State Road A1A (N. Ocean Drive) Corridor Study

EXECUTIVE SUMMARY

Prepared for:

City of Fort Lauderdale, Florida
"Venice of America"

DRAFT

Prepared by:

Kimley-Horn and Associates, Inc.
Fort Lauderdale, Florida

Kimley-Horn
and Associates, Inc.

March 2009
043184004

EXECUTIVE SUMMARY

A transportation planning study has been undertaken to address the feasibility of reducing State Road A1A between Oakland Park Boulevard and Flamingo Avenue within limits of the City of Fort Lauderdale from six (6) to four (4) lanes. The study entitled *State Road A1A (N. Ocean Drive) Corridor Study* includes comparative traffic demand forecasts to address future demands with and without the proposed lane reduction. The subject study area is depicted in Figure 1 and is further characterized in a general typical section included as Figure 2.

State Road A1A between Oakland Park Boulevard and Flamingo Avenue is the only six (6) lane section of the arterial within limits of the City of Fort Lauderdale. State Road A1A extends north of the study area into Palm Beach County as a two (2) lane facility and continues south as either a two (2) or four (4) lane facility to Hollywood Boulevard. The study examines the effect of 4-laning State Road A1A within a five-year time frame (2013) and at County buildout in 2030.

As agreed upon during methodology negotiations, vehicle turning movement counts were collected during A.M. (7:00 – 9:00) and P.M. (4:00 – 6:00) peak hours on a typical weekday. Figure 3 graphically depicts the count data at each intersection under study. A peak season adjustment factor of ten (10) percent was applied to the May counts in accordance with the Peak Season Factor Category Report published by the Florida Department of Transportation (FDOT).

