North Texas Alternative Futures

Parks & Trails

A key indicator for comparing alternative future scenarios

This powerpoint presents:
- What is this key indicator?
- How do the alternative future scenarios compare?
Green Infrastructure – What Is It?

“Strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values & functions and provide associated benefits to human populations”

Source: The Conservation Fund
We need sophisticated tools to analyze Green Infrastructure

Lands that Provide Associated Benefits for Human Populations

Lands that Support Natural Ecosystem Values and Functions

Source: The Conservation Fund
Green Infrastructure Networks

- **Hubs** – anchor the system
- **Links** – tie the system together
- **Sites** – smaller areas, may not be attached

- **Lands** - public, private & non-profit
- **Scales** - statewide, regional & community
- **Landscapes** - urban, suburban, rural & wild

Source: The Conservation Fund
Relating Green to Gray

Green Infrastructure and Gray Infrastructure

Both Require:
- Strategic planning to ensure optimal / functional systems
- Financing for design and maintenance
- Management to maintain services & maximize benefits

Ideally Are:
- Planned simultaneously before development
- Given equal priority in the planning process
- Planned as complimentary systems
- Given equal attention in the funding process

Source: The Conservation Fund
Parks & Trails

Under Business As Usual, protected open spaces are not keeping up with growth.

*Scenarios Compared to Business As Usual*

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Centers</td>
<td>++ Improves Greatly</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>++ Improves Greatly</td>
</tr>
<tr>
<td>Diverse Distinct Communities</td>
<td>+ Improves</td>
</tr>
<tr>
<td>Green Region</td>
<td>++ Improves Greatly</td>
</tr>
</tbody>
</table>
Connected Centers

This scenario envisions many human-scale, moderate intensity mixed use centers located throughout the region, similar to projects near DART light rails stations.

++ Improves Greatly Parks & Trails compared to Business As Usual

- Interconnections of trails, sidewalks and sustainable public rights-of-way would greatly improve on Business As Usual, and would be key components of connectivity for living, working and playing.
- Increased property values could be expected along regional trail corridors connecting mixed use centers ... the Katy Trail in Dallas is but one example.
Return on Investment

This scenario envisions that existing neighborhoods and business areas are maintained, and underutilized properties are revitalized, within the current urban service area through reinvestment in existing infrastructure.

++Improves Greatly Parks & Trails compared to Business As Usual

- Reinvestment would open up untold possibilities for new pocket parks interconnected by urban trails.
- The Trinity Trails System would be completed as the spine of the region’s trail network.
- The proposed regional Veloweb would link several hundred miles of grade-separated concrete trails with transportation interconnections for bicycling and walking.
- This scenario has the greatest opportunity for putting substantial capital and operating funds back into existing communities.
Diverse Distinct Communities

This scenario supports revitalization and investment in the downtowns of large and small communities around the region. It creates places with a mix of housing and jobs, with infrastructure efficiently clustered rather than extending to large areas of low intensity development.

+ Improves Parks & Trails compared to Business As Usual

- Each community would be expected to incorporate its vision for parks and trails as part of its unique identity.
- Existing parks and trails would likely receive more attention for continued maintenance.
- Each new development cluster would include park and trail components.
Green Region

This scenario begins with the preservation of important open spaces and environmental assets. It emphasizes the inclusion of natural areas in the development pattern of all parts of the region, supports green jobs, and reduces the region’s carbon footprint.

++Improves Greatly Parks & Trails compared to Business As Usual

- A primary Green Region concept is that of planning “gray” and “green” infrastructure together.
- Both green & gray infrastructure require strategic planning to ensure optimal/functional systems, financing for design & maintenance, and management to maintain services and maximize benefits.
- The green infrastructure network would have major hubs to anchor the system and innumerable links to tie the system together ... building and expanding upon the Trinity Trails System.
The Trust for Public Land – “Measuring the Economic Value of a City Park System” 2009
Parks and Trails

- Property Value
- Tourism Value
- Direct Use Value
- Health Value
- Community Cohesion Value
- Storm Water Management
- Air Quality
Parks and Trails

- Property Value
  - Proximate value measured up to 2,000 feet from a large park
  - Most value realized within 500 feet
  - Average value added to neighboring properties is 5%
    - Must consider the quality of the park
    - Problematic parks decrease value
    - Premium parks increase value more than 5%
  - Use GIS mapping as a tool to estimate increased tax revenues
  - Quantify added tax revenue attributable to City parks and trails
  - Maximizing proximity of commercial and residential properties to parks and trail maximizes realized tax revenues
Parks and Trails

