

Chestnut Avenue Road Safety Audit Walk-Thru

(West Avenue to Brewster Road)

Thursday June 25, 2010

Weather: Clear, Humid 85-97F

In Attendance:

Dan Cabral, City of Vineland Principal Engineer

Brian Myers, CoV City Engineer

Donna Nardi, Vineland BOE, School Bus Trans

Larry Brignolo, CoV Engineering

Joe Ucciferri, CoV Engineering

Brian Dunn, CoV PW Gen. Rd Supervisor

Jeffrey Lawrence, CoV Mun Electric Utility

Kevin Kirchner, CoV L&I

Rick Bracaliello, CoV Health Dept.

Bob Dickenson, CoV Risk Mgmt.

Ptl. Joe Montana, Vld PD

George Strathern, Orth-Rodgers

NOTES

General Chestnut Avenue

1. Investigate possibility of 3-lane arrangement from Delsea Drive to Brewster Road. This would allow for left turn lanes. Do capacity analyses to determine queuing lengths and clearance problems.
2. All signals to be upgraded to LED.
3. Check Yellow change and Red clearance intervals to determine adequacy.
 - ALL RED: $R=(w+L)/v$ where R=all red clearance, w= distance from stop bar to no conflict point, L=length of vehicle (typ. 20ft.), v=design speed in fps. (Generally 2 second minimum required)
 - YELLOW CHANGE: $Y=t+[v/(2a+2Gg)]$ where Y=yellow time, t=reaction time (typ. 1 sec.), v=design speed, fps, a=decelerartin rate (typ 10ft/sec²), g=acceleration due to gravity (32ft/sec²), G=grade of approach (percent/100). (In general, 25-30 MPH = 3 sec., 35-40 MPH = 4 sec., 45-50 MPH = 5 sec., 55-60 = 6 sec.)
4. All sidewalk access ramps need to be reconstructed and domes installed.
5. Upgrade all signing.
6. Check overhead lighting at all intersections.
7. Install Crosswalks on all side streets.
8. At signalized intersections, install pedestrian signal assemblies where not existing.

Chestnut @ West

This signalized intersection is under the jurisdiction of the City of Vineland. West Avenue is a municipal roadway, has a posted speed limit of 30 MPH north and south of Chestnut Avenue. It is a two lane roadway with a two lane SB approach with dedicated LT lane and Thru lane. In addition, there is a SB RT lane/ramp configuration separated by a small channelizing island. The southerly leg has a two lane approach with dedicated LT lane. The signal is 3-phase semi-actuated operation (each leg of West Avenue is a separate phase). Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of West Avenue. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at East Avenue. Both roadways have an equal mix of residential and light commercial use.

1. Check to determine need for EB LT lane/phase
2. Since crosswalks exist, pedestrian signal assemblies are required.
3. Split phasing on West Avenue requires LT arrow indications.
4. The intersection floods in the northwest quadrant during heavy rain events.
5. All sidewalk access ramps need to be reconstructed and domes installed.
6. Some pavement markings slightly worn.
7. The northeast curb radius is tight for school bus turns. (Pull back SB LT stopbar). Check loop locations.
8. Manhole in easterly crosswalk is depressed and could be a tripping hazard.
9. Check Yellow change and Red clearance intervals to determine adequacy.

Currently,

Chestnut Yellow = 4 Chestnut All Red = 2

SB West Yellow = 4 SB West All Red = 2

NB West Yellow = 4 NB West All Red = 2

10. Check signal plan for location of SB RT ramp detectors to determine if previously pulling back the stop bar prevents actuation.
11. Consider signage saying "STOP HERE ON RED" on this same approach.
12. Check overhead lighting.
13. Upgrade to LED's
14. Small tree is a sight obstruction near utility pole on SW corner. (Vld PW Tree Crew)
15. #14 was removed by end of day 6/24/10.

Chestnut @ Third

This non-signalized intersection is under the jurisdiction of the City of Vineland. Third Street is a municipal roadway, has a posted speed limit of 25 MPH north and south of Chestnut Avenue. It is a two lane roadway north and south of Chestnut Avenue. It is STOP sign controlled at Chestnut Avenue. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of Third Street. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at Third Street. Both roadways have a mix of residential uses and light commercial/professional office uses.

1. Existing STOP signs are Engineer Grade Sheeting. Remove and replace with Hi Intensity STOP signs.
2. Stop bar is an excessive distance from edge of Chestnut Avenue, due to sidewalk/implied crosswalk location. Drivers pull up to STOP sign which is beyond the stopbar. Consider redesign of sidewalk accesses closer to edge of Chestnut Avenue.
3. There are no marked crosswalks, either across Chestnut or Third.
4. All sidewalk access ramps need to be reconstructed and domes installed.
5. Trees along the south side of Chestnut Avenue may cause sight problems. Check SE corner site plan for requested tree removals. Check feasibility of relocating recently installed free trees on SW corner.
6. The site on the NE corner has "IN ONLY" driveways (by pavement markings). Check site plan for this issue and signage relating to this.
7. Check overhead lighting.

