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MIA STATION

MP 361.1



Southeast Florida FSUTMS Users Group

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OVERVIEW

Planning Intermodal Container Transfer Facility (ICTF) – Port **Everglades**, FL Orange Blossom Express (OBX) - Orlando, FL Design SR 14 - San Diego, CA All Aboard Florida (AAF) – Orlando to Miami Construction Eller Drive - Fort Lauderdale, FL Lima Metro – Lima, Peru Software: VISSIM, Rail Traffic Controller (RTC), Simwalk

Intermodal Container Transfer Facility

- Study pertaining truck circulation within planned ICTF area
- Performance parameter: travel time
- Software:
 - Microsimulation: VISSIM
 - 3D Models: Sketchup
 - Video processing: Camtasia



Planned commuter rail line between Orlando and Eustis Operational analysis Software: RTC







Train Performance Calculator (TPC) Graph



OBX

Time-Space diagram aka Stringlines





Effect of new siding implementation



SR 14

- Highway interchange alternative design analysis
- Signalized vs. Roundabout configuration
- Software:
 - Microsimulation: VISSIM
 - Video processing: Camtasia

SR14 – Concept Plans

Signalized

Roundabout





SR14 – VISSIM Animations

Signalized

Roundabout



AAF

Rolling Stock performance evaluation

- Capacity analysis
 - Existing sidings improvement and implementation of new ones
 - Schedule optimization
- Work staging (i.e. railroad crossings, MOT)Software: RTC

AAF – RTC Network



AAF - Stringlines



AAF - TPC



Eller Drive

- Maintenance of way in between Project phases
- Railroad crossing and signal pre-emption
- Software:
 - Microsimulation: VISSIM
 - Video processing: Camtasia

Eller Drive – Signalization Plan



Eller Drive

VISSIM Animation





Lima Metro

- Station evacuation analysis and compliance with NFPA 130 – Standard for Fixed Guideway Transit and Passenger Rail Systems
- Evaluation of stairs, escalators, and emergency exits
- Evacuation time requirement: 5 minutes
- Software: Simwalk

Lima Metro

Station 3D drawing
SimWalk model isometric view





Lima Metro – Simulation Settings

Infrastructure



Patrons/Agents

Profile	Distribution	Avg. Speed	Breadth	Height	Age	Gender
name	[%]	[m/s]	[cm]	[cm]	[years]	M / F [%]
Lima0-15	22	1.50 ± 0.30	35 ± 1	120 ± 30	10 ± 5	50 / 50
Lima15-60	70	1.60 ± 0.30	40 ± 5	175 ± 10	40 ± 20	50 / 50
Lima60+	8	1.50 ± 0.30	35 ± 5	160 ± 10	70 ± 10	50 / 50

Lima Metro

Simulation animation



Summary and Application in South Florida Region

- Utility in various stages of a Project
 - Selection of best alternative
 - Design improvements
 - Time and cost savings
- Output
 - Performance measures (i.e. LOS, Delay, Travel Time)
 - Visual qualitative assessment
- Ease of showcasing benefits and impacts (i.e. public meetings, elected officials presentations)
- Station design and evacuation analysis (i.e. Hurricanes)