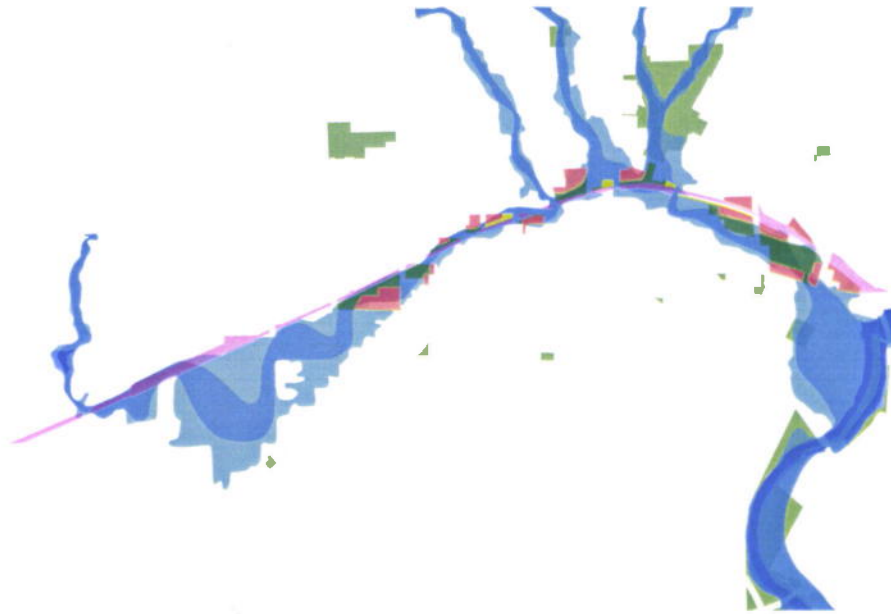


allen creek greenway

preliminary feasibility study



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April 26, 2005

LETTER OF TRANSMITTAL

Ann Arbor City Council, Parks Advisory Commission & Allen Creek Steering Committee:

This document, the “Supplementary Research & Preliminary Analysis Companion Document,” the accompanying presentation and the accompanying financial model are the results of a 7-week study undertaken as part of the University of Michigan Ross School of Business’s MAP (Multi-Disciplinary Action Project) program.

The document begins with an overview of the project provided in a comprehensive Executive Summary format. Supporting information and more detailed analysis of each individual topic follows the summary section.

The MAP team would like to extend a special thank you to the members of a citizen group committed to the idea of making the Allen Creek Greenway a reality: Peter Allen, Hank Byma, Amy Kuras, Joe O’Neal, Martin Schwartz and Margaret Wong.

We would also like to thank the many individuals who helped us better understand the issues at hand: Janis Bobrin, Jonathan Bulkley, Norman Cox, Leigh Greden, Rene Greff, Jerry Hancock, John Heiftje, Matt Horning, Jeffrey Kahan, Matthew Naud, Susan Pollay, Laura Rubin, Harry Sheean and Dennis Wojcik.

Finally, we would like to thank our MAP team advisors, Peter Allen, Anne Harrington and Gretchen Spreitzer, for helping us navigate the challenging and rewarding MAP process.

The Allen Creek Corridor MAP Team

Richard Bole
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April 28, 2005

EXECUTIVE SUMMARY

Should the city become more actively involved in the Allen Creek greenway debate? Mayor John Hieftje thinks so. Even though the city has been contemplating the idea of a greenway along the Allen Creek valley for over 15 years, it may be a latecomer in what has become a very vocal public debate. The charge for a greenway has been spearheaded by a number of citizen efforts led by the Friends of the Ann Arbor Greenway, the Sierra Club, the Allen Creek steering committee (our client), and the DDA.¹ We believe the mayor is right. Our preliminary analysis and financial model suggests that the potential upside of the greenway exceeds its development cost. It is time for the city to engage the many stakeholders in this debate.

