Green Streets Case Studies

Rick Barrett Principal, LEED ND - MIG
Complete Streets and Green Infrastructure Approach

A system that promotes:
• People Places;
• Healthy Connections;
• Natural Drainage;
• Less Use of Energy;
• Habitat.
Street type: commercial main street (minor arterial)
Posted speed: 20 mph
Right of way: 78’
Existing Conditions: Utilities

Sanitary Sewer:
Severe corrosion; Mis-aligned joints

Storm Sewer:
Ponding water, No treatment

Water Mains:
Replacement recommended in 1985
Sub-surface utilities require extensive trenching

- ~57% Disturbance in downtown core
- ~42% Disturbance in both outer districts
- ~47% Disturbance overall
Existing Condition: Surface Conditions

Settling

Ponding Water

Inaccessibility

< 4’ width

Asphalt Cracking

Concrete Heaving
Narrow street and parking stall sizing
Green Stormwater Infrastructure
Green stormwater infrastructure and access
Maintain clear paths of travel
Expand the pedestrian realm
Increase permeability
Accessibility and Safety
Layering of design elements
Create people places
Street type: neighborhood commercial (collector)
Posted speed: 25 mph
Right of way: 80’

1600 acre upstream drainage area

21ST STREET, PASO ROBLES, CA
Incomplete pedestrian facilities on 21st Street during 1.6” rain event.

No storm drainage infrastructure.

Failing Pavement Subgrade.
• Reduce the 85th percentile speed (31 mph) by 30%
• No increase in traffic accidents
• Increase pedestrian and bicycle miles traveled by 200% by 2015
• Capture and infiltrate runoff from 90% of storm events
• Maintain existing trees and establish at least 60 new street trees
• Increase cumulative value of properties fronting 21st Street by 20%
EXISTING TYPICAL STREET CROSS SECTION

PROPOSED TYPICAL STREET CROSS SECTION
Integrating green street elements
Urban stream channel
(high flow bypass)
Before

After

21st Street – Paso Robles, CA
Early returns

• 7 mph reduction in 85th percentile speed (31 mph to 24 mph)
• No new traffic accidents
• Anecdotal evidence suggests increase in non-motorized use
• Less frequent and less severe flooding (2.3” rain/24 hrs Dec 12th)
• Goal to redraw FEMA’s 100 year floodplain boundary
• Groundwater recharge
• 73 new street trees
14th Street Promenade, San Diego, CA
- 14th Street
- Union Street
- 8th Avenue
- Cedar Street
- E Street
- Island Avenue
Pedestrian Gateway

Repurposed Bob Sinclar sign
Globe lighting
Light post

Bike Parking
Repurposed Bob Sinclar scooter
Pannealke Shelf
Support post

Thematic Bike Storage
Looking south from C Street - Existing
Looking south from C Street - Proposed Promenade
Birdseye View looking north from Market Street - Existing
Looking north from Imperial Avenue - Existing
Looking north from Imperial Avenue - Proposed Promenade
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