Some Assembly Required: Lessons Learned in Complete Streets Implementation

New Partners for Smart Growth Conference
St. Louis, MO
February 3, 2017
ASLA Mission and Vision

2011 ASLA Professional Awards Winner
Portland Mall Revitalization – Portland, OR
Firm: ZGF Architects, LLP
This project was made possible by the following organizations:

- American Society of Landscape Architects
- AARP
- Nelson Nygaard
Landscape Architects and Allied Professionals

Tom Tavella, FASLA
Alta Planning and Design

Bert Kuyrkendall, P.E.
City of Chattanooga

Peg Staeheli, FASLA
MIG, Inc.
Some Assembly Required: Lessons Learned in Complete Streets Implementation
New Partners for Smart Growth 2017 – St. Louis, MO
Tom Tavella, FASLA
What Happened???

Cartoon courtesy of Walter Kulash
The Problem
AutoCentric Transportation Philosophy

• Emphasis
  – Capacity
  – Operational Efficiency
  – Vehicular LOS
  – Minimize Vehicular Delay

• Sometimes Prohibited
  – Speeds Lower Than 45 mph
  – Narrow Lanes
  – Two Lane Roads
  – On Street Parking
  – Street Trees/Furniture
  – Crosswalks/Sidewalks
The Size and Character of Road Influences the Quality of Urban Environment
The way cities and suburbs are developed could be bad for your health.

The potential for actually tackling some of these things, with the savvy of the folks who have tackled tobacco, is enormous," says Ellen Vanderslice, head of AmericaWalks, a pedestrian advocacy group based in Portland, Ore.

A study by the federal Centers for Disease Control and Prevention is tracking 8,000 residents of Atlanta to determine whether the neighborhood they live in influences their level of physical exercise. The Robert Wood Johnson Foundation in New Jersey.
Prevalence of Obesity* among U.S. Adults 1988

Obesity Trends Among U.S. Adults 2008-2010

Leanest State: Colorado (20.8%)
Fattest State: Mississippi (34.9%)

Percentage of Obese Adult Population (3-year average from 2011-13 CDC Behavioral Risk Factor Surveillance System data)

United States of Obesity 2014

CalorieLab
31% of US adults are obese, 65% are obese or overweight -- and gaining 1-2 lbs a year

Between 10% and 15% of children and teens are overweight/obese -- and more likely to become obese adults

Overweight/obesity rates highest in low-income and minority populations

Obesity health and productivity costs exceed $147 billion per year

956 Billion in cost 2030
Paradigm Shift for Public Health Research: Community Design and Transportation Matter

"Everyone should have access to spaces and places that make it safe and easy for us to walk. ... Walkable communities are good for social connectedness, good for business, good for the environment, and, most importantly, good for our personal health."

— U.S. Surgeon General, Vivek H. Murthy
The Cure

Complete Streets

- Context Sensitive

- Connected
  - Seamless connections among modes
  - Street connectivity

- Zones

- Street components
  - Beyond the travel lane
Context Sensitivity: General Street Typologies

- Boulevard
- Avenue
- Main Street
- Local Street
- Alley

- Additional types and cross-sections as desired by jurisdiction

- Ideal and optional elements vary by street type
Components of a Street Image from ITE CSS Manual
Anatomy of a Street

Street side Zones

- Residential: 12 – 18’
- Mixed / Commercial: 15 - 25’
Frontage Zones

Frontage Zone
Provides clearance to pedestrians, door openings

Width
Minimum: 0” (adjacent to groundcover) to 18” (adjacent to buildings)
Ideal: 2 – 3’
Throughway Zones

Throughway Zone
Unobstructed walkway for two or more

Width
Ideal: 6-10’
Residential Street
Minimum: 5’
Commercial Street
Minimum: 6’
Furnishings Zone