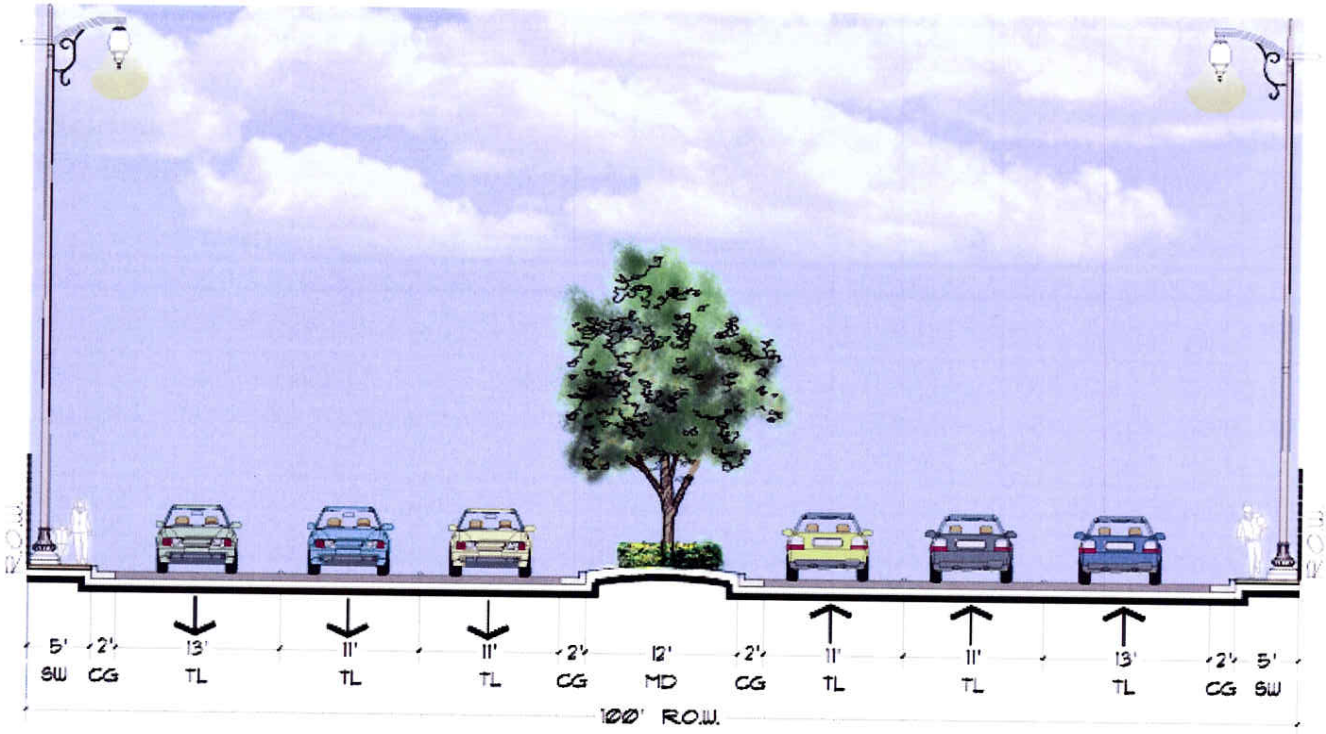
Existing Conditions Analysis

Roadway segments along State Road A1A, Oakland Park Boulevard, Commercial Boulevard and Bayview Drive were analyzed during the P.M. peak hour and on a daily basis. Tables detailing the analysis are included as Appendix D of the study. Only the two (2) lane section of State Road A1A within limits of Lauderdale-by-the-Sea is shown to operate below acceptable levels of service (Level of Service (LOS) 'F'). Similarly, intersection capacity analyses were conducted under existing (2008) conditions for each signalized location identified. The analyses demonstrate that all study intersections operate within acceptable parameters during both peak periods examined.

FIGURE 1
SR A1A CORRIDOR STUDY
PROJECT LOCATION MAP

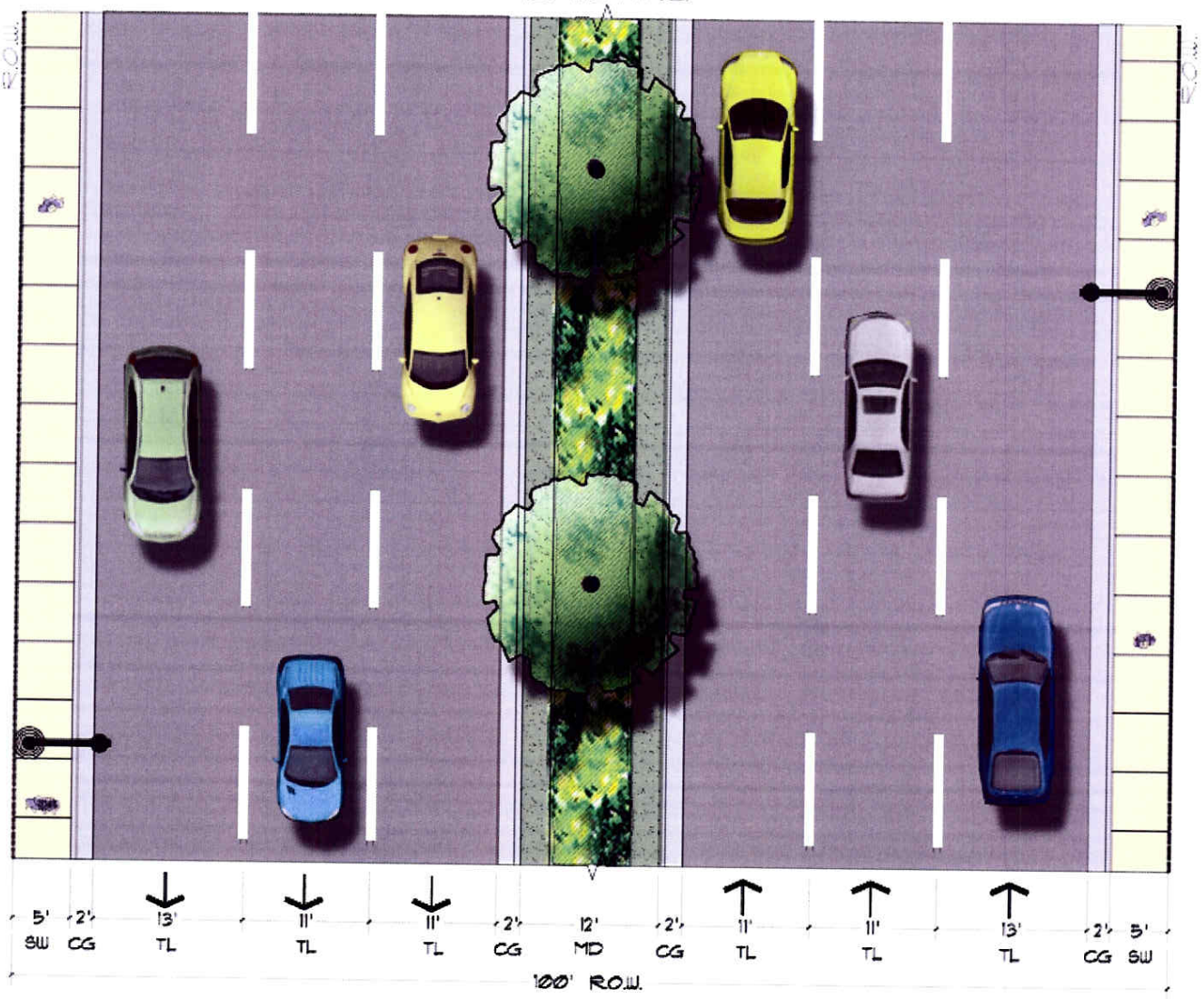
Kimley-Horn and Associates, Inc.

