

Sidewalks are Easy, Right?

Travis Wampler
District One LPA Coordinator





MDOT

LPA

FHWA

ROW

STIP

PDM

CE

LRFD

BION

CWOT

CYA

CMIIW

DIRTFT

W8AM

BRB

PLZ

SBE

NAEP

ESL

EOC

ACT

EOG

FRL

ESEA

AM

FD/RD

DNF

RR

MUP

QR

TT

WOL

Outline

- Elements to consider
- Impacts of not considering certain elements
- Case study – field trip





Elements to Consider

- ADA Elements
- Drainage
- Narrow ROW
- Utility Conflicts
- Railroad Crossings
- Encroachments
- Historically Significant Resources
- Unpopular Decisions



Elements to Consider

- **ADA Elements**
- Drainage
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ADA Elements

- Consider the user
- 2% Cross-slope
- 5% Running slope/grade
- 8.33% Ramp slope/grade
- ADA Truncated Dome Mats
- 11% Counter slopes
- ¼" vertical drop
- Pedestrian Signals



ADA Elements

- **Consider the user**
 - Wheel-chair
 - Visually impaired
 - Hearing impaired
 - Balance disorders



ADA Elements

- **2% Cross-slope & 60" Width**

2" in 100"

1" in 50" (close to 1" in 48")

1.5% desired, 2% max

Difference between 2% and 2.1%

Driveways must meet 2% max (48" width)

REF: PROWAG X02.1.4 Public Sidewalks

ADA Elements

- **2% Cross-slope & 60" Width**

X02.1.3 Clear Width

X02.1.3.1 General. The minimum clear width of a pedestrian access route shall be 60 inches (1525mm), exclusive of the width of the curb. Within the pedestrian access route, the minimum clear width of the *reduced vibration zone* shall be 48 inches (1220mm), exclusive of the width of the curb.

Advisory: *Designers are encouraged to provide additional width where possible, especially in high use areas such as in downtown urban environments, near shopping centers, schools, civic facilities. It is recommended that the pedestrian access route be no less than 72 inches wide in high use areas.*



ADA Elements

- **5% Running Grade**

1' vertical over a 20' horizontal

Sidewalks within ROW can match the grade of the adjacent roadway

ADA Elements

- **8.33% Ramp Grade**

1" in 12" ... or 1" in 1' ... or 6" in 6'

What happens when your ROW is limited and your sidewalk through movement crosses the ramp?

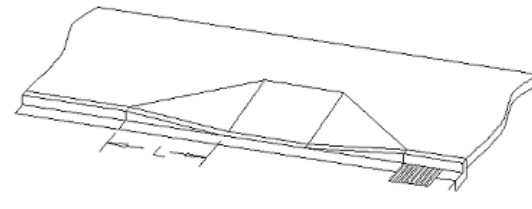
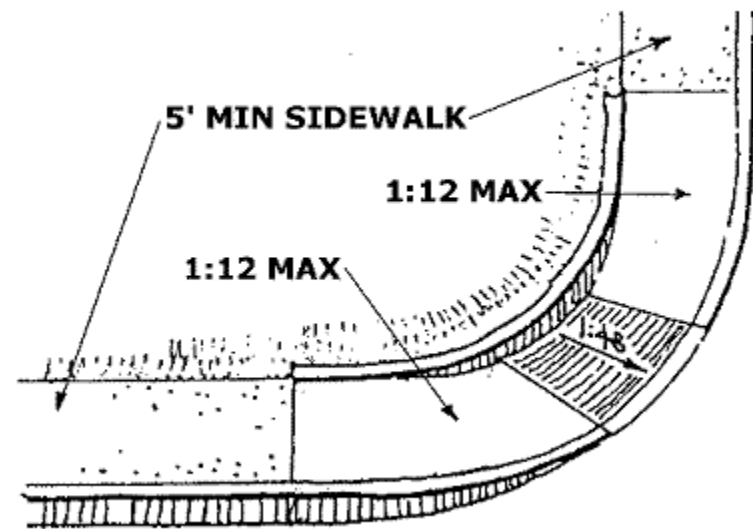
X02.4.6 Running grade.

The maximum running grade of any portion of any curb ramp or transition ramp shall be 1:12 as measured from a level plane.