- Activities – dining, resting, food vendors
- Buffer – Protection from vehicles
- Utility – parking meters, bus stops, lighting, wayfinding, wifi?
- Environmental pollution mitigation (noise, air, water)
- Landscaping
- Art

- Furnishings: 4 – 10’ (tree wells, outdoor dining, gardens, benches, utilities, etc)
Edge Zone

• Curb, clearance for car doors, parking overhang, transit shelters, bike racks, etc.
• Width: 0.5’ – 6’
Parking

- Parallel Parking
  - Narrower roadways
  - Parking lane width – 6-8’, length – 20’

- Angle Parking
  - Wider roadways, more parking per block
  - 45° Angle – 16’ projection
  - 60° Angle – 18’ projection
  - Back-in angle parking

Image Courtesy of Daily Mail (UK), March 29, 2011
Bike Facilities

Images from NACTO Urban Bikeway Design Guide

Bike Lanes: 5-6' wide
Between vehicle lanes & parking
Most appropriate for streets 25-35 mph

Shared Lanes:
Most appropriate for streets ≤ 25 mph
Typically installed in middle of street

Cycle Track: Buffered, 6-11' wide

Raised Side Path:
Shared Trail adjacent to roadway
Min. 10' wide
Optimally 12-20' wide
Optional landscape buffer or barrier
On one side of road
Midblock Crossings

• 75% of pedestrian fatalities occur away from intersections
• Most appropriate when:
  – High pedestrian volume
  – Intersections > 600’ apart
  – Low-to-moderate speeds (<40 mph)
  – Enforcement
• Visibility is paramount!
  – Crosswalk markings
  – Street lighting
  – Bulbouts, Medians
  – Vehicular warnings (HAWK, etc)
Median

• Benefits
  – Aesthetic Improvement
  – Reduces apparent road width
  – Improves pedestrian crossing safety
  – Consolidates left turn movements

• Minimum Width
  – 4’ for raised median without landscape
  – 8’ for landscaped median
  – 10’ to accommodate left turn lanes
  – 14’ to accommodate left turn lanes with adjacent median
Green Infrastructure

- Stormwater Management
- Bioswales
- Rain Gardens
- Permeable Pavement
Shared Streets
Shared Streets
Pavements
Furnishings
Plantings
Opportunity Spaces
Local Culture - Art

ARTISTIC / SCULPTURAL
BENCHES AND PLANTERS
Great Streets
Guidance Today

ITE – Designing Walkable Urban Thoroughfares:

A Context Sensitive Approach

“This report has been developed in response to widespread interest for improving both mobility choices and community character through a commitment to creating and enhancing walkable communities.”

From Chapter 1 of the Recommended Practice, 2010

Local guidelines are popping up all over the country and are a great resource.

Model for LIVING STREETS Design Manual
-Los Angeles County 2011

NACTO Manuals on Bikeways and Streets
So you have a plan...now what?

Main Street/US 64 Downtown Streetscape - COMPLETED

El Paso Avenue Complete Street – COMPLETED
Pitfalls AFTER Planning: The Usual Suspects

- Doesn’t conform to local/state standards
- Community resistance
- Agency resistance (especially with respect to motorized traffic performance)
- Constructability issues
- Funding constraints (including cost escalation)
Jumpstarted with Tactical Urbanism
Challenges

• City engineering and state DOT didn’t understand project
  – City has been brought along thru education and is now partner in advocating to TDOT
Hampline – Segment 1&2

Landscape architect – Alta Planning + Design
$20+ million
in properties purchased, built and/or renovated, completed and/or planned

New Businesses
bringing retail, bars/restaurants, medical/dental, spiritual and related services

29 New Businesses
40,000+ Art Walk Visitors
29 Significant Property Build/Renovations (including 17 blighted locations)
5 Public Art Installations

Revitalizing a Neighborhood

PLUS Overton Park Conservancy and Shelby Farms Greenline
Water Tower Pavilion

ArtPlace America Grant Winner

• Water Tower becomes beacon
• Street and loading dock area are knitted together via terraced seating
• 500 foot linear park developed
• Community-based programming delivered