09-0443
Exhibit 1



STATE ROAD A1A

EXISTING



LEGEND

SW SIDEWALK
CG CURB GUTTER
TL TRAVEL LANE
LA LANDSCAPE AREA
BL BIKE LANE
MD MEDIAN

STATE ROAD A1A

EXISTING

Kimley-Horn and Associates, Inc.

URBAN RESOURCE GROUP

09-0443
Exhibit 1

FIGURE 3
SR A1A CORRIDOR STUDY
EXISTING COUNT DATA

Kimley-Horn and Associates, Inc.

09-0443
Exhibit 1

Future Conditions Analysis

Determination of future traffic growth within the study area includes examination of historic volume data at nearby FDOT count stations. Historic count data obtained for the five (5) most recent years were averaged yielding a negative annual growth rate. To provide a conservative analysis, a 0.5 percent areawide growth rate has been incorporated.

Roadway segments along State Road A1A, Oakland Park Boulevard, Commercial Boulevard and Bayview Drive were analyzed during the P.M. peak hour and on a daily basis during both future years (2013 and 2030). Tables detailing the analysis are included within Appendix F (2013) and G (2030) of the study. Only the two (2) lane section of State Road A1A within Lauderdale-by-the-Sea is shown to operate at Level of Service (LOS) 'F' both with and without the lane reduction as proposed in future year 2013. In addition to the two (2) lane section of State Road A1A, Commercial Boulevard and Bayview Drive are also expected to operate at LOS 'F' both with and without the lane reduction in future year 2030.

Intersection capacity analyses were also conducted under future year (2013 and 2030) conditions for each signalized location identified in the prior section. The analyses demonstrate that all study intersections should operate within acceptable parameters during both peak periods over both study scenarios (No Build and With Project).

Crash Data Review

Crash data involving vehicles, bicyclists, and pedestrians for the most recent three (3) years of available data was obtained from FDOT. As shown in Table 6 of the study 98 total crashes occurred with 19 crashes or 19% of the total involving pedestrians and/or bicycles. Collision diagrams included as Appendix H of the study show that of the three (3) fatalities occurring during the three (3) year study period, two (2) involved a pedestrian and/or bicycle.

Pedestrian and Bicycle Use

Volume data specific to pedestrian travel (during A.M. and P.M. peak hours) indicate 45 percent of pedestrians travelling in a north-south direction along State Road A1A within the study area do so

along the west side of the arterial while 55 percent traverse the corridor along the east side. Similarly, data specific to bicycle travel show that 51 percent and 55 percent traverse the west side of State Road A1A during A.M. and P.M. peak hours, respectively while 49 percent and 45 percent traverse the east side during the two peak hours.