The greenway debate currently involves a few issues: the need for open/green space in the downtown area, the need for more parking and the appropriate use of the city yards that will become available in the next 28 months. These issues may be the most obvious, but not necessarily the most important. We believe that some of the more complex issues have yet to be raised. Affordable housing, appropriate development and livability will be challenges the greenway will likely need to address. Other issues like storm water management, water quality and non-motorized transportation may be less controversial, but require significant physical planning and potentially new infrastructure. The greenway's true value can only be fully appreciated when it is viewed in this greater context. Many benefits may never be quantifiable, but where possible we have attempted to make economic estimates.

Our financial analysis is predicated on the redevelopment of 13 multi-parcel sites along the greenway over a 30-year period. Much of the cost of the greenway development is upfront with the development of a short-term route that uses the railroad right-of-way extensively. Much of the economic benefit of the greenway comes from the edge development that occurs over the 30-year period, which results in significant property tax gains for the city. If the greenway is not undertaken in a comprehensive fashion than the realized cash flows may differ greatly from those that are modeled.

The analysis in our financial model makes several assumptions. The most important among them are the rate at which property appreciates in Ann Arbor and the discount rate, both of which we have assumed to be 6%.² In the short-term (the first five years) we estimate that the greenway will cost approximately \$4 million, primarily for land acquisitions and park development. This assumes that the greenway receives approximately \$800,000 in subsidies. In the long-run we estimate that the greenway brings a net benefit of approximately \$37 million to the city. This number is driven almost exclusively by increased property tax

¹ Downtown Development Authority

² Property values in Ann Arbor appreciated at a rate of 5.68% from 1983-2003 according to economy.com. 6% is a 1.25% premium over the city's current 30 year cost of capital.

revenues from development along the edge of the greenway. If this number is excluded, we estimate that the greenway costs approximately \$21 million. This cost is driven primarily by future land acquisition costs.

The numbers are preliminary, but they do suggest that pursuing a comprehensive plan for the greenway would be a worthwhile endeavor. Our model is based on a very preliminary design and limited redevelopment. Alternative designs might suggest additional or more attractive development opportunities. Greater scope and increased park space could result in greater costs or benefits.

We believe that researching the following topics would be useful for further feasibility analysis and modeling:

1. **Contract Zoning** – The applicability of contract zoning in a comprehensive development scheme for the greenway’s adjacent properties
2. **Storm Water Management and Water Quality** – The potential of the greenway to improve storm water management and water quality
3. **Size and Scale** – The appropriate size and scale of the greenway to ensure a viable public amenity and recreational space
4. **Size Parameters** – The size limitations of the greenway that allow the areas to be self-monitoring
5. **Redevelopment** – The appropriate development types and density that would enhance the greenway
6. **Public Policy** – Mechanisms and policies that would ensure that affordable housing is at a minimum preserved if not expanded upon

Even strong academic research has limited value if the interests of key stakeholders are not fully appreciated. Key stakeholders like the Ann Arbor Railroad and the various independent greenway advocacy groups must be engaged if a greater greenway plan is to succeed.

Finally, the appropriate collaborative relationship between the city and groups like the Allen Creek Steering Committee needs to be formalized. There may be advantages to setting up a 501(c)(3) to serve as a land trust and possibly as a greenway advocate. This separate organization might be more nimble and better equipped to handle private cash and property donations.