ADA Elements



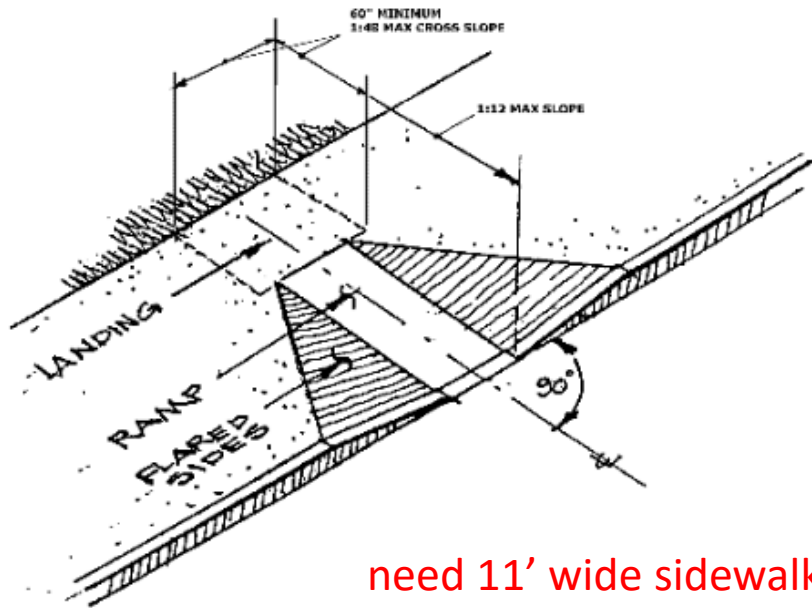
Figure X02.4 F Shared Flush Landing



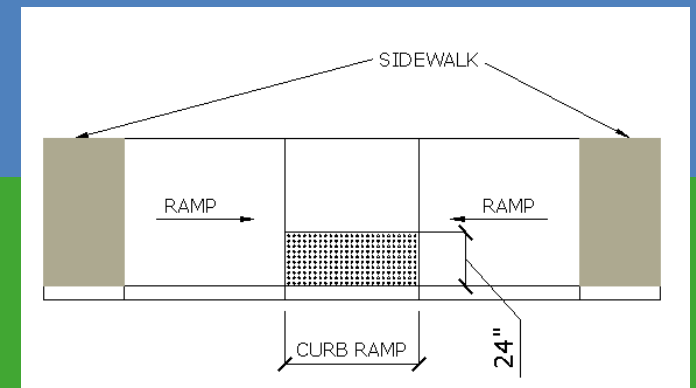
ADA Elements

X02.4.1.2 Corners. At any intersection in the public right-of-way that has at least one corner served by a public sidewalk or a pedestrian access route, all corners of the intersection served by a crosswalk shall have curb ramps or flush landings.

Figure X02.4 A Curb Ramp



need 11' wide sidewalk



ADA Elements



ADA Elements





ADA Elements

- **ADA Truncated Dome Mats (Detectable Warnings)**

Required at Streets and railroads, not driveways

24" deep, no less, no more

Full width of path

Domes are aligned, not offset

Prefer the use of mats that are not retrofitted

REF: PROWAG X02.5.7 Detectible Warnings

ADA Elements



ADA Elements





ADA Elements

- **11% Counter slopes**

What is counter slope?

If greater than 11%, how can it be remedied?

Addressing the 11% might negatively impact drainage

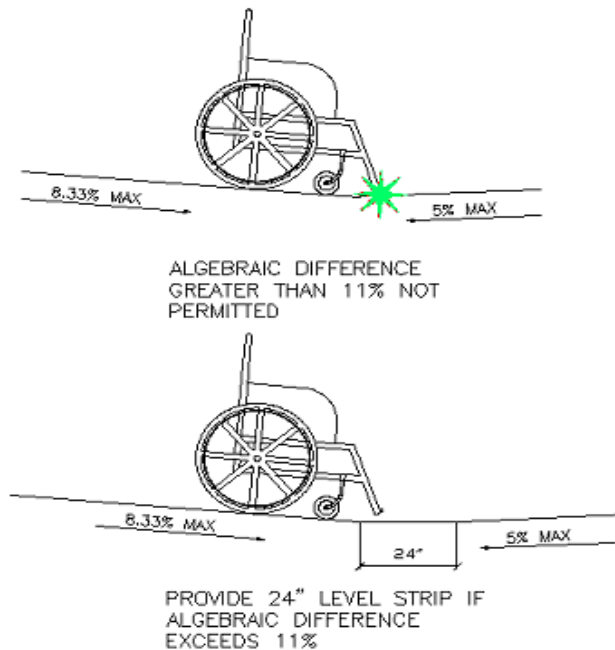
REF: PROWAG X02.4.8 Sidewalk/Street Transitions

ADA Elements

X02.4.8 Counter slopes.