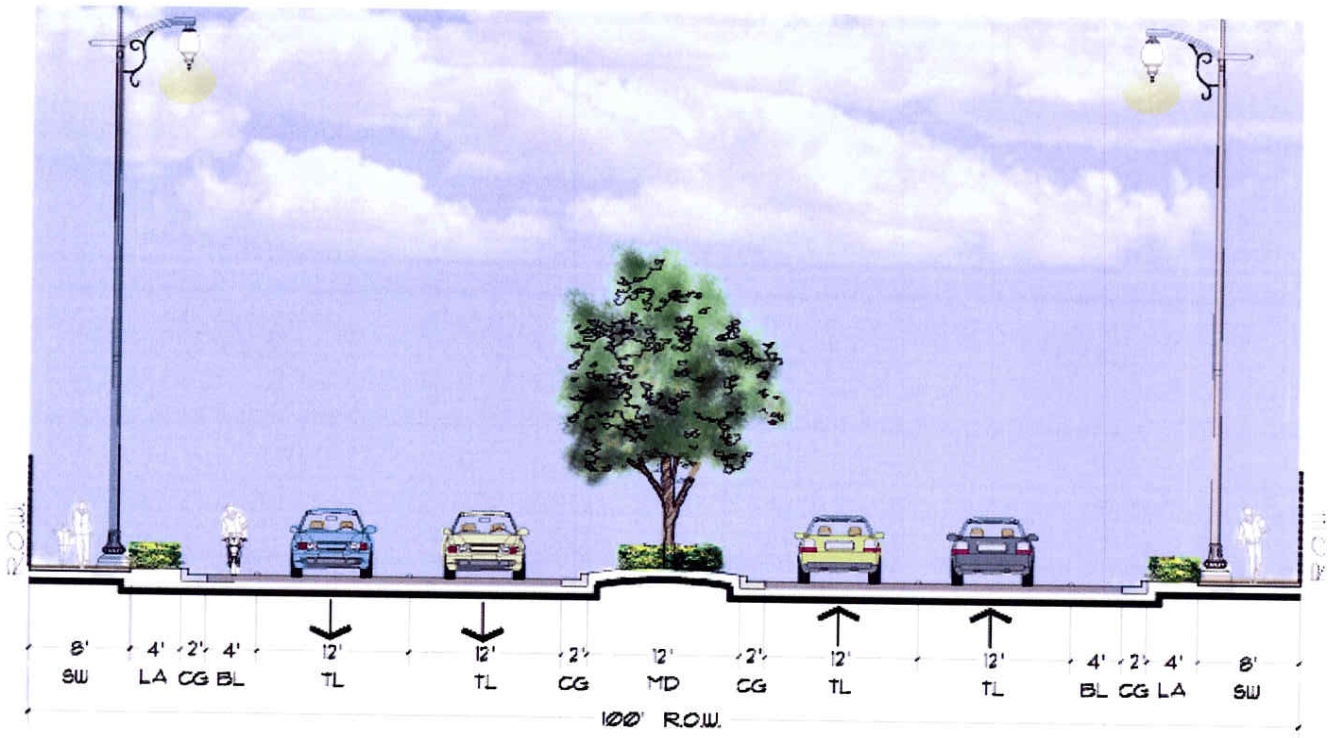
Conceptual Design Considerations

A set of preliminary alternatives have been identified for the S.R. A1A corridor between Oakland Park Boulevard and Flamingo Avenue. Field reviews, data collection, engineering analyses and discussions with City staff and members of the community were critical components of the development of alternatives presented in Figures 10 (Option 1), 11 (Option 2), and 12 (Option 3).

Option 1 (Four (4) twelve foot lanes with eight (8) foot sidewalks and bike lanes) – This alternative consists of four (4) twelve foot travel lanes, four (4) foot bicycle lanes, four (4) foot landscape areas and eight (8) foot sidewalks. Although the median is proposed to