Landscape architect – Alta Planning + Design
Charrette Concept
Challenges

• Discovered massive concrete slab under roadway (former state highway)
  – Solution: Modify design concept to keep centerline in place to avoid significant demolition
El Paso Corridor – Refined Concept

Graphic courtesy Fuss & O’Neill
Design (Fall 2012-Spring 2013)

Landscape architect – Alta Planning + Design
“Though El Paso Avenue has its own design, the concept is similar to the H Street and Parker Road project, with vehicle travel lanes, bike lanes, trees, sidewalks and period lighting. “It’s going to be one cool street,” Oakes said... He added that capital road projects such as these are paid for with proceeds from the city’s one-cent sales tax.”

Key: progressive City traffic engineer and supportive university ($)

Construction (2013-2014)
Post-construction:

- New businesses along corridor
- New businesses downtown
- Foot and bike traffic
- University pursuing mixed use with housing corridor
Strategies to Overcome

- Use national guidance; change the rules
- Collaborate with community at all stages
- Quantify impacts; accept congestion
- Be flexible with design, but respect the vision
- Tap non-traditional funding; know your contracting community
VISION | Identity

• MULTIDISCIPLINED
• PARTNERS
  • RPA, PW, ECD, Public Art
  • River City Co.
  • Foundations
  • Nonprofits
VISION | Values

- GREEN
- HEALTHY
VISION | Values

• GREEN
• HEALTHY
VISION | Values

- GREEN
- HEALTHY
VISION | Values

- GREEN
- HEALTHY
VISION  |  Values

• GREEN
• HEALTHY
VISION | Values

• GREEN
• HEALTHY
Chattanooga is a Car-Dependent city

Most errands require a car.
VISION | Method

A CITY OF HEALTHY SELF-SUSTAINING NEIGHBORHOODS
VISION | Method

A CITY OF HEALTHY SELF-SUSTAINING NEIGHBORHODS
VISION | Method

STANDARDS

Street Type X Transect = Standard
NEIGHBORHOOD [RE]GENERATION  |  Elements

- DAILY NEEDS
- TRANSIT TO JOBS
- DIVERSITY
NEIGHBORHOOD [RE]GENERATION | Elements

- DAILY NEEDS
- TRANSIT TO JOBS
- DIVERSITY

Trail to connect Glass St. to Sherman’s Reservation
EAST CHATTANOOGA
NEIGHBORHOOD [RE]GENERATION

Elements

• DAILY NEEDS
• TRANSIT TO JOBS
• DIVERSITY
Can a refurbished park bring back East Lake?

East Lake Neighborhood Association president Lisa Davis poses for a portrait at East Lake Park on Tuesday, Dec. 29, 2015, in Chattanooga, Tenn. The city is planning to refurbish the park.

Can a few thousand fish pull a neighborhood together?

Lisa Davis, president of the East Lake Neighborhood Association, thinks it — plus other improvements to the community's park — is worth a try.

So does the city of Chattanooga and the Lyndhurst Foundation, which are splitting $800,000 in costs to refurbish East Lake Park.

The park — home to the city's first zoo, and once a destination for residents and visitors — is the centerpiece of what used to be a solidly middle-class community at the foot of Missionary Ridge.