Chestnut @ Sixth

This signalized intersection is under the jurisdiction of the City of Vineland. Sixth Street is a municipal roadway, has a posted speed limit of 25 MPH north and south of Chestnut Avenue. It is a two lane roadway south of Chestnut Avenue and a one lane one way SB roadway north of Chestnut Avenue. The SB approach is split into three dedicated lanes, LT, Thru, RT. The signal is 3-phase semi-actuated operation, with the Sixth Street approaches operating separately. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of Sixth Street. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at Seventh Street. Both roadways have a mix of residential uses and light commercial uses.

1. Check overhead lighting.
2. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
SB Sixth Yellow = 3 SB Sixth All Red = 2
NB Sixth Yellow = 3 NB Sixth All Red = 2
3. Upgrade to LED's
4. All sidewalk access ramps need to be reconstructed and domes installed.
5. The SB left head on structure on SW corner is slightly turned. Needs re-alignment.
6. Sixth Street split phase requires LT arrows.
7. Post mounted street sign on NE corner block sight to Pedestrian signal. Remove this as there is existing overhead signing. (Vld PW Sign Crew)
8. When preparing document, include that this has plan to include 2-way traffic on north leg of Sixth, and present it as a project for SJTPO.

Chestnut @ Seventh

This signalized intersection is under the jurisdiction of the City of Vineland. Seventh Street is a municipal roadway, has a posted speed limit of 25 MPH north and south of Chestnut Avenue. It is a two lane roadway south of Chestnut Avenue and a one lane one way NB roadway north of Chestnut Avenue. The signal is 2-phase semi-actuated operation. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of Seventh Street. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at Seventh Street. Both roadways have a mix of residential uses and light commercial uses.

1. Existing span wire signal. Replacement should be considered to mast arm mounted signal system.
2. Check overhead lighting.
3. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
NB Seventh Yellow = 3 NB Seventh All Red = 2
4. Upgrade to LED's
5. 8" heads require upgrade to 12".
6. Head colors are dull dark green, should be yellow to be more distinct.
7. Should have signal head per lane plus one over opposing lane on near left side.
8. Check cone of vision.
9. Existing ONE WAY signs are not effective. Replace signs.
10. Number of signal indications are out, bulbs need replacing. (Vld Electric Utility).
11. There is a dead tree on the SE quadrant that should be removed.
12. Check church site plan for signage on Chestnut Avenue driveway. Markings indicate ONE WAY in.
13. All sidewalk access ramps need to be reconstructed and domes installed.

Chestnut @ East

This signalized intersection is under the jurisdiction of the City of Vineland. East Avenue is a municipal roadway, has a posted speed limit of 35 MPH north and 30 MPH south of Chestnut Avenue. It is a two lane roadway with dedicated LT lanes in both directions, and a dedicated right turn lane in the SB direction at the intersection and no arrow indications. The signal is 2-phase semi-actuated operation. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of East Avenue. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at East Avenue. Both roadways have a mix of residential uses and light commercial uses. One quarter mile north of the intersection is Cunningham Alternative School.

1. Existing span wire signal. Replacement should be considered to mast arm mounted signal system.
2. Check overhead lighting.
3. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
East Yellow = 4 East All Red = 2
4. Upgrade to LED's
5. 8" heads require upgrade to 12".
6. No lane use signs on south leg of intersection.
7. Investigate need for left turn slots/indications on Chestnut Avenue.
8. Investigate need for SCHOOL XING signs.
9. All sidewalk access ramps need to be reconstructed and domes installed.

Chestnut @ State

This signalized intersection is under the jurisdiction of the City of Vineland. State Street is a municipal roadway, has a posted speed limit of 25 MPH north and south of Chestnut Avenue. It is a two lane roadway with one lane approaches at the intersection and no arrow indications. The signal is 2-phase semi-actuated operation. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of State Street. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at State Street. Both roadways have an some residential uses with mainly professional office use that resulted from the former hospital site located on the NE quadrant of the intersection.

1. Check overhead lighting.
2. Check Yellow change and Red clearance intervals to determine adequacy. OK
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
State Yellow = 3 State All Red = 2
3. Upgrade to LED's
4. 8" heads require upgrade to 12" on State Street?
5. Investigate need for left turn slots/indications on Chestnut Avenue.
6. Should have signal head per lane plus one over opposing lane on near left side.
7. Investigate need for SCHOOL XING signs.
8. The northeast & southwest curb radii are tight for school bus turns. (Pull back NB & SB stopbars). Check loop locations.
9. Sidewalks along south side of Chestnut Avenue are not aligned. Southeast corner jogs to be in alignment with SW corner. Can this be done at Third Street?
10. Low limbs on NE corner - sight distance problem. Check ownership.
11. All sidewalk access ramps need to be reconstructed and domes installed.