remain unchanged, reconstruction of the roadway will result in modification to or replacement of the existing drainage system.

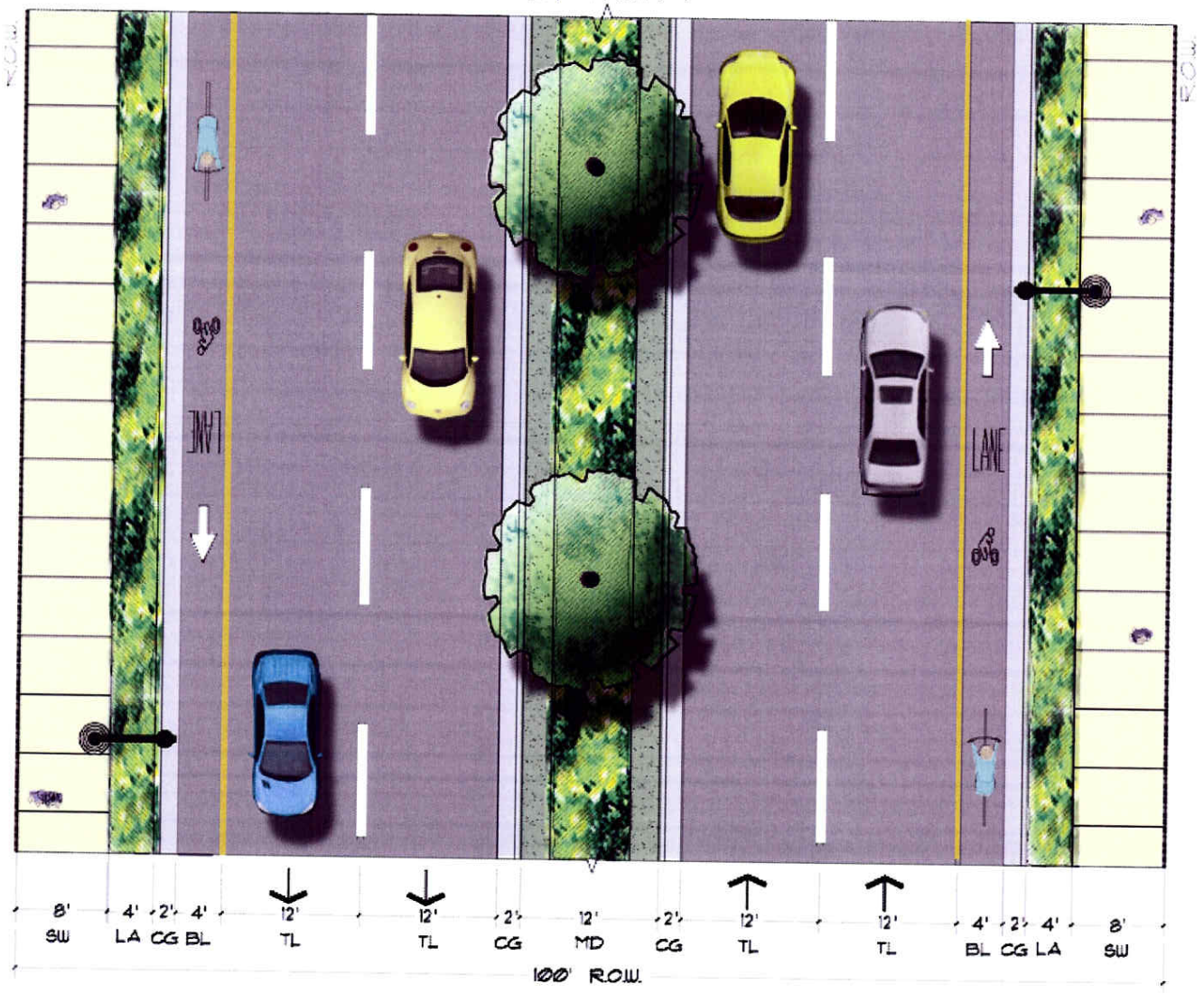
Option 2 (Four (4) eleven foot lanes with ten (10) foot sidewalks and bike lanes) – This alternative consists of four (4) eleven foot travel lanes, four (4) foot bicycle lanes, four (4) foot landscape areas and ten (10) foot sidewalks. Again the integrity of the existing median and left-turns lanes are proposed to be maintained while reconstruction of the roadway will require modification to or replacement of the existing drainage system. The wider sidewalk may provide an opportunity for installation of street furniture and/or decorative lighting.