TABLE OF CONTENTS

| | |
|---|-----|
| LETTER OF TRANSMITTAL..... | iii |
| EXECUTIVE SUMMARY | iv |
| LIST OF FIGURES | vii |
| INTRODUCTION | 1 |
| A GREENWAY VISION & FINANCIAL ANALYSIS..... | 2 |
| SHORT-TERM VISION..... | 4 |
| LONG-TERM FINANCES | 6 |
| KEY CONTEXTUAL TOPICS | 9 |
| WHAT IS A GREENWAY?..... | 9 |
| CITY FINANCES..... | 9 |
| ANN ARBOR CITY GOALS | 10 |
| LIVABILITY (VALUE OF OPEN SPACE) | 11 |
| PARKS AND RECREATION PRIORITIES..... | 12 |
| CITY-OWNED PROPERTIES | 12 |
| POLITICAL CONTEXT..... | 13 |
| KEY ISSUES..... | 13 |
| ANN ARBOR RAILROAD | 14 |
| WATER..... | 15 |
| AFFORDABLE HOUSING | 16 |
| SECURITY..... | 17 |
| NEED FOR OPEN/GREEN SPACE IN THE CENTRAL AREA | 17 |
| TRANSPORATION/PARKING | 18 |
| FUNDING SOURCES..... | 18 |
| EXISTING PROPERTY APPRECIATION | 19 |
| POTENTIAL ROLE FOR A NON-PROFIT | 19 |
| CONCLUSION..... | 21 |
| REFERENCES | 23 |
| GLOSSARY OF TERMS | 26 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1: 30 Year Sources and Uses of Funds | 2 |
| Figure 2: Examples of Appropriate Development..... | 3 |
| Figure 3: Proposed Short-term Greenway Route..... | 4 |
| Figure 4: Present Value of Short-term Route..... | 5 |
| Figure 5: Long-term Proposed Greenway Route..... | 6 |
| Figure 6: 30-Year Cost Estimates..... | 6 |
| Figure 7: Sensitivity Analysis | 6 |
| Figure 8: Cost/Benefit Analysis | 8 |
| Figure 9: Elevated Rail-with-Trail..... | 14 |
| Figure 10: Allen Creek Floodway and Floodplain | 15 |
| Figure 11: Affordable Housing on Ashley | 16 |
| Figure 12: Eyes on the Park | 17 |
| Figure 13: A Lively Urban Park | 17 |
| Figure 14: Greenway Path along Argo Pond..... | 18 |

INTRODUCTION

The Allen Creek Corridor MAP project attempts to determine the feasibility of a proposed greenway along the Allen Creek valley in Ann Arbor. Our team worked with a steering committee of local professionals³ who are advocating a comprehensive greenway path that connects to Ann Arbor's existing park and greenway system. The greenway proposal has become the focus of intense local debate because of a DDA proposal to build a parking structure on what is considered by many to be a critical parcel for the greenway. This proposal, and the subsequent public discussion, has created much of the confusion that surrounds the idea of a greenway.

Before an economic model could be built to study the feasibility of a greenway, it was critical that the issues raised by the greenway were clearly identified. The issues currently being discussed are the need for open/green space downtown, parking, and non-motorized transportation. The other issue that cannot be avoided is the potential cost of the proposed greenway. Since no official route has ever been recognized, speculation about the scale and cost of the greenway varies greatly. Regardless of the figure cited, it is generally assumed that, due to prior commitments, the city does not have sufficient funds to develop a new park system link.

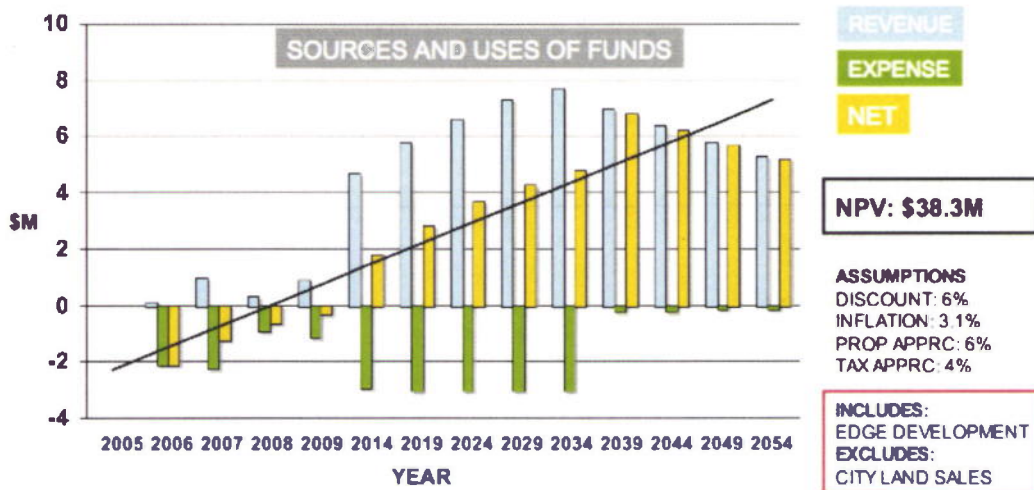
We determined that the first step was to clearly identify all the relevant issues, some obvious and others subtle, to reframe the greenway conversation. We feel strongly that the conversation should also include affordable housing, development, storm water management, water quality, livability and security. It is when the greenway is viewed in this greater context that the true potential value of the greenway becomes apparent. Not all of these issues (e.g. livability) are easy to include in a traditional valuation. However, even without the more esoteric source of values, a traditional cost/benefit analysis for the greenway looks very favorable even with conservative estimates. The primary driver of this economic benefit is the incremental property tax gains from redevelopment earmarked for the greenway edge.

