

EUCLID AVE. DILEMMA: 5-Lane or 3-Lane+Bikes

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Study Area

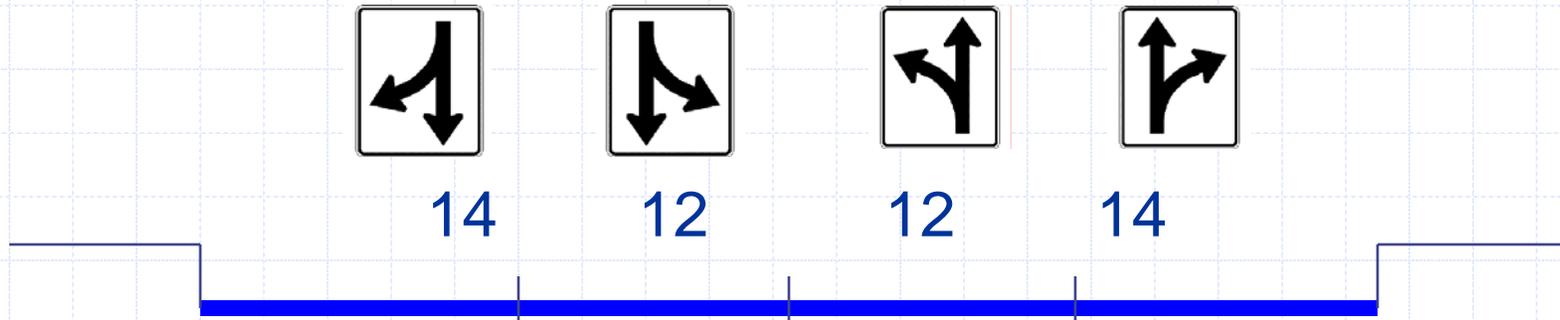




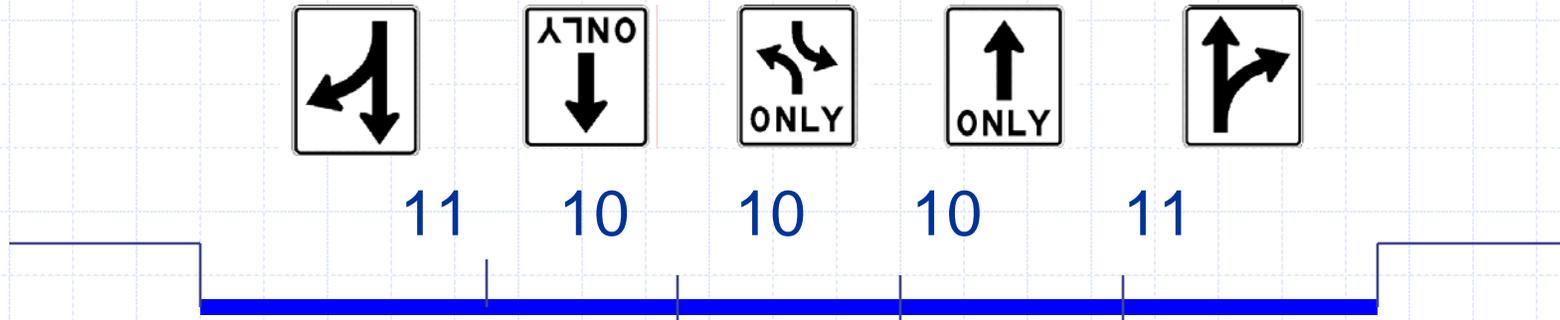




Initial Design



TO



Public Input



DAVID PERRY /STAFF

A pedestrian walked along a narrow median on Euclid Avenue. A state plan would eliminate the median and add a turn lane.