- Income from Tourism
  - Central Park, Millennium Park, Balboa Park
  - Visitor spending data from local Chambers of Commerce
    - Day visitors and overnight visitors
  - Calculated for City parks that are major draws for out of town visitors
- Are there major parks in North Texas that boost tourism?
- Quantify added tax revenue based on visitation estimates and approximate spending
Parks and Trails

- Direct Use Value
  - Direct uses with tangible value: team sports, biking, hiking, picnicking, etc.
  - “Willingness to pay”: How much would someone pay for activities provided?
  - “Unit Day Value”, US Army Corps of Engineers
  - Value estimates savings for citizens
  - Not like a tax or tourism revenue but is quantifiable
Parks and Trails

- Health Value
  - Economic burden of physical inactivity
  - Access to parks increases individuals level of activity
  - “Parks Health Benefits Calculator”
  - $250.00 annual savings for significant park users, $500.00 for seniors
  - Estimated annual health value for City of Sacramento Parks = $20,000,000
Parks and Trails

- Community Cohesion
  - Parks and the activities provided increase social capital
  - Economic value of social capital cannot be directly measured
  - Contributions to ‘friends of parks’ groups and other agencies tallied (includes time value of volunteering efforts)
  - Estimated annual health value for City of Philadelphia Parks = $8,600,000
Parks and Trails

- Stormwater Management
  - Parks act as large pervious storage areas
  - Reduce burden on storm water management systems
  - Regional analysis to quantify the reduction of stormwater runoff from park systems
  - Assign a per gallon cost for managing stormwater via hard infrastructure
  - Apply this value to determine economic stormwater management value of parks
  - Estimated annual stormwater retention value for City of Philadelphia Parks = $6,000,000
Parks and Trails

- Air Quality Improvement
  - Quantify air pollution removal by park systems
  - US Forest Service – Urban Forest Effects model
  - Use GIS mapping to determine urban forest cover on public parklands
  - Use regional data to determine pollutant loading “flux”
  - Estimates pollutant removal
  - Quantify removal value by it’s ‘externality value’.
  - Estimated annual air pollutant removal value for Washington D.C. Parks = $19,900,000
- Access to trail networks and the associated reduction in Vehicle Miles Traveled can also be incorporated into this value
Impacts of VNT Development Alternatives on Park/Trail/Open Space Services
<table>
<thead>
<tr>
<th>Ecological and Economic Services Provided by Park and Trail Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Values</td>
</tr>
<tr>
<td>Tourism Values</td>
</tr>
<tr>
<td>Direct Use Value</td>
</tr>
<tr>
<td>Health Value</td>
</tr>
<tr>
<td>Community Cohesion Value</td>
</tr>
<tr>
<td>Storm Water Management</td>
</tr>
<tr>
<td>Air Quality</td>
</tr>
</tbody>
</table>
Property Values – Connected Centers (-Same)

Increased property values within mixed use centers. Small park areas surrounded by mixed use centers would have minimal impact on regional property values as a whole.

Increased property values along regional trail corridors connecting mixed use centers however most trail corridors will be located along unused rail lines and utility easements. Minimal impact to existing residential properties.

Property Values – Return on Investment (++Improves Greatly)

Focus on improving existing park and trail infrastructure could have significant impact on surrounding property values. Example: Woodall Rogers Deck Park, Belo Park, Main Street, Trinity River Corridor Projects

Encourages expansion of existing trail networks, encourages new development around improved parks.
<table>
<thead>
<tr>
<th>Property Values – Diverse Distinct Communities (-Improves Slightly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on improving existing park and trail infrastructure could have significant impact on surrounding property values. Encourage community park development that reflects community character.</td>
</tr>
<tr>
<td>Does not encourage trail connectivity between diverse distinct communities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property Values – Green Region (++Improves Greatly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis on identifying natural assets that could provide ‘green infrastructure’ would lead to larger regional parks. Perimeter developments could benefit from increase property values. Connectivity with usable green infrastructure parks is critical.</td>
</tr>
<tr>
<td>Encourages new development to embrace existing open spaces and should increase property values within these new developments</td>
</tr>
<tr>
<td>Encourages retrofits of existing developments, daylighting of creeks, trail and sidewalk enhancements, roadway improvements, etc.</td>
</tr>
<tr>
<td>Encourages expansion of regional trails through larger open spaces to provide connectivity between perimeter developments.</td>
</tr>
</tbody>
</table>
### Touring Values – Connected Centers (-Same)

Tourism values increase based on new mixed use infill developments would be negligible.

Provides higher density retail locations that would draw some tourism revenue but lacks emphasis on development of iconic parks such as Millennium Park in Chicago.

### Touring Values – Return on Investment (++Improves Greatly)

Focus on improving existing park and trail infrastructure could have significant impact on tourism values. Attracts festivals and other large events. Example: Woodall Rogers Deck Park, Trinity River Corridor Projects

Expansion of trail network could attract national race events and therefore boost tourism revenue. (hotel bookings, etc)
### Tourism Values – Diverse Distinct Communities (-Improves Slightly)

Diverse Distinct Communities could increase tourism values by improving existing park areas that could host regional and national events. (Grapefest, etc.)

### Tourism Values – Green Region (++Improves Greatly)

Development of large regional park and trail systems could serve as a catalyst for boosting tourism to the area. (Ex. Balboa Park in San Diego)

Expansion of trail network could attract national race events and therefore boost tourism revenue. (hotel bookings, etc)
Direct Use Values – Connected Centers (-Same)

Small parks associated with dense mixed use developments do not increase recreational opportunities for the region.

Direct Use Values – Return on Investment (++)Improves Greatly

Focus on improving existing park and trail infrastructure could have significant impact on direct use values. Emphasis on improving existing recreational facilities will provide more opportunities for cities to generate revenue from direct use. (Soccer tournaments, boating, fishing, fitness programs, etc)

Expansion of trail network boosts direct recreational use but is not a key revenue generator.
Direct Use Values – Diverse Distinct Communities (+Improves)

Emphasis on improving recreational facilities within diverse distinct communities would increase direct use values.

Direct Use Values – Green Region (++Improves greatly)

Focus on creation of large regional parks could increase direct use values substantially. Activities such as hiking, camping, and other destination outdoor activities could be provided locally whereas now most of these direct use values are lost to neighboring regions and other States.
Small parks associated with dense mixed use developments do not significantly increase the level of physical activity.

Focus on improving existing park and trail infrastructure could have significant impact on health values. Emphasis on improving existing recreational facilities will provide more opportunities healthy physical activity for citizens.

Expansion of trail network boosts direct recreational use and therefore improves health values.
Health Values – Diverse Distinct Communities (+Improves)

Emphasis on improving recreational facilities within diverse distinct communities could facilitate and encourage healthy recreational.

Health Values – Green Region (++)Improves Greatly

Focus on creation of large regional parks could increase diversity and availability of healthy recreational opportunities. Having a local area that provides for mountain biking, kayaking, hiking, and other diverse activities would increase the physical activity of the citizens.
## Community Cohesion Values – Connected Centers (-Same)

Add notes.

## Community Cohesion Values – Return on Investment (++Improves Greatly)

Focus on improving existing park and trail infrastructure would provide more opportunities for community groups to volunteer and create connections with their surroundings. (Adopt a Stream, Friends of Katy Trail, Etc)
**Community Cohesion Values – Diverse Distinct Communities (- Same)**

Emphasis on improving recreational facilities within diverse distinct communities could facilitate and encourage healthy recreational.

**Community Cohesion Values – Green Region (++)Improves Greatly)**

Focus on improving existing park and trail infrastructure and creating new regional parks would provide more opportunities for community groups to volunteer and create connections with their surroundings. (DORBA, Audubon Society, Etc)
Storm Water Management – Connected Centers (-Same)

Add notes.

Storm Water Management – Return on Investment (++Improves Greatly)

Add notes
Storm Water Management – Diverse Distinct Communities (-Same)

Add notes

Storm Water Management – Green Region (++)Improves Greatly

Add notes
<table>
<thead>
<tr>
<th>Air Quality Value – Connected Centers (-Improves slightly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add notes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air Quality Value – Return on Investment (+Improves)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add notes.</td>
</tr>
<tr>
<td>Air Quality Value – Diverse Distinct Communities (-Same)</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Add notes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air Quality Value – Green Region (+++Improves Greatly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add notes</td>
</tr>
<tr>
<td>Indicator</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>Property Value</td>
</tr>
<tr>
<td>Tourism Value</td>
</tr>
<tr>
<td>Direct Use Value</td>
</tr>
<tr>
<td>Health Value</td>
</tr>
<tr>
<td>Community Cohesion Value</td>
</tr>
<tr>
<td>Storm Water Mgt Value</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>