We feel that if Ann Arbor is to realize the full potential of the greenway, a comprehensive, integrated master plan that 1) improves livability, 2) increases density, 3) increases the affordable housing stock, 4) improves storm water management, 5) improves water quality, and 6) encourages non-motorized transportation is essential. The financial analysis is predicated on the redevelopment of 13 multi-parcel sites along the greenway over a 30-year period. Much of the cost of the greenway development is upfront with the development of a short-term route that uses the railroad right-of-way extensively. Much of the economic benefit of the greenway comes from the edge development that occurs over the 30-year period. If the greenway is not undertaken in a comprehensive fashion, the realized cash flows

³ Allen Creek Steering Committee, Joe O'Neal, Margaret Wong, Hank Byma, Amy Kuras, Martin Schwartz and Peter Allen

may differ greatly from those that are modeled. Figure 1 illustrates the short-term costs and long-term benefits from the greenway as property tax revenues increase over time.

Figure 1: 30 Year Sources and Uses of Funds



A GREENWAY VISION & FINANCIAL ANALYSIS

We have based our analysis and financial model on a preliminary greenway design created by the steering committee. The plan has two basic elements; an achievable short-term route that follows the railroad very closely and a long-term route that deviates significantly from the tracks and connects a network of actively used parks surrounded by open-space oriented development. Like the steering committee we see the long-term route as a continuation of the short-term route. Together they form an integrated vision.

Our financial model seeks to estimate the present value in 2005 dollars of projected city sources and uses of funds (revenues and expenses) over the life of the greenway project, assumed to be 30 years. We have detailed all of the anticipated revenues and expenses that the city would realize from the greenway project. The projected revenue line items are: Grants and subsidies, revenue from increased property taxes as a result of new development, and revenue from increased property taxes as a result of the appreciation of existing properties. Among these, property tax increases from new development is projected to be the largest source of funds by far in the long-term. Our major expense items are: Property acquisition for new parks, land remediation, demolition of existing structures, park development costs, and ongoing railway lease and park maintenance costs. Land acquisition is projected to be the largest cost driver, followed by park development costs.

Increased property tax revenue is driven by a detailed analysis of 13 areas on the edge of the greenway that the steering committee identified as likely candidates for redevelopment. We examined each area in detail with the help of Peter Allen to determine what type of building would be an appropriate greenway-oriented development. In most cases we assumed that the new buildings would be one of three basic types of mixed-use structure: 2-3 story live-work, 3-4 office and residential-over-retail and 6-8 story mixed-use.

Figure 2: Examples of Appropriate Development



Another line item that required significant supporting analysis was the park development cost line. Here we worked extensively with Park Planner Amy Kuras to develop estimates for the cost of developing the new parks along the greenway trail. We included basic amenities like a benches and lighting as well as special amenities designed encourage active use. These included climbing rocks and tennis courts. Excerpts of our financial model are included as a companion to this document.

SHORT-TERM VISION

Figure 3: Proposed Short-term Greenway Route⁴



Source: City of Ann Arbor

The short-term route (see Figure 3)⁵ depends on access to the railroad's right-of-way, the purchase of approximately four privately owned parcels and the construction of a bridge over Huron Street. With an endpoint at State and Stadium, the greenway traverses the Allen Creek valley until it reaches the larger Huron River Greenway near the intersection of the railroad right-of-way and North Main.

