

MULTI WAY BOULEVARD Adventures in Traffic Control

The multi-way Boulevard as espoused in recent literature by Allan Jacobs and Elizabeth MacDonald, consists of landscape medians, access lanes and on street parking on the outside edge of the thru lanes on arterials. Three such boulevards have been proposed in Eugene, one in Springfield.

Most boulevards world wide have years of history. Octavia Boulevard in San Francisco is described as the first modern boulevard or the first US boulevard build in the last 50 years. The opportunity to build Octavia Boulevard was created when the elevated freeway was damaged in the Loma Priata earthquake, and ultimately closed in 1996 leaving a very wide right of way and large travel demand.



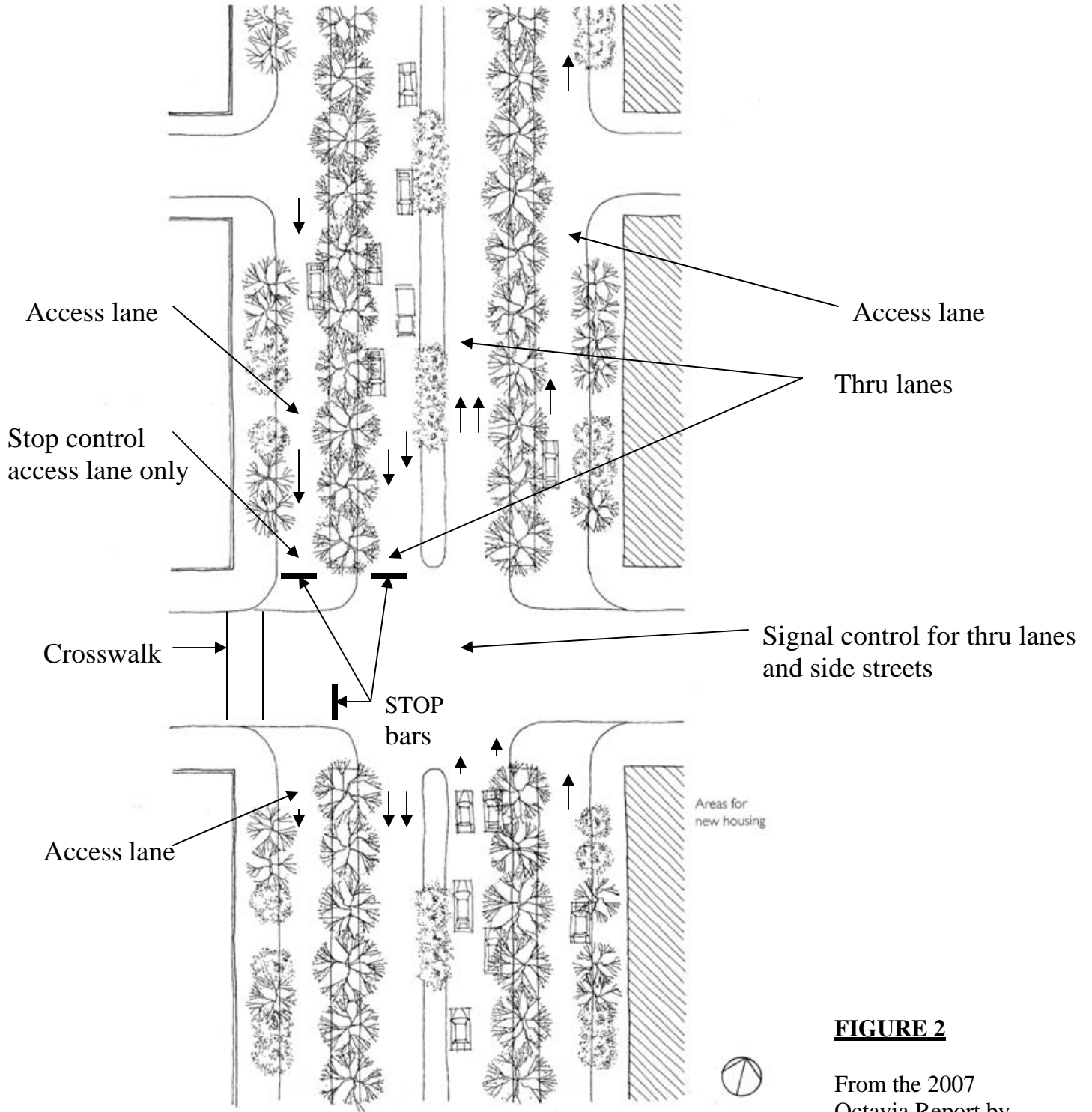
FIGURE 1
From the West Eugene Collaborative Report

Major reasons for converting existing arterials to a Multi-way Boulevards is to enhance the pedestrian experience at the edges of the roadway, using medians, the slower traffic on the access lane and associated parking to buffer pedestrians from the noise and speed of thru traffic. This buffering allows for multi-story, intense urban development at the right of way line. The median separates parking and driveway access from the thru lanes and some increase in thru capacity can be expected if driveway and/or parking conflicts are removed. Many urban planners see the pedestrian friendly street side as key to development of future Mixed Use centers.