The grade break between the counter slopes of gutter and/or road surfaces within 24 inches of the curb ramp and the running grade of the curb ramp shall not exceed the algebraic difference of 11 percent. If two or more plane changes are present, they shall be separated by 24 inches (455mm).

Figure X02.4 H Counter Slope Conditions



ADA Elements





ADA Elements

- **¼" vertical drop**

Causes: roots, workmanship, drainage, patterns

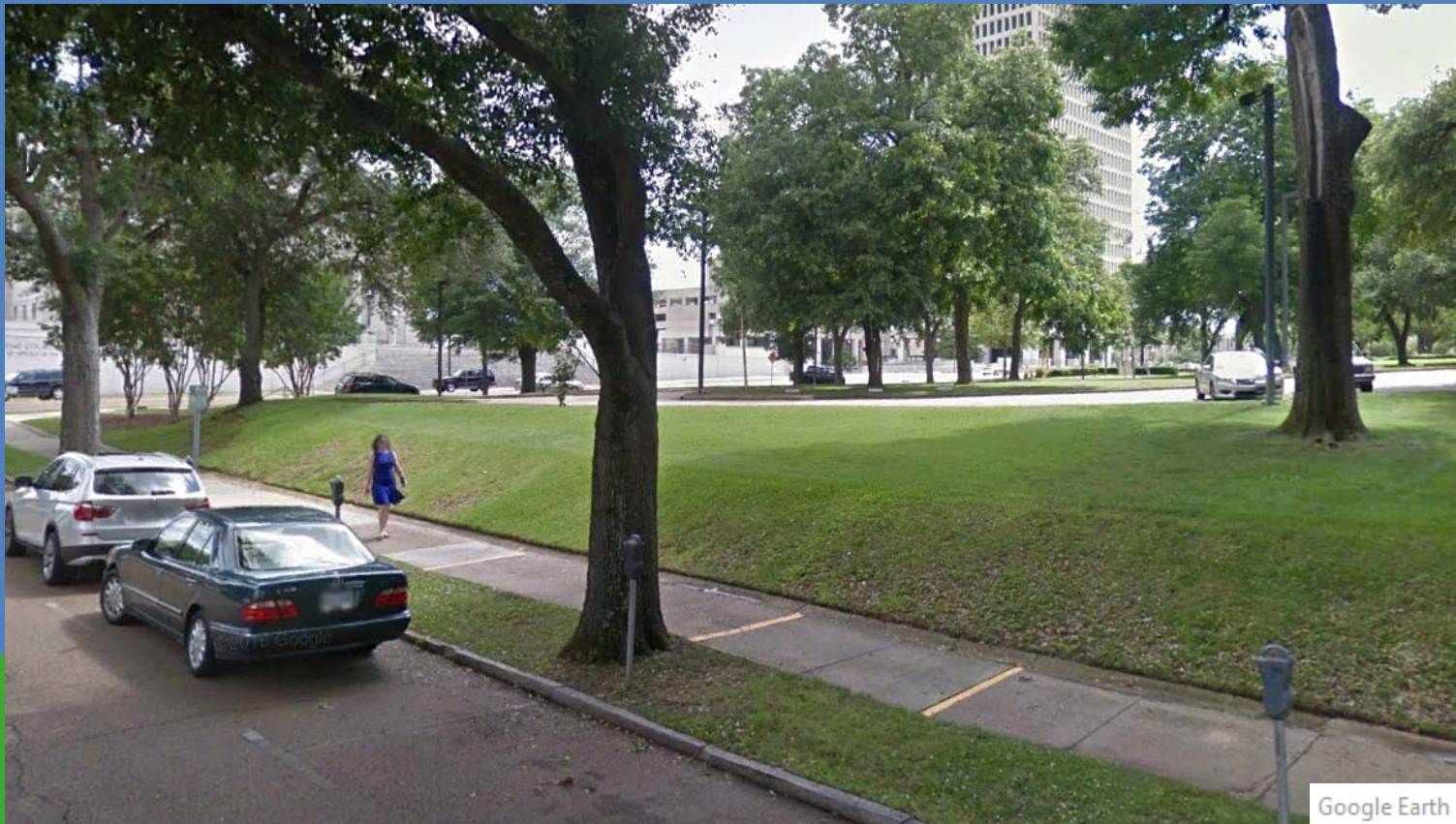
¼" is the Max allowed....unless

½" or less and can be beveled (allowed, but discouraged)