• DAILY NEEDS
• TRANSIT TO JOBS
• DIVERSITY
NEIGHBORHOOD [RE]GENERATION | Elements

- DAILY NEEDS
- TRANSIT TO JOBS
- DIVERSITY
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION  |  Methods

• PLANNING/ZONING
• TRANSPORTATION INVESTMENT
• PARTNERSHIPS
• FOCUS ON CENTER
• AFFORDABLE HOUSING
• SMALL BUSINESS INCENTIVES
• GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

• PLANNING/ZONING
• TRANSPORTATION INVESTMENT
• PARTNERSHIPS
• FOCUS ON CENTER
• AFFORDABLE HOUSING
• SMALL BUSINESS INCENTIVES
• GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- Planning/Zoning
- Transportation Investment
- Partnerships
- Focus on Center
- Affordable Housing
- Small Business Incentives
- Generation
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- Planning/Zoning
- Transportation Investment
- Partnerships
- Focus on Center
- Affordable Housing
- Small Business Incentives
- Generation
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
NEIGHBORHOOD [RE]GENERATION | Methods

- PLANNING/ZONING
- TRANSPORTATION INVESTMENT
- PARTNERSHIPS
- FOCUS ON CENTER
- AFFORDABLE HOUSING
- SMALL BUSINESS INCENTIVES
- GENERATION
**PROJECTS | Virginia Avenue Greenway**

- **FUNDING**: $400k City, Lyndhurst
- **OUTREACH**: Urban planning charrette
- **DESIGN STANDARDS**: CSDS, MUTCD
- **OBSTACLES/INNOVATIONS**: Bike/Ped lane
• **FUNDING:** $400k City, Lyndhurst
• **OUTREACH:** Urban planning charrette
• **DESIGN STANDARDS:** CSDS, MUTCD
• **OBSTACLES/INNOVATIONS:** Bike/Ped lane
**PROJECTS | MLK/Bailey**

- **FUNDING:** $2m, City, Benwood, CMAQ, STP
- **OUTREACH:** Neighborhood meetings, online survey
- **DESIGN STANDARDS:** NACTO, CSDS
- **OBSTACLES/INNOVATIONS:** Road diet, green lanes
PROJECTS  |  Glass Street

**FUNDING:** $650k
City, CDBG

**OUTREACH:** GHC planning charrette

**DESIGN STANDARDS:**
CSDS, ITE Walkable Urban Thoroughfares

**OBSTACLES/INNOVATIONS:**
State route, public art
• **FUNDING**: $500k City, Benwood, Developer

• **OUTREACH**: Stakeholders

• **DESIGN STANDARDS**: CSDS, ITE Walkable Urban Thoroughfares

• **OBSTACLES/INNOVATIONS**: Timeframe, PPP, stormwater
Complete Streets | Chattanooga

- VISION
- NEIGHBORHOOD [RE]GENERATION
- PROJECTS
Some Assembly Required: Lesson Learned in Complete Streets Implementation
New Partners for Smart Growth 2017 – St. Louis, MO
Peg Staeheli, FASLA
Implementation

Full Replacement
• Yesler Way, Seattle WA
• Bell Street, Seattle WA

Reconstruction
• Winslow Way, Bainbridge Island WA
• Main Street Auburn WA

ADA and Ped/Bike Upgrades
• Historic Downtown Bellingham, WA
Complete Streets – Full Replacement - Yesler Way Seattle WA

Elements:

• Arterial
  • Major access downtown Seattle to Lake Washington
• Multi-modal
  • Transit
  • Streetcar
  • Bicycles
  • Pedestrian (Parks, Schools, Senior & Multifamily Housing)
• Tree Protection and New Trees
• Street Furnishings
Complete Streets – Full Replacement- Yesler Way Seattle WA

Lessons Learned

• Construction Phasing
  • Streetcar came first with no time to pause to complete the street
• Space is space / right of way
• ADA and Hillside intersections
• Mixing bikes and peds
• Mixing school age and commuters
• Tree Protection and Pressure
• Street Furnishings and art

Yesler Way, Seattle WA MIG | SvR
Complete Streets – Full Replacement- Yesler Way Seattle WA

Details

- Mixing Zones
- Pause points
• Pause points
• Hillclimb assist - all ages
• Tree enhancement
Complete Streets – Full Replacement Bell Street, Seattle WA

Elements:

- Park Use in Active Street
  - Links South Lake Union to Waterfront
- Multi-modal
  - Bus, Delivery Trucks, Emergency
  - Bicycles
  - Pedestrian
- Vegetation
- Street Furnishings

Bell Street,
Seattle WA MIG | SvR
Lessons Learned

- Interagency approvals & permits,
- Funding
- What is underground might drive design
- Grades might dictate approach
- Working with less- theory vs practice
- Staff changes – trends change- adaptive management
- Gentrification and getting along
- Pilots - it now looks easy
Complete Streets – Full Replacement - Bell Street, Seattle WA
Complete Streets – Full Replacement- Bell Street, Seattle WA
Complete Streets – Full Replacement - Bell Street, Seattle WA
Complete Streets – Reconstruction Winslow Way, CoBI, WA

Elements:
- Main Shopping Street
  - Town Center
  - Tourism
  - Parking
- Multi-Use
  - Commuter Corridor
  - Shopping
  - Bicycles
  - Pedestrians
  - Events
- Green Stormwater & Trees
- Street Furnishings
Winslow Way: Broad Goals and Dreams

- Keep some of the old elements- benches, bricks, community driven art, trees.
- Wider, well-lit, accessible crosswalk with texture treatment
- Bicycle racks, landscaping, pedestrian seating areas
- Stormwater Planter, street trees, porous paving
Complete Streets – Reconstruction Winslow Way, CoBI, WA

Winslow Way Before and After, Bainbridge Island WA MIG | SvR
Complete Streets – Reconstruction Winslow Way, CoBI, WA

Winslow Way Before and After, Bainbridge Island WA MIG | SvR
Complete Streets – Reconstruction- Main Street, Auburn WA

Elements:

• Traditional Shopping Street
  • Town Center
  • Not capturing commuters
• Multi-Use
  • Light Rail Commuter Corridor
  • Shopping
  • Bicycles
  • Pedestrians
  • Events
  • Parking
• Green Stormwater & Trees
• Street Furnishings

Main Street Existing Conditions, Auburn WA MIG|SvR
Complete Streets – Reconstruction - Main Street, Auburn WA

Main Street Concepts, Auburn WA MIG | SvR
Complete Streets – Upgrade Downtown Bellingham WA

Elements:
• Historic Downtown Streetscape
  • ADA retrofits
  • Established character

Historic Streetscape Bellingham WA, JGM Landscape Architects, circa 1980’s
Complete Streets – Upgrade Downtown Bellingham WA

Elements:

• Multi-modal
  • Transit
  • Commercial
  • Bicycles / College Town
  • Pedestrians
  • Parking
• Mature Trees and pavement
• Street Furnishings
• Drainage and GSI

Historic Streetscape Bellingham WA, JGM Landscape Architects, circa 1980's
Lessons Learned

- Streetscape Standards and Adaptive Design
- Maintenance crews key to material decisions
  - Pavers
  - R2D2
  - Scoring
- Pavers and ADA
- Parking and ADA
Lessons Learned

- Trends and Politics
  - Adaptive design
- Construction
  - Which projects sets the stage
  - Who has control
- Tree Enhancement & Protection
- Street Furnishings
Complete Streets – Upgrade Downtown Bellingham WA
Complete Streets – Lessons Learned
Integrating Green Stormwater Infrastructure
Complete Streets – Lessons Learned
Integrating Green Stormwater Infrastructure
Complete Streets – Assembling all the little parts requires the team to pay attention; there are no fixed directions.
2015 ASLA Professional Award Winner
The Lawn on D – Boston, MA
Contact Information

Tom Tavella, FASLA
Alta Planning and Design
thomasrtavella@gmail.com

Bertran Kuyrkendall, P.E.
City of Chattanooga
bkuyrkendall@Chattanooga.gov

Peg Staeheli, FASLA
MIG, Inc.
pstaeheli@migcom.com

Mark Cason
American Society of Landscape Architects
mcason@asla.org