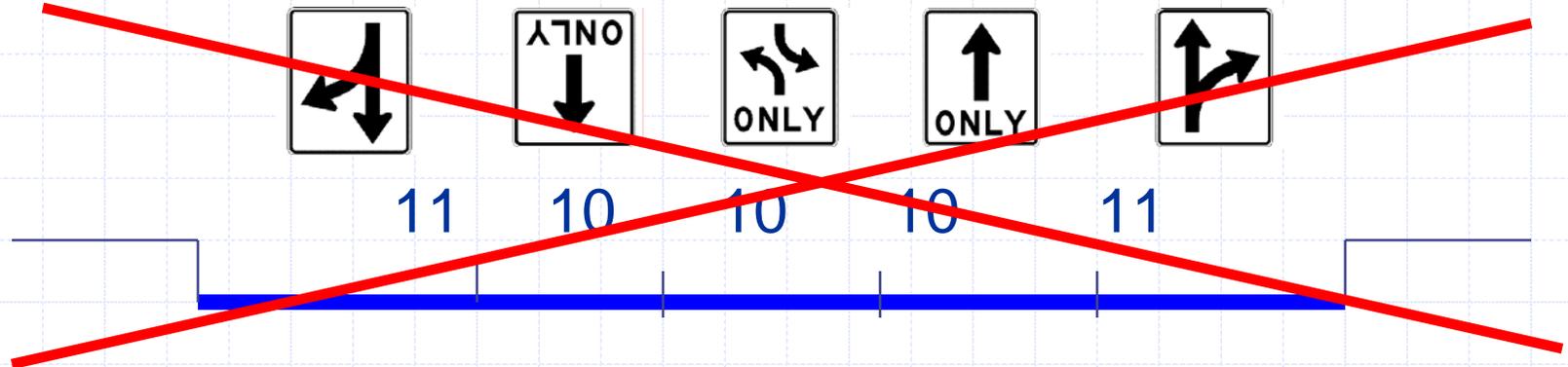
Euclid's geometry debated

More opposition expected today to

Alternatives for an avenue
State transportation officials want to add a center turn lane to four-lane

ing. Some opponents want Euclid Avenue reduced by a lane, leaving a center turn lane and a lane