Option 3 (Four (4) twelve foot lanes with ten (10) foot sidewalks) – This alternative includes four (4) twelve foot travel lanes, six (6) foot landscape areas and ten (10) foot shared use sidewalks. The shared use sidewalks are expected to accommodate pedestrians as well as bicycles and street furniture if desired. The existing median has been maintained as have existing left-turn lanes. The roadway will require modification to or replacement of the existing drainage system.



STATE ROAD A1A

OPTION 1



LEGEND

SW SIDEWALK
CG CURB GUTTER
TL TRAVEL LANE
LA LANDSCAPE AREA
BL BIKE LANE
MD MEDIAN

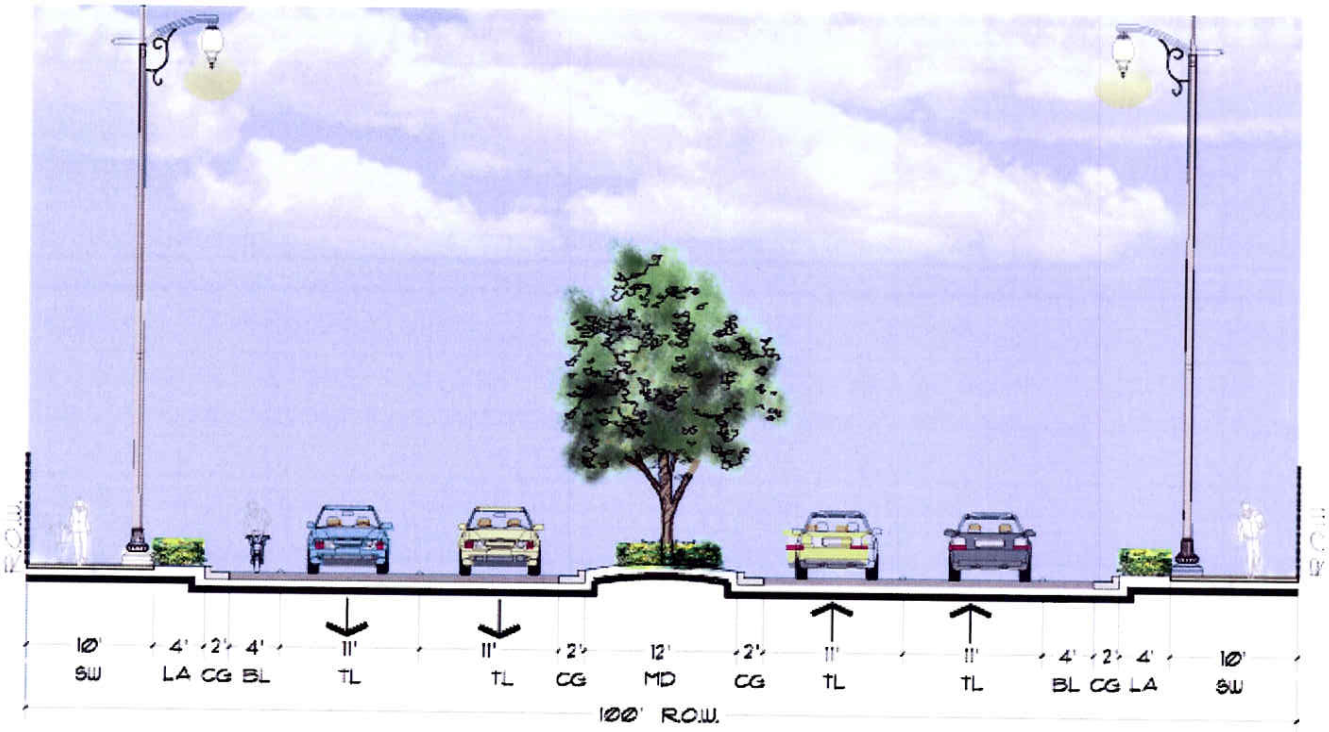
STATE ROAD A1A

OPTION 1

Kimley-Horn and Associates, Inc.