Chestnut @ Valley

This signalized intersection is under the jurisdiction of the City of Vineland. Valley Avenue is a municipal roadway, has a posted speed limit of 30 MPH north and south of Chestnut Avenue. It is a two lane roadway with one lane approaches at the intersection and no arrow indications. The centerline of Valley Avenue north of Chestnut Avenue is offset by approximately 100 feet east of the southerly Valley Avenue approach. The signal is 3-phase semi-actuated operation (each leg of Valley Avenue is a separate phase). Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 40 MPH east and west of Valley Avenue. Chestnut Avenue is a four lane roadway with NO dedicated LT lanes at Valley Avenue. Both roadways have an equal mix of residential and professional office use.

1. Check overhead lighting.
2. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
SB Valley Yellow = 3 SB Valley All Red = 2
NB Valley Yellow = 3 NB Valley All Red = 2
3. Upgrade to LED's
4. Pedestrian Pedestal Signals too low. Need taller pedestals or T pole.
5. NO TURN ON RED signs mounted on the pedestals on NW and SE corners too low.
6. There are possible loop detection problems on NB leg. (This has been addressed 10/4/10)
7. School route - Install SCHOOL XING signs.
8. On the crossing for Chestnut Avenue east of the intersection some WALK/DON'T WALK INDICATIONS are out, possibly needing bulbs. (Vld Electric Utility)
9. The mid-intersection right side WB green indication visor is damaged.
10. Sidewalk on east side of Valley Avenue, south of intersection is damaged by water utility repairs (depressed & broken).
11. All sidewalk access ramps need to be reconstructed and domes installed.

Chestnut @ Spring

This signalized intersection is under the jurisdiction of the City of Vineland. Spring Road is a municipal roadway, has a posted speed limit of 45 MPH north, and 35 south of Chestnut Avenue. It is a two lane roadway with one lane approaches at the intersection and no arrow indications. The signal is 2-phase semi-actuated operation. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 50 MPH east and west of Spring Road. Chestnut Avenue is a two lane roadway with dedicated LT lanes at Spring Road. Both roadways have mainly residential uses with some professional offices.

1. Check overhead lighting.
2. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 1
Spring Yellow = 5 Spring All Red = 1
3. Upgrade to LED's
4. Should have signal head per lane plus one over opposing lane on near left side.
5. Pull back Chestnut Avenue LT slot stop bars for buses turning from Spring Road.
6. Pull back stop bars on Spring Road for buses turning from Chestnut Avenue. Check loop detector locations.
7. 8" heads require upgrade to 12" on Spring Road.
8. Low limbs on all approaches cause sight distance restrictions.
9. Low limbs on SW quadrant intrude on Spring Road.
10. School route - Install SCHOOL XING signs.
11. Since crosswalks exist, pedestrian signal assemblies are required.
12. Rotate mast arm clockwise on SW corner to place more centered over SB lane.
13. On NE pole, investigate need for pole mounted indication for viewing from south.
14. All sidewalk access ramps need to be reconstructed and domes installed.
15. Check EB/WB Lane Use signs.

Chestnut @ Brewster

This signalized intersection is under the jurisdiction of Cumberland County. Brewster Road is the County roadway, has a posted speed limit of 45 MPH south, and 40 (25 in school zone) north of Chestnut Avenue. Johnstone Elementary School is located on Brewster Road $\frac{1}{4}$ mile north of Chestnut Avenue. It is a two lane roadway with dedicated LT lanes at the signal but no arrow indications. The signal is 2-phase semi-actuated operation. Chestnut Avenue is under the jurisdiction of the City of Vineland. It has a posted speed limit of 50 west, and 40 (25) east of Brewster Road. Vineland High School is located on the NE quadrant of the intersection. Chestnut Avenue is a two lane roadway with dedicated LT lanes at Brewster Road. East of the easterly intersection dedicated lanes, Chestnut Avenue is three lanes, having a TWLTL throughout the frontage of VHS. Along with the school facilities, both roadways have some residential uses, but mainly consist of light commercial uses and professional offices.

1. "County Signal"
2. Check overhead lighting.
3. Check Yellow change and Red clearance intervals to determine adequacy.
Currently,
Chestnut Yellow = 5 Chestnut All Red = 2
Brewster Yellow = 5 Brewster All Red = 2
4. Pull back Chestnut Avenue LT slot stop bars for buses turning from Brewster Road. Check loop detector locations.
5. Pull back stop bars on Brewster Road for buses turning from Chestnut Avenue. Check loop detector locations.
6. 8" heads require upgrade to 12".
7. Access plate missing from signal base on NE corner.
8. Upgrade SCHOOL XING signs.
9. Check operation of Pedestrian Push Buttons. Provide pushbutton directional signage (PUSH BUTTON TO CROSS name of street).
10. All sidewalk access ramps need to be reconstructed and domes installed.
11. Check ALL legs for Lane Use signs.
12. SE corner, empty U-Channel post to be removed. (Vld PW Sign Crew)