ADA transition plan

REF: PROWAG X02.1.7 Changes in Level

ADA Elements





ADA Elements

- **Pedestrian Signal**

Button 42" height

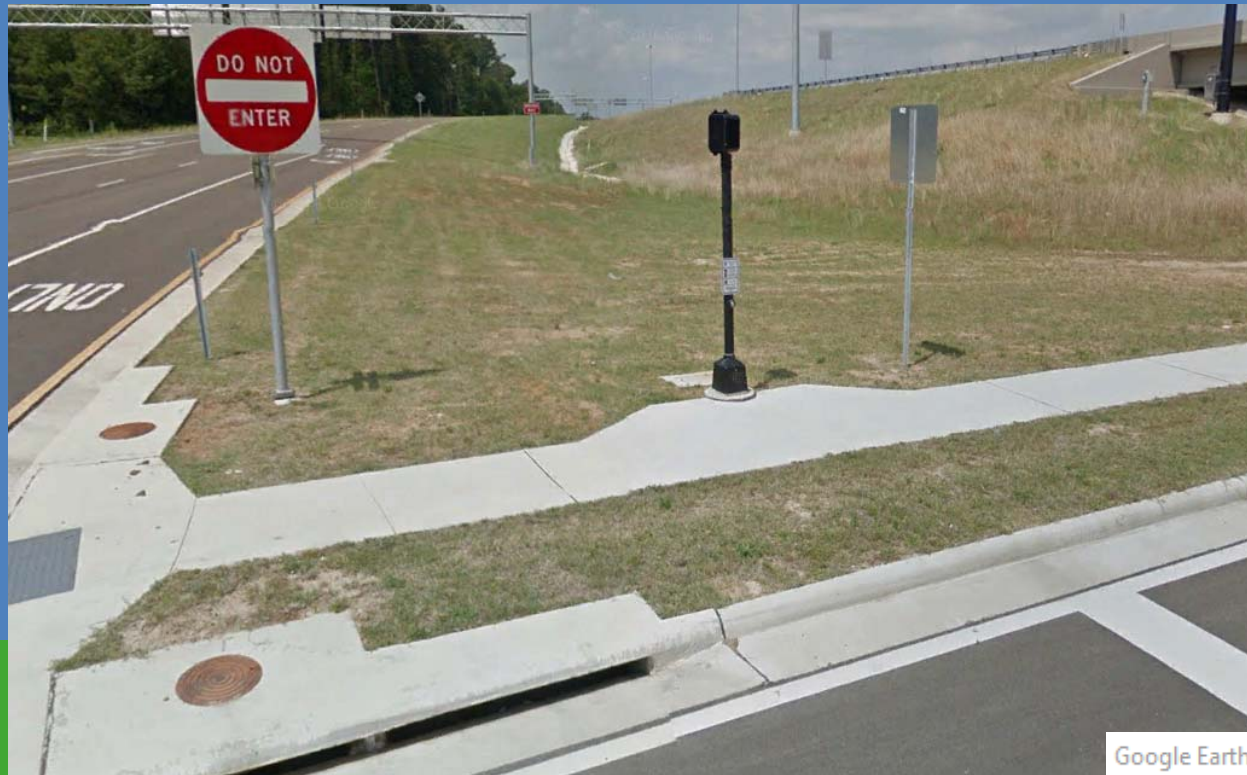
Button 10" max horizontal offset

Orient sign parallel to crosswalk

ADA Elements



ADA Elements





Elements to Consider

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- Unpopular Decisions



Drainage

- Shifting drainage inlets
- Adding drainage inlets
- Piping ditches to create shoulder for sidewalk
- Be careful about putting other design elements above ADA