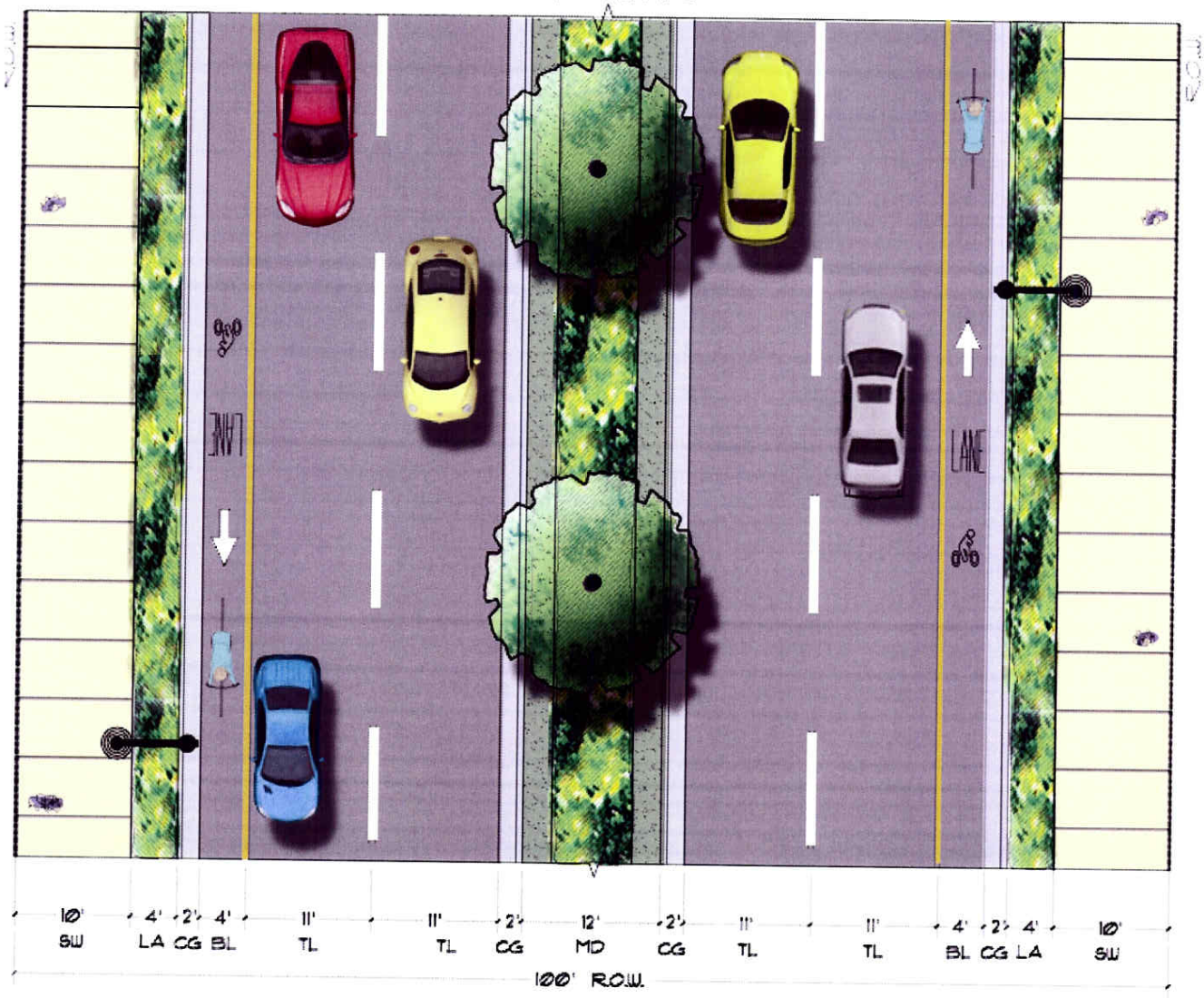
URG URBAN RESOURCE GROUP

09-0443
Exhibit 1



STATE ROAD AIA

OPTION 2



LEGEND

SW SIDEWALK
CG CURB GUTTER
TL TRAVEL LANE
LA LANDSCAPE AREA
BL BIKE LANE

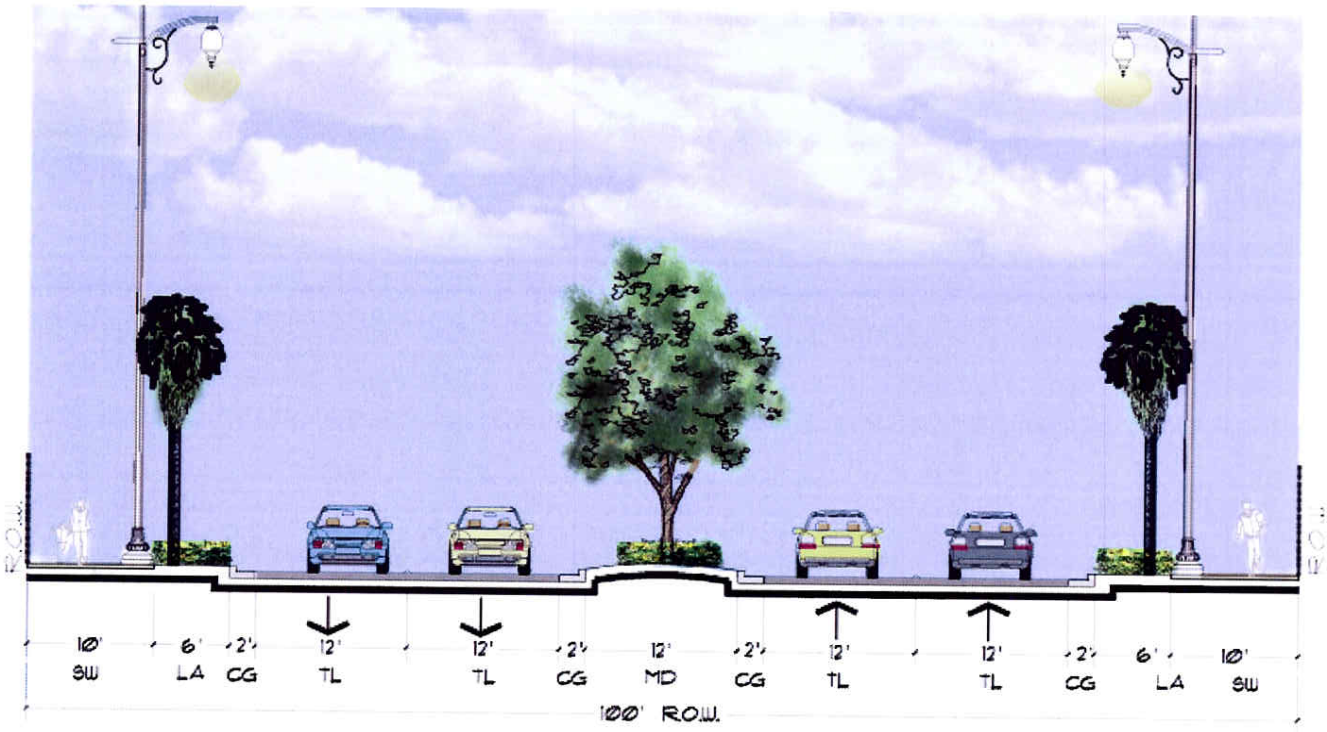
STATE ROAD AIA

OPTION 2

Kimley-Horn and Associates, Inc.

