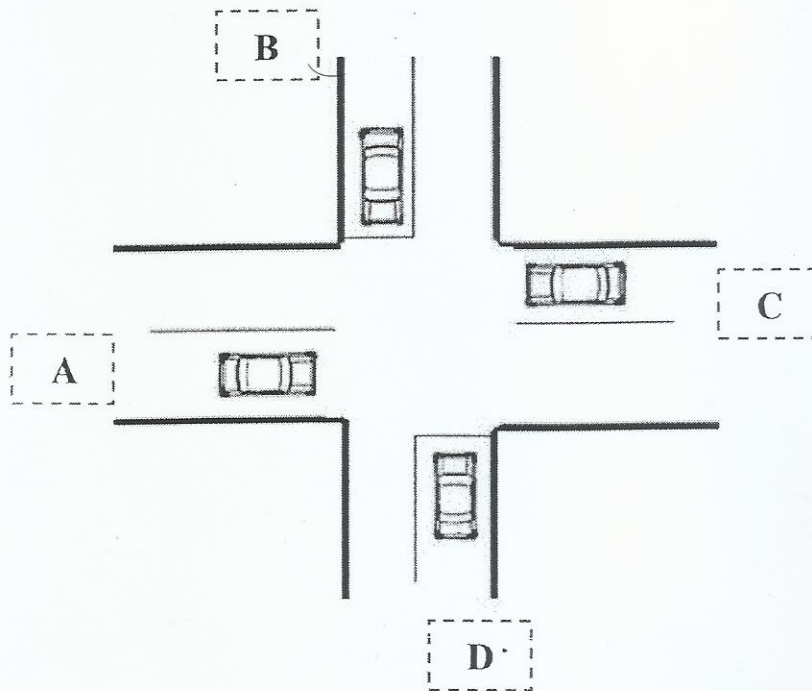
Traffic Engineering

Assignment (5) – Intersection Control

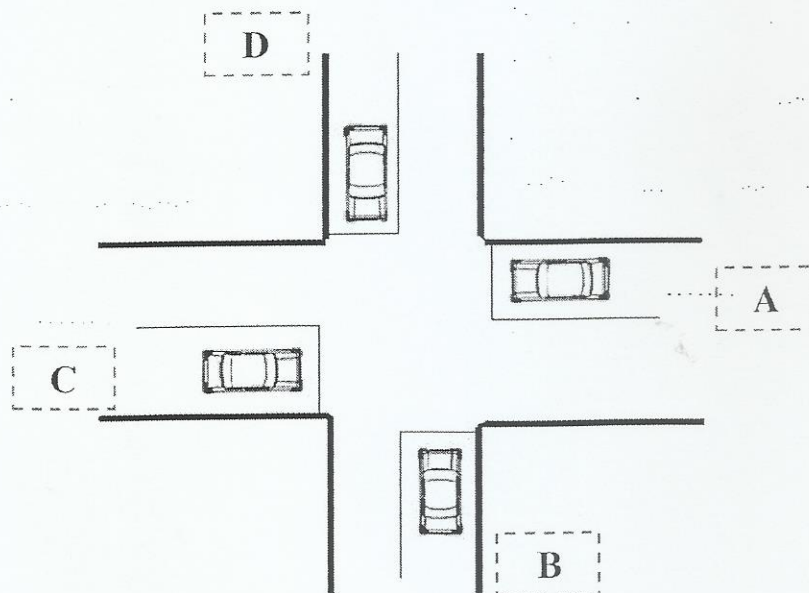
1. Discuss briefly the advantages and disadvantages of traffic signals as control devices.
2. The following intersection is controlled by four-way stop signs. Vehicles A and B arrived to the stop lines at the same time, followed by vehicle C then vehicle D. Suggest a movement order for the four vehicles at the intersection (i.e. which vehicle should proceed through the intersection first? Second, etc.?)



3. The following intersection is controlled by two-way stop signs. Vehicles A and B arrived to the intersection at the same time followed by vehicle D. Vehicle A will be turning left while vehicle B is going through. Vehicle C is expected to arrive about 7 seconds after the arrival of vehicle D. Suggest a movement order for the four vehicles at the intersection (i.e. which vehicle should proceed through the intersection first? Second, etc.?)



4. The following intersection is controlled by four-way stop signs. Vehicles D arrived to the stop line first followed by vehicle C and A at the same time. Finally vehicle B arrived after C and A. Suggest a movement order for the four vehicles at the intersection (i.e. which vehicle should proceed through the intersection first? Second, etc.?)



5. The following intersection is controlled by two-way stop signs. Check whether the illustrated situation would be safe, in terms of the available sight distance, given that the speed limit on the major street is 40 km/hr and the average gap accepted by minor street drivers to enter the major road is 8 seconds.