Drainage





Narrow ROW

- Know what you have to work with
- Temporary construction easements
- Retaining walls
- Slotted Curb
- Buffer Space
- Road Diets

Narrow ROW

- Retaining walls



Narrow ROW

- Slotted Curb



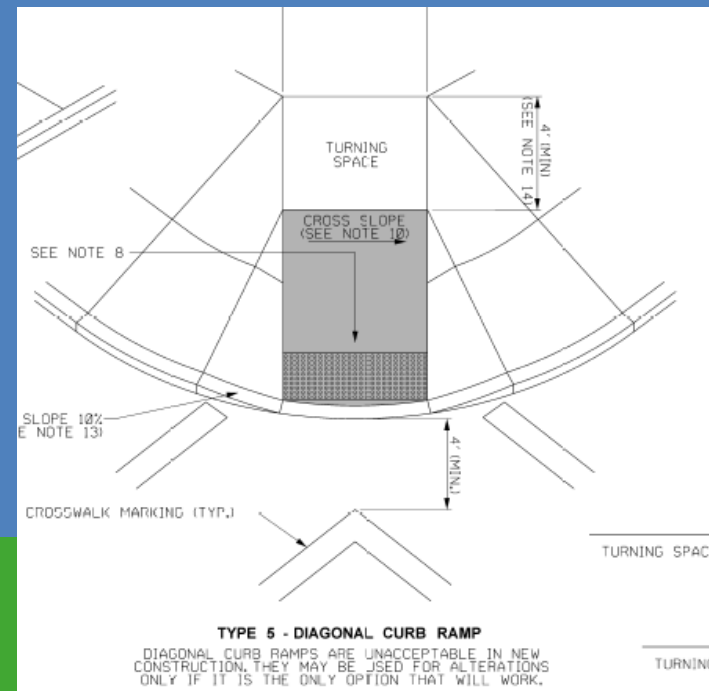
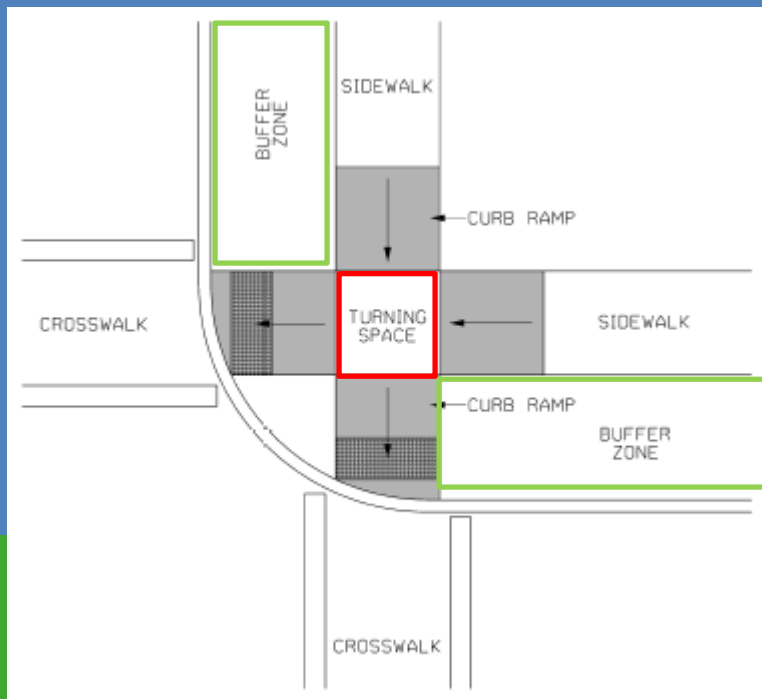
Narrow ROW

- Buffer Space



Narrow ROW

- Buffer Space



Narrow ROW

- Road Diets



Utility Conflicts

- Often expensive and time consuming
- Consider depth of underground utilities
- Consider MDOT requirements if MDOT will maintain the route





Railroad Crossings

- Often expensive and time consuming
- Can't we just skip the RR segment?
- Two components:
 - Gates/Lights potentially
 - Roadway crossing
- Don't forget about flagging costs for sidewalk

