Urban Design Best Practices and Innovations

Update
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Urban design best practices

Innovative linear parks that include streets, streams, and stormwater enhancements
More and more of what our communities desire:
- Socialization and experiences
- Sense of belonging to a place
- Places to walk and interact
Documented existing conditions in the CRDs/CRAs
- Evaluated quality/maintenance needs of existing infrastructure
- Analyzed property size and shape

Built partnerships with county agencies and created technical teams (internal and external) to provide expertise

Researched national best practices

Incorporating new guidance into updates to the Comprehensive Plan, Zoning Ordinance, Public Facilities Manual

Now, beginning to apply it countywide to a variety of activity centers (ex. Merrifield Suburban Center Study/WFC)
Streetscape and Urban Design Best Practices
Street trees – Planting Standards and Tree Species
Options for how developers can provide street trees when space is limited

Alternative Strategy 1
Continuous tree wells provide adequate soil volumes by sharing soil among multiple trees

Alternative Strategy 2
Structured soil system in a tree well

Alternative Strategy 3
Amenity Zone cantilevered over a tree well

Alternative Strategy 4
Smaller Category II tree that requires less soil volume

Alternative Strategy 5
Street trees located in the Building Zone
Street trees – Detail developed for the Design Guidelines based on Alternative Strategy #2
Green Stormwater Infrastructure Toolkit
Green Stormwater Infrastructure
Bio-retention in the landscape panel
Small-scale and Incremental Development

1. Buildings located close to the street
2. Parking on sides or rear
3. Planning for future road network
4. Street trees, streetscape and site landscaping
5. Public spaces and pedestrian walkways
6. Monument signs that aren’t visually obtrusive
Forming a building-to-street relationship to help realize the vision of the Comp Plan
Typical

Preferred

Small-scale and Incremental Development

BUILDING LOCATED AT Build-to line

PARKING SCREENING

MAIN ENTRANCE ALONG STREET
Small-scale and Incremental Development
Ecological Spines – passive parks within existing riparian corridors, adjacent to development

Livability Spines – linear green spaces alongside streets, adjacent to development
Wild Mile
Chicago, IL
Linear Park along a roadway
Sydney, Australia
Ecological Spines – Existing Condition in the Hybla Valley CBC, Richmond Highway
Ecological Spines are linear parks and enhanced riparian corridors where there are surface or buried streams. Formed by daylighting covered streams or by enhancing existing streams and riparian buffer areas, Ecological Spines serve a range of environmental, recreational, and educational purposes while connecting people to nature. Some Ecological Spines also include local streets and stormwater management.

Function as resilient and ecologically sound riparian corridors

Serve as open space amenities that enhance community character and identity

Provide mobility options for pedestrians, cyclists, and in certain instances, low-speed vehicles

Foster strong connections between people and nature by providing immerse natural experiences
Ecological Spines – Constrained Scenario

CONSTRAINED WATERWAY

EXISTING PIPE LOCATION

CONSTRUCTED BANK

ACTIVE CHANNEL

BASE FLOW (PERENNIAL)

WALKWAY

CONSTRUCTED BANK

ACTIVE CHANNEL

WATERWAY

BASE FLOW (PERENNIAL)

PATH

EXISTING PIPE LOCATION

UNCONSTRAINED WATERWAY
Ecological Spines – Case Study Example
Headwaters at Tryon Creek, Portland, OR

Pre-development Condition

Site Plan

HEADWATERS AT TRYON CREEK
SUSTAINABLE SITE HYDROLOGY

1. Daylight Creek
2. Restored Riparian Buffer with Large Lenses
3. Creek Stream Infiltration Basins (Treated Stormwater Reuse)
4. Parking Area Infiltrationeki Ponds
5. Five Entrance Drains
6. Filled Through Rooftop Green for Rainwater
7. Eco Roof
8. Bent Creek Culvert
9. Pedestrian Bridge
10. Entrance Deck and Gating Platform
11. Modified Rain Gardens
12. Existing Commercial Area Drain to Rain Garden
13. Broom to Flow Through Planter Adjacent to Creek
14. New Shoreline and Street Trees
15. City Street Removal
16. 2 Local Storms for East and West Views
Ecological Spines – Programming Examples
Creation of an ecological spine is one way for developments to address stormwater guidance in the Comprehensive Plan. It can also help developers address open space and urban parks framework planning guidance.

- **Maintenance**: responsible party, also ensuring durable and floodable designs
- **RPA policy**
- **Research** on case studies, Fairfax policies, and floodable designs, and strategies to encourage their implementation continues (i.e. getting the barriers out of the way) — we don’t have all the answers yet
- **County** may need to consider partnerships between developers and the county (to address financial or technical challenges), particularly in instances where there are improvements needed to the stream corridor beyond the project
Livability Spines are roadways that include linear green spaces and plazas along their sides and across multiple developments and/or blocks. Livability Spines enhance multimodal mobility by integrating pedestrian and bicycle facilities. As linear parks with outdoor activities and active uses adjacent to the ground floors of buildings, Livability Spines can function as “main streets” and community gathering places as an alternative to very busy thoroughfares.

- Create by aggregating park space contributions by individual properties
- Accommodate a spectrum of active and passive uses
- Foster an active street life
- May serve as an alternate ‘Main Street’ to a busy thoroughfare
Potential Ground Floor Uses:
- Cafe
- Daycare
- Residential Building Lobby

Potential Programming:
- Active Programming: Outdoor seating, kiosks, adult play areas, kid's playspaces, exercise equipment areas and related programming
- Passive Programming: Outdoor seating, kid's playspaces, quiet relaxation areas, etc.
Livability Spines
Livability Spines
More active programming is located near retail/commercial, higher-density uses, and transit.

More passive programming is located near lower density development and single-family residential neighborhoods.
Emerging Issues and On-going Work

- Managing needs/competing interests for the curb space
  - balancing comfort/needs of all users
  - minimizing impacts on property owners for additional ROW/land that could inhibit redevelopment
- Evolving mobility options (scooter, curb management)
- Exploring alternative shared-use path/bike facilities materials (other than asphalt) that are in keeping with the character of the activity centers
- Keeping up with rapidly changing industry practices for Green Stormwater Infrastructure design
- Considering impacts of One Fairfax policies in decision-making for streetscapes and public spaces
- On-going documentation and research work on Ecological Spines
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