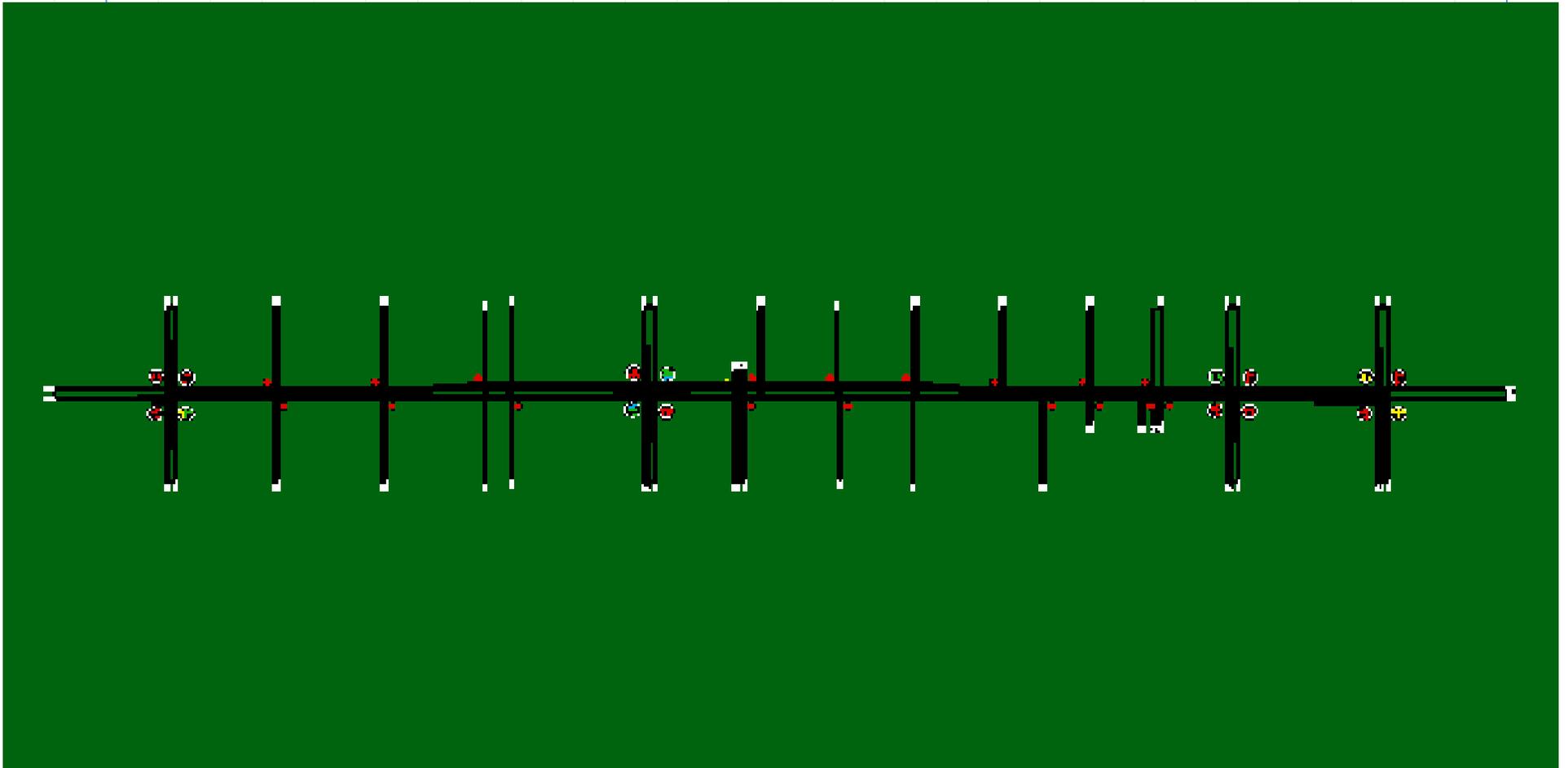
Public Input



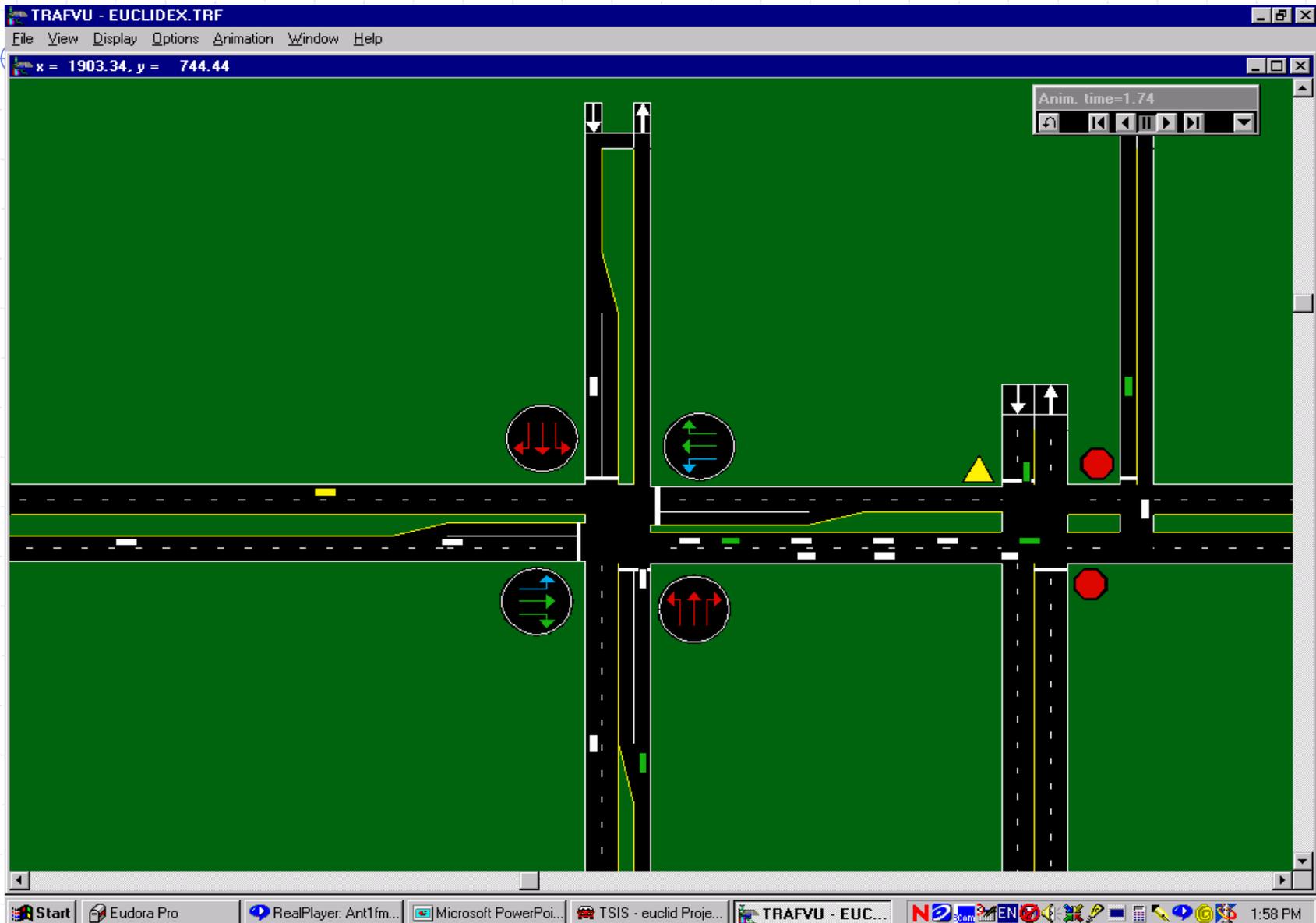
Methodology

- ◆ Use microscopic simulation
- ◆ Conduct travel time study
- ◆ Run 60 min simulation @ 3 random numbers
 - Existing volumes
 - Future volumes (20% increase)
- ◆ Use Euclid only related output

Simulation Graphics--1



Simulation Graphics--2



Existing Conditions

- ◆ 4 traffic actuated signals; 13 access points
- ◆ Travel speeds
 - PM peak EB 19.5 mph
 - PM peak WB 21 mph
- ◆ Travel times
 - PM peak EB 2:42 min (2.31 min--simulated)
 - PM peak WB 2.31 min (2.17 min--simulated)
- ◆ Acceptable delays
 - 35 sec/trip

Existing Conditions



Measures of Effectiveness

- ◆ Average total delay (sec/trip)
- ◆ Move/total time ratio
- ◆ System speed (mph)

Current Volumes

Ex

Speed: 19.5 mph
Delay: 42 sec/trip
Move/Total time: 0.57

Speed: 20.8 mph
Delay: 34 sec/trip
Move/Total time: 0.60

3L

Speed: 20.9 mph
Delay: 39 sec/trip
Move/Total time: 0.59

Speed: 22.6 mph
Delay: 33 sec/trip
Move/Total time: 0.64

5L

Speed: 22.5 mph
Delay: 32 sec/trip
Move/Total time: 0.62

Speed: 24.3 mph
Delay: 28 sec/trip
Move/Total time: 0.67

Future Volumes

◆ Assume a 20% increase

Ex

Speed: 17.4 mph
Delay: 48 sec/trip
Move/Total time: 0.54

Speed: 19.1 mph
Delay: 39 sec/trip
Move/Total time: 0.58

3L

Speed: 19.2 mph
Delay: 43 sec/trip
Move/Total time: 0.56

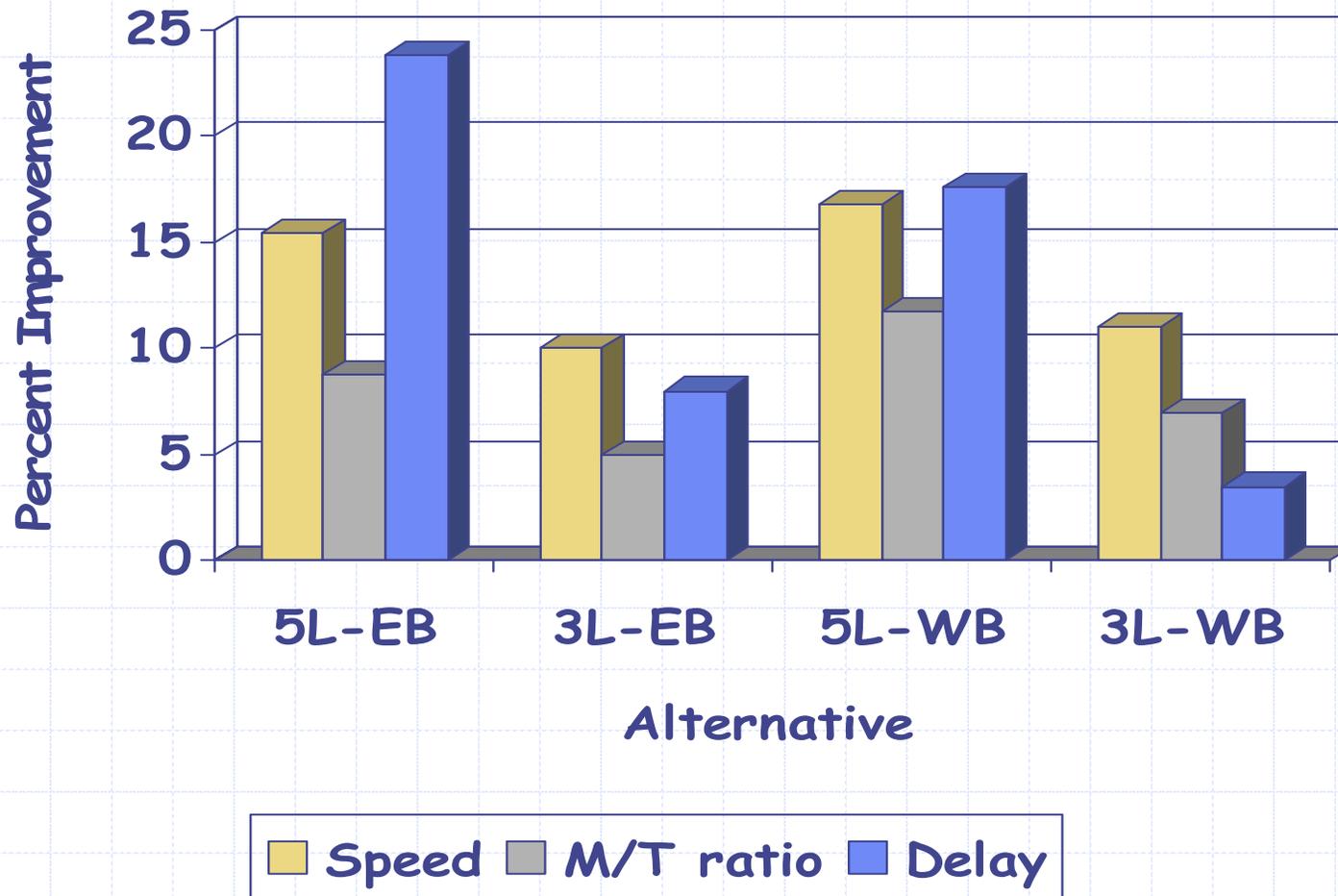
Speed: 21.0 mph
Delay: 39 sec/trip
Move/Total time: 0.60

5L

Speed: 21.8 mph
Delay: 34 sec/trip
Move/Total time: 0.61

Speed: 22.9 mph
Delay: 31 sec/trip
Move/Total time: 0.65

Alternative Summary



Evaluation Conclusion

- ◆ 3-lane alternative performs well and better than existing conditions
- ◆ Both alternatives perform well with future volumes
- ◆ 3-lane alternative was recommended to support the Context Sensitive Design solutions of KyTC

Safety Benefits of Restriping

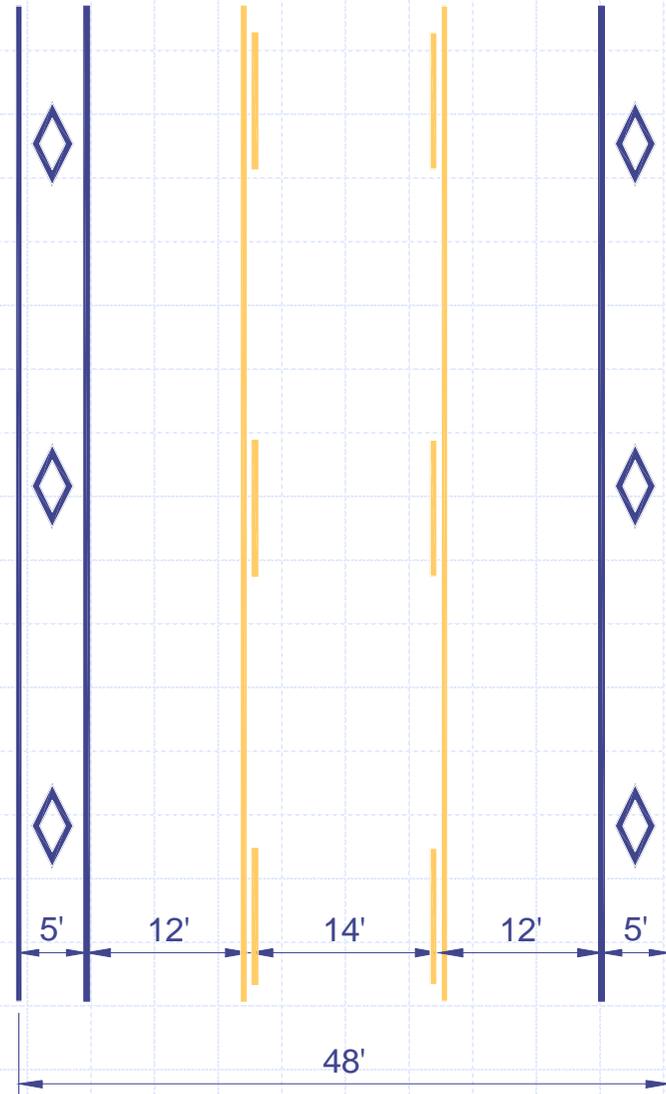
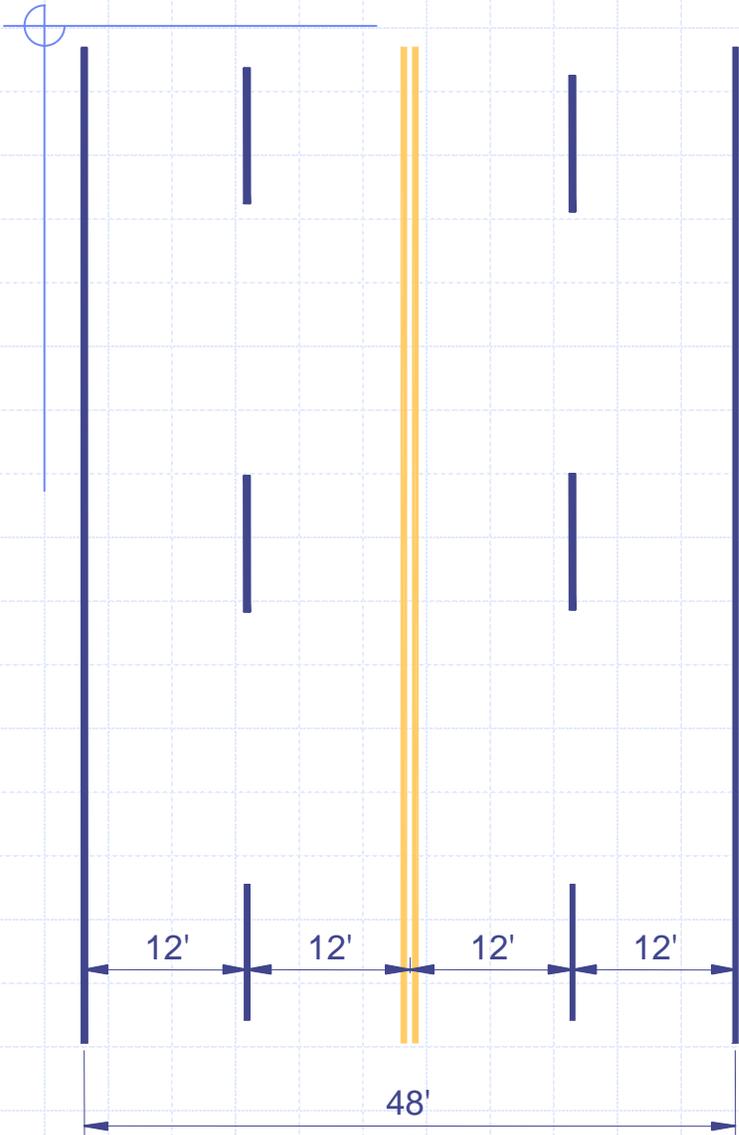
- ◆ Motor vehicle safety is improved as travel lanes are moved away from curb, fixed objects, and parking
- ◆ Bike lanes increase sight distance and turning radii at intersections and driveways



Euclid Signage



The Road Diet



A "Lean" Road



Lessons Learned

- ◆ Involve public as early as possible
- ◆ Bike lanes work well
- ◆ Successful use of road diet concept
- ◆ Bike lanes too wide
- ◆ Need to continue bike lanes
- ◆ A good start



The 3 E's

- ◆ Engineering
- ◆ Education
- ◆ Enforcement









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