Encroachments

- Mailboxes
- Safety encroachments (brick signs, houses)





Historically Significant Resources

- Above ground
- Below ground



Unpopular Decisions

- Legal but not always best
- Trees
- One-way streets
- Street parking

Outline

- Elements to consider
- **Impacts of not considering certain elements**
- Case study – field trip





Impacts of not considering certain elements

- Impacts the amount of funds applied for
- Drastic increase in local match
- DOJ complaint
- Managing taxpayer expectations
- Employment



PROWAG

access-board.gov

guidelines and standards

streets and sidewalks

public rights-of-way

background

advisory committee report



<https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/background/access-advisory-committee-final-report>



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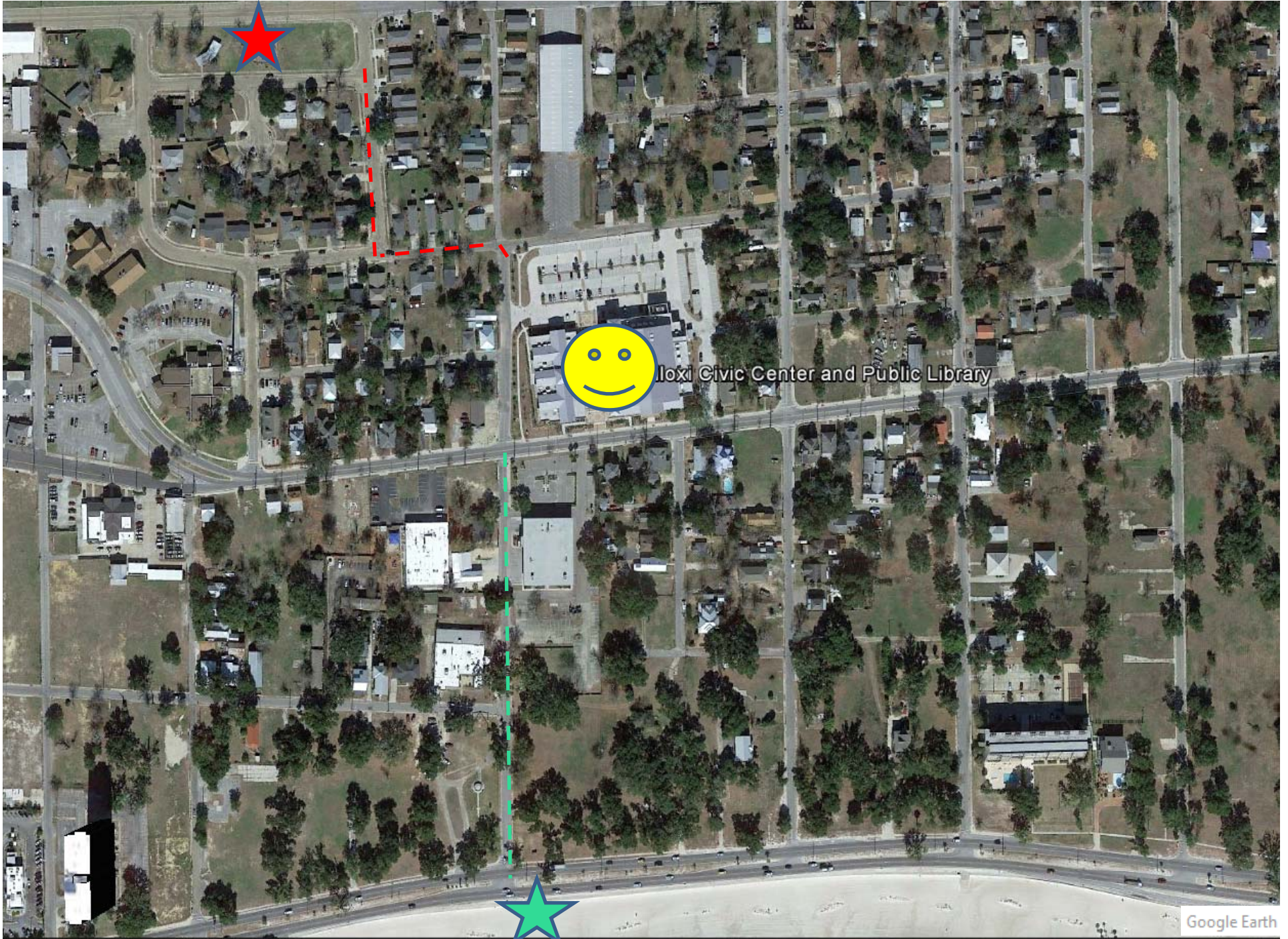
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Illoxi Civic Center and Public Library