Two distinct intersection control strategies define types of boulevards, Octavia and Shattuck. Multi way Boulevards are very wide. Octavia Boulevard is about 133' wide. Shattuck is 160' wide. Both were built in existing right of ways. Most of the traffic control issues are related to the Octavia style boulevard.

On Shattuck style boulevards the access lanes are brought back into the main line at intersections and a traffic signal controls all movements. Overall mobility is not enhanced as all access lane traffic must merge with thru traffic prior to any controlled intersection. All driveway and parking usage is brought back into the main line just prior to the intersection. Traffic at the intersections is controlled by standard devices.

On Octavia style boulevards the signal controls the main line and side street traffic, but the access lanes may be stop or signal controlled. Throughput is arguably improved as access lane traffic is kept separate from thru traffic, but traffic control at the intersection is ambiguous or contradictory. Depending on how the pedestrian moves are addressed, longer or shorter crossing times will work against or in favor of more efficient signal operation. The following diagram shows a typical section of the Octavia Boulevard plan. The access lanes may be signal controlled rather than stop controlled.



Octavia Boulevard: plan
 Approximate scale: 1" = 50' or 1:600

FIGURE 2

From the 2007
 Octavia Report by
 San Francisco MTA

Notes added

From the 2007 Octavia Report by San Francisco MTA:

Traffic Controls Facing Side Roads at Intersections

“Side roads along Octavia Boulevard are controlled by STOP signs or traffic signals that always require the vehicle to come to a complete stop. At Page and Haight Streets the side roads face a STOP sign while the rest of the major approaches to the intersection are signalized (see photo below). This means that a side road motorist can legally proceed into the intersection after stopping and regardless of the signal indications facing cross or parallel main lane traffic.



ISSUES: The car on the right has stopped behind the crosswalk, not at the stop bar on the left. Thru traffic has a green. The intersection is signed “NO TURNS”. When can access lane traffic merge onto the main line? On red? Green? Or both? Never?

A driver stopped at the stop bar could be considered guilty of obstructing traffic on the access lane, ORS 811.290.)

When Octavia Boulevard was being designed there was some ambiguity concerning State of California guidance on the use of STOP signs at signalized intersections. The 2003 Edition of the Federal *Manual on Uniform Traffic Control Devices (MUTCD)* allowed the use of STOP signs at signals when “an extremely low potential for conflict exists.” The City wrote the State to clarify conflicts between Federal and State guidance when the Caltrans adopted this language in their 2004 Supplement to the *MUTCD*. In 2006 the State officially rejected this Federal guidance in its design standards and confirmed that California Vehicle Code Section 21355 applies in all cases:

“STOP signs shall not be erected at any entrance to an intersection controlled by traffic signals.” Absent legislation changes at the State level, a future boulevard design in California would require the installation of traffic signals instead of STOP signs for the side roads.

ISSUES: This is a similar issue to the stop sign used at signalized crossings.

Again from the 2007 Report on Octavia Boulevard by the San Francisco MTA:

“At Oak and Fell Streets, the Boulevard side roads face an solid red light when the cross street has a green, then a flashing red light when Octavia Boulevard has a green light. The flashing red light allows traffic to proceed into the intersection as it would under a STOP sign, but during the solid red light motorists can only make a right turn on red. “

“The typical complaint is summarized by a November 2006 email from a driver:

I am writing to document my displeasure with the setup of the intersection between Octavia Blvd. and Oak St. It is particularly confusing for motorists. Imagine this example: Auto 1 is headed northbound on Octavia. Auto 2 is likewise headed northbound, but is traveling on the frontage road to the right of the boulevard. At the intersection of Octavia and Oak, the light turns red. Auto 1 is preparing to turn right. Auto 2 would like to go straight. The light at Octavia turns green. Who goes first?



OCTAVIA AT OAK: CAR ON THE RIGHT CAN PROCEED STRAIGHT WHILE THE CAR ON LEFT MAKES A RIGHT TURN

Although it should be clear that the access roadway has to yield to pedestrians and cross traffic at all times (facing either a solid or flashing red), what may be less evident is that vehicles from the main road can turn at the same time that side road traffic is allowed to proceed straight. It remains the obligation of main street motorists to signal when making a right turn and do so carefully, as they must yield to pedestrians who could be crossing the cross street at the same time. It remains the obligation of side street motorists to look over their left shoulders and ensure that no vehicles are turning right or weaving into the side road from the main road.”

ISSUES: The access lane signal cycles from solid red to flashing red as the main line goes from red to green. The access lane never gets a green signal. A driver going straight in the access lane is required to yield to the overtaking right turn. Does the one way sign prohibit the weave from access lane to main line?

OVERALL QUESTIONS AND ISSUES

Octavia style Boulevard access lane control

How is right of way assigned for weave movements in and out of the access lane/main line?

Should there be special signing or signaling to allow, restrict or prohibit the weave move?

How should the stop bar and crosswalk for cross streets be positioned?

Should STOP sign control of access lanes be allowed?

If the access lane is STOP sign controlled, how do drivers respond to signalized movements?

Stop bar location for side streets vs. access lane and crosswalk?