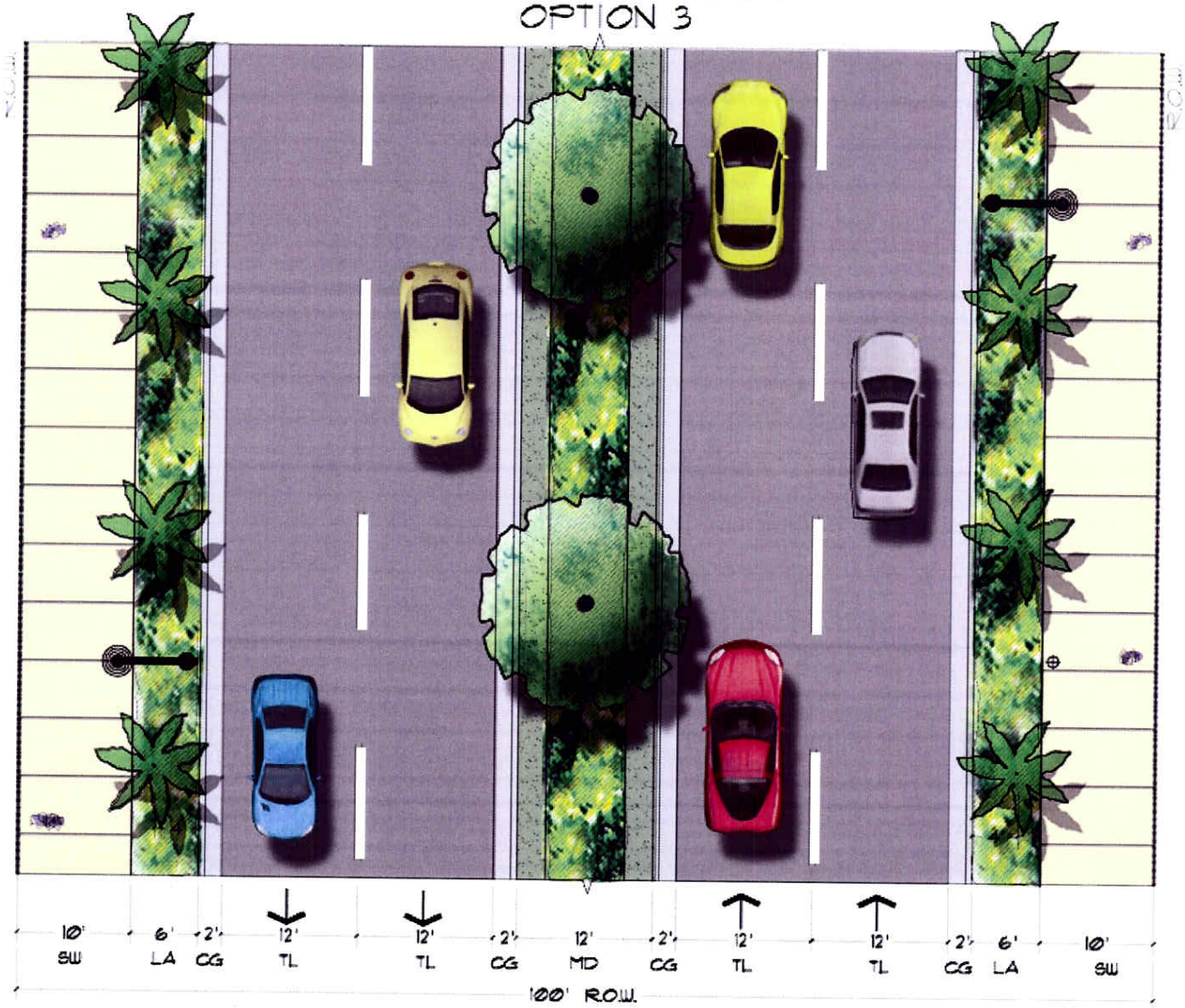
URBAN RESOURCE GROUP

09-0443
Exhibit 1



STATE ROAD A1A

OPTION 3



LEGEND

SW SIDEWALK
CG CURB GUTTER
TL TRAVEL LANE
LA LANDSCAPE AREA
BL BIKE LANE

STATE ROAD A1A

OPTION 3

Kimley-Horn and Associates, Inc.

URG URBAN RESOURCE GROUP

09-0442
Exhibit 4

CONCLUSIONS

The foregoing analysis evaluated the effect of reducing State Road A1A from six (6) lanes to four (4) lanes between Oakland Park Boulevard and Flamingo Avenue. A comparison of future year traffic volumes both with and without the lane reduction was prepared and conceptual typical sections were presented. More specifically our conclusions are as follows:

- Large expanses of asphalt observed within the study area give the appearance of a multi-lane freeway with high vehicular speeds and less opportunity for pedestrians and bicyclists.

- The corridor under study can accommodate expected traffic volumes at the critical "pinch points" (the signalized intersections) with the lane reduction as proposed. Signalized intersection analyses show all six (6) intersections currently operate within acceptable parameters and are expected to continue to operate within acceptable parameters in future years 2013 and 2030 with the proposed lane reduction.

- Future operating levels of service of adjacent and parallel facilities are expected to remain unchanged with the proposed lane reduction as evidenced herein.

- According to the most recent three (3) years of available crash history 98 total crashes have been reported with 19 (or 19%) involving pedestrians or bicycles. A corridor safely accommodating all users should reduce the number and seriousness of all vehicular, pedestrian and bicycle-related crashes.

- Review of volumes specific to vehicular traffic, pedestrians and bicycles show a balanced use of the study corridor. As a result, typical section options developed provide facilities for each user in both the north and southbound directions.

Clearly, options incorporating a four (4) lane typical section and benefitting all roadway users are viable as evidenced herein.