North Route to Park



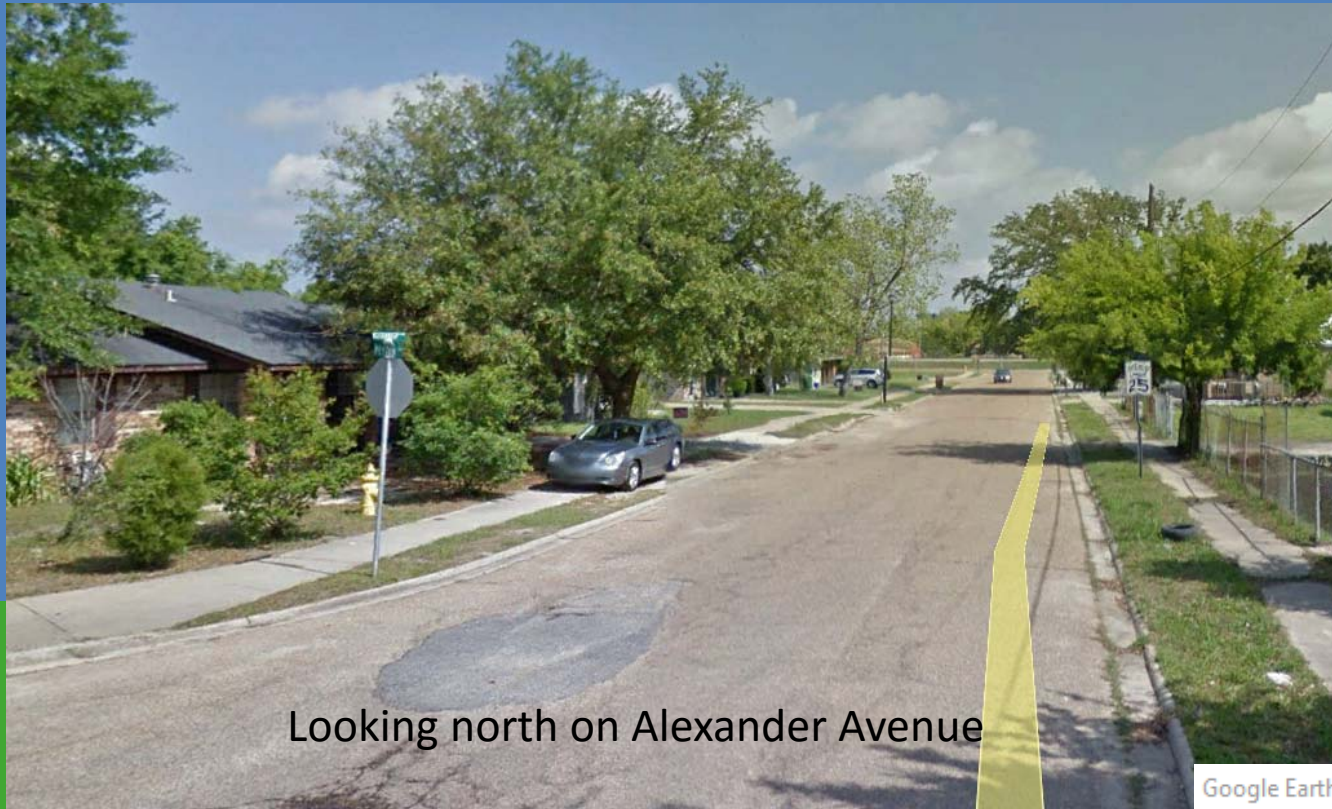
Looking west down Peyton Drive



Google Earth

- ROW width?
- Trees
- Power Pole
- Buffer?
- Curb??
- Flat terrain
- Number of crosswalks

North Route to Park



- Mountable curb
- Parking?

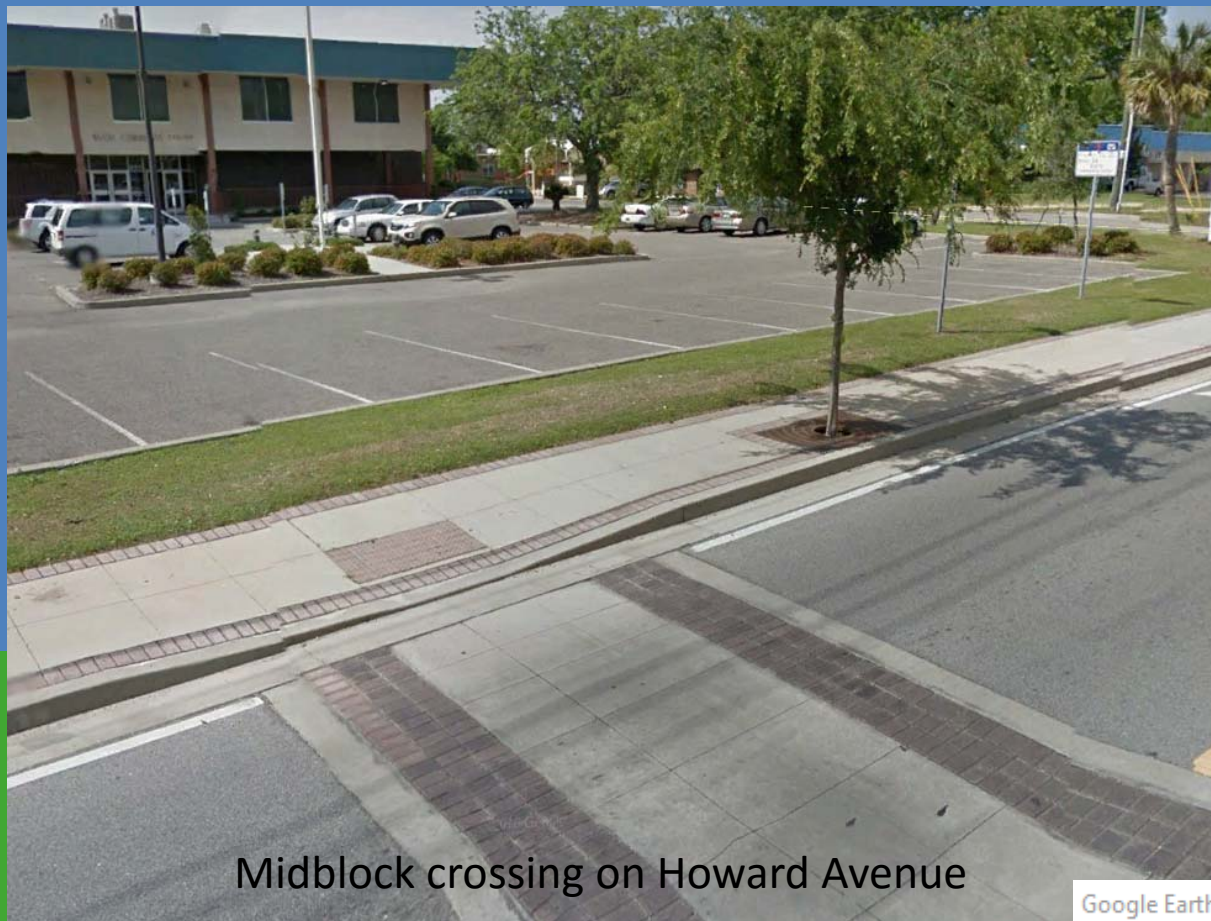
North Route to Park



Looking north on Alexander Avenue

- Mountable curb
- Inlet(s)
- Underground power
- ROW width?

South Route to Beach



Midblock crossing on Howard Avenue

Google Earth

- Lip at curb
- Slope exceeds 2% @ Landing?

South Route to Beach



Looking South on Bellman Street

Google Earth

- Lip at curb
- Ramp slope/cross-slope
- Buffer?
- ROW?

South Route to Beach



Looking South on Bellman Street

- Existing Ramp
- Fire lane
- Buffer?
- ROW?



South Route to Beach



- Extend parking lot island to protect peds
- Existing sidewalk
- Buffer?
- ROW?



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Road Diets



Road Diets





Tanglefoot TRAIL



SafeRoutes

National Center for Safe Routes to School



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