The cost of the short-term plan is relatively modest. The property acquisition budget required is modest (approximately \$1.8 million) and the expense associated with creating a landscaped, linear path is approximately \$2.2 million. Therefore we estimate the short-term greenway cost to be approximately \$4 million. This estimate makes a variety of assumptions, notably that the greenway receives limited subsidies and grants of approximately \$800,000, most of which is assumed to be Federal Emergency Management Agency (FEMA) money for demolition of obstacles on existing city yards. For modeling purposes we assumed that none of this initial cost was funded with revenue from sale of part or all the city yards, the total value of which will likely be about \$10 million (These funds were assumed to have been allocated to other sources including construction of the city's new maintenance yard). Better potential sources of funding are money from the newly approved parks acquisition millage, private funding from a newly created land trust or additional grants and subsidies including Tax Increment Financing (TIF).

Selected line items from the financial model are highlighted in Figure 4.

⁴ Image provided by City of Ann Arbor, Community Services Department, GIS Specialist

⁵ Purple indicates the railroad right of way, light green indicates existing park space and yellow indicates early stage acquisitions for park space

Figure 4: Present Value of Short-term Route⁶

| Present Value of 5 Year Revenues | |
|---|-----------------------------|
| Revenue from Sale of City Properties | \$0 |
| Increase in Tax Revenue | 1,435,112 |
| Grants and Subsidies (Inc. FEMA) | 800,744 |
| Present Value of Total Revenues | <u>\$2,235,856</u> |
| | |
| Present Value of 5 Year Expenditures | |
| Land Acquisition | \$1,633,068 |
| Land Remediation | 1,630,872 |
| Greenway Development (inc. demolition) | 2,890,976 |
| Railway Lease | 52,186 |
| Greenway Maintenance | 92,656 |
| Present Value of Total Expenditures | <u>\$6,299,758</u> |
| | |
| Present Value of Net Revenues/Expenditures | <u>(\$4,063,902)</u> |

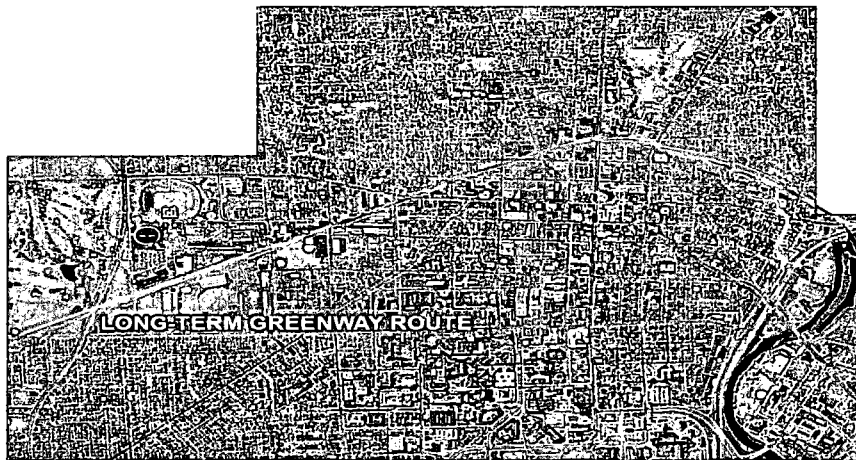
For more information see Allen Creek Greenway: Financial Model

⁶ Source: Allen Creek MAP Team Financial Model

LONG-TERM FINANCES

The second route (see Figure 5)⁷ is an evolution of the first and is considered a longer-term vision. It actively engages the city owned parcels discussed earlier and also involves additional property acquisitions to significantly increase the amount of open green space. This iteration of the greenway calls for a second end pathway that deviates from the railroad right-of-way to cross along the floodway in the 721 North Main site to a street walkway leading to Wheeler Park. Ultimately, the greenway would lead to a new underpass that would connect the greenway with the existing greenway along the Huron River.

Figure 5: Long-term Proposed Greenway Route⁸



Source: City of Ann Arbor

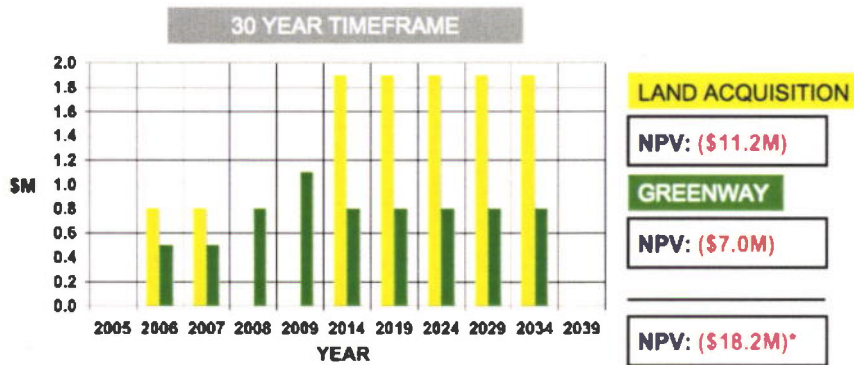
Cost and benefit estimates are far more difficult to make with the long-term plan. The total net cost or benefit of the greenway is impacted by assumptions made about future property appreciation in Ann Arbor and the rate at which future revenues and costs are discounted among other variables. Our model shows a long-term benefit of about **\$37 million** in 2005 dollars.⁹ This benefit is based almost entirely on a large predicted influx of property tax revenue from the redeployment of 13 major areas along the edge of the greenway. If we ignore these benefits the greenway costs around **\$21 million**. Figure 6 illustrates the relative importance of land acquisition and greenway development cost over a 30-year timeframe.

⁷ In addition to above colors, dark green indicates eventual acquisitions for park space and red indicates potential areas for private sector redevelopment

⁸ Image provided by City of Ann Arbor, Community Services Department, GIS Specialist

⁹ Note: excludes revenue from sale of city maintenance yards and First & William parking lot

Figure 6: 30-Year Cost Estimates¹⁰



ASSUMPTIONS: 6% LAND APPRECIATION, 6% DISCOUNT, 4% TAXABLE GROWTH, 3.1% INFLATION
 *DOES NOT INCLUDE GREENWAY MAINTENANCE OR GRANTS/SUBSIDIES

See Figure 7 for two matrices that show the sensitivity of these costs and benefits of the greenway at various property appreciation and discount rates. The first matrix includes expected increases in tax revenues as a result of edge redevelopment, while the second excludes it. For backup data that supports these bottom line numbers see excerpts of our financial model included in the exhibits section of the paper.

Figure 7: Sensitivity Analysis¹¹

| | | DISCOUNT RATE | | | | |
|--------------|-----|---------------|--------------|---------------------|--------------|--------------|
| | | 2% | 4% | 6% | 8% | 10% |
| APPRECIATION | 2% | \$151,233,969 | \$77,643,195 | \$41,620,457 | \$23,129,747 | \$13,171,620 |
| | 4% | \$147,363,119 | \$74,994,916 | \$39,760,546 | \$21,788,911 | \$12,179,748 |
| | 6% | \$141,785,563 | \$71,242,582 | \$37,172,246 | \$19,957,922 | \$10,851,426 |
| | 8% | \$133,687,558 | \$65,875,402 | \$33,529,699 | \$17,425,524 | \$9,047,472 |
| | 10% | \$121,864,010 | \$58,141,368 | \$28,356,247 | \$13,884,847 | \$6,567,239 |

*Excludes proceeds from land sales (include @ 6% & 6% = \$46.7 million)

| | | DISCOUNT RATE | | | | |
|--------------|-----|----------------|----------------|-----------------------|----------------|----------------|
| | | 2% | 4% | 6% | 8% | 10% |
| APPRECIATION | 2% | (\$28,761,924) | (\$21,251,966) | (\$16,486,216) | (\$13,317,377) | (\$11,120,950) |
| | 4% | (\$32,632,774) | (\$23,900,245) | (\$18,346,127) | (\$14,658,213) | (\$12,112,822) |
| | 6% | (\$38,210,330) | (\$27,652,579) | (\$20,934,427) | (\$16,489,202) | (\$13,441,144) |
| | 8% | (\$46,308,334) | (\$33,019,760) | (\$24,576,974) | (\$19,021,601) | (\$15,245,098) |
| | 10% | (\$58,131,883) | (\$40,753,793) | (\$29,750,426) | (\$22,562,277) | (\$17,725,331) |

*Excludes proceeds from land sales (include @ 6% & 6% = \$11.4 million)

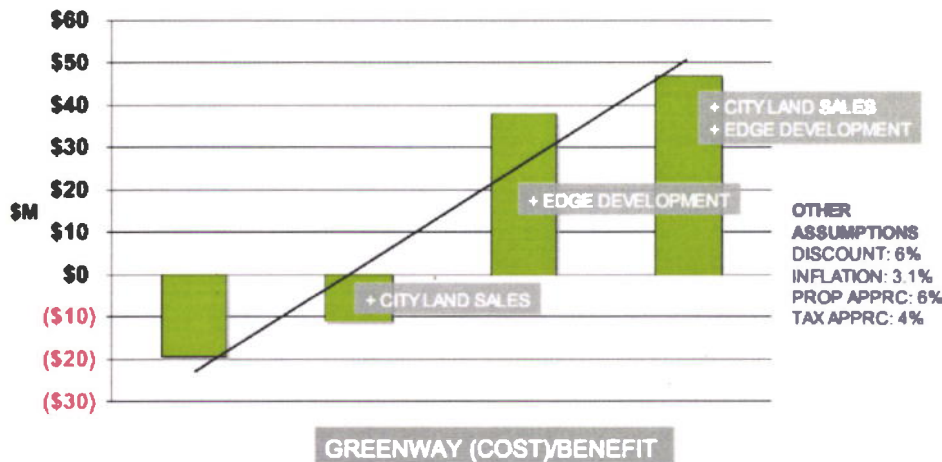
¹⁰ Source: Allen Creek MAP Team Financial Model

¹¹ Source: Allen Creek MAP Team Financial Model

Neither vision calls for the removal of the large number of parcels that has been bandied about in the press (upwards of 122+ properties)¹². Some stakeholders envision a greater swath of green space that takes over most of the Allen Creek Floodplain. This report does not attempt to capture the economics of such a vision. A larger pathway would introduce different challenges and benefits of the project. These could only be analyzed and quantified with significant further analysis.

When calculating the cost/benefit of the greenway, assumptions must be made regarding proceeds from city land sales and whether to attribute all edge development to the greenway. Figure 8 illustrates the impact dramatic impact that a decision to include or exclude these revenue source has on the greenway's bottom line.

Figure 8: Cost/Benefit Analysis¹³



¹² The total estimated number of houses in the floodplain as discussed at League of Women Voters meeting March 8, 2005

¹³ ibid

KEY CONTEXTUAL TOPICS

WHAT IS A GREENWAY?

The Allen Creek Greenway proposal has never been well defined. Debate about whether Ann Arbor needs a greenway continues without a shared understanding of exactly what a greenway is and whether the Allen Creek valley is a viable candidate for such an amenity.

A greenway in an urban setting typically has a recreational, ecological or cultural/historic focus. Recreational greenways tend to be longer, often following existing corridors (e.g. canals, rails) and may be part of a larger network of trails. Ecological greenways follow significant natural corridors, usually rivers, streams and ridgelines. Cultural and Historic greenways provide educational, scenic, recreational and economic benefits.¹⁴

The Allen Creek could be a hybrid of all three definitions. Although its potential for cycling is questionable, it would likely be used recreationally by pedestrians traveling between downtown or the old west side and the Huron River. Even if the creek remains buried, the greenway could provide ecological benefits by minimizing the severity of floods during large rain events. Given that the Allen Creek drain can only hold a 1.5 year storm, this would provide frequent benefits. Finally the creek has potential as a cultural and historic corridor. Ann Arbor calls itself a tree city. The greenway could do a lot to further the city's legacy of providing urbanism in a natural setting, all while linking major landmarks like the downtown and the University of Michigan athletic campus.

Greenways are not always completely green. Greenways can be bike paths in urban areas or hardscape trails connecting historic downtown landmarks. The Allen Creek Greenway might contain hardscape pockets integrated with edge development that are more similar to sculpture park at Fourth and Catherine than they are to West Park.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 1

CITY FINANCES

Ann Arbor is one of few Michigan cities that are expected to see both population and job growth in the foreseeable future. After experiencing stagnation in the 1990s, Ann Arbor has begun to grow again. Unfortunately for the city, while tax revenues have grown at around 4%

¹⁴ <http://www.umass.edu/greenway/Greenways/2GR-def.html>

per annum, cost growth has outpaced revenue growth in part because of declining revenue sharing on the state and federal level. The city has limited means by which it can increase its revenues (i.e. fees, permits, fines). Property tax, the greatest single source of revenue for the city, is capped by the Headlee Amendment and Proposal A and the city is prohibited by the state from implementing other tax streams such as a local city sales tax. The spread between assessed and taxable values continues to grow as property in Ann Arbor appreciates at an aggressive rate.

The city has had to resort to fairly severe cost cutting measures to maintain a balanced budget. The city has cut over 200 full time employees and it has had to reduce some of its services to make ends meet. Although the city has not had to reduce critical services like fire and police, it may be confronted with those difficult choices in coming years unless other revenue sources are identified.

Because of large capital improvement projects already underway such as a city hall expansion (\$20 million) and a new maintenance facility (\$26.5 million), there is likely to be little or no general fund money available for new infrastructure projects in the next 10-15 years.

Given these constraints, it seems likely that Ann Arbor would be hard pressed to afford new parks, yet city residents are in agreement on one thing – they like and want parks. So much so that they recently approved a ballot initiative to extend the park acquisition millage for an additional 30 years with a focus on preserving farmland around the city's perimeter. The millage should result in nearly \$2M per annum of which approximately 30% (\$600K) can be used for park acquisition within city limits. The greenway is a candidate to receive some of these funds.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, pp. 24-30

ANN ARBOR CITY GOALS

The city of Ann Arbor has the fairly progressive goals that one might expect from a city that serves as home to a large center of higher learning, the University of Michigan. Affordable housing, living wages, mass transit, non-motorized transportation and open space preservation top the list of socially admirable initiatives. However, like most cities with idealistic visions, economic realities and competing private interests make realizing some of the goals difficult.

Affordable housing continues to suffer from Ann Arbor's own success with a great many lower income residents priced out of city limits. Some developers have elected to buy out of affordable housing requirements by contributing to the affordable housing trust fund because they have been able to pass on that additional expense to market-rate buyers. This leaves Ann Arbor with funds for affordable housing, but no actual new affordable units.

The city has adopted many of the concepts of New Urbanism¹⁵ and Smart Growth¹⁶, calling for new, higher-density, mixed-use developments in the downtown area in an effort to attract a target of 1,000 new downtown residents by 2015¹⁷. Ann Arbor wants to preserve its unique city culture and encourage pedestrian friendly development.

The city's goal of preserving open space by buying out development rights from farmers has attracted national attention. The city allocates a little over 8% or roughly \$6M of its portion of collected property tax to park activities (acquisition, development and maintenance).

The greenway is probably compatible with all of the city's goals if it does not result in a reduction in affordable housing, but it will have to compete for funds with more mature, better supported projects like the greenway along the Huron River, part of a larger regional system of parks, and the greenbelt preservation initiative. After considering those existing commitments and the city's constrained funds, it becomes apparent that greenway advocates will need to look to other funding sources (e.g. DDA TIFs, private donations) if it is to become a reality.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 30

LIVABILITY (VALUE OF OPEN SPACE)

Traditional advocates of open space dislike attempts to quantify the economic impacts of parks and trails, arguing that open space provides benefits, anthropogenic and otherwise, which can never be quantified. There is no way to assess the value of providing a habitat to migratory birds, or a venue for a parent and child to enjoy a walk together.

But that has not stopped academics from making rough estimates. Studies have looked at the cooling effects of green spaces in the summer that result in lower air-conditioning expense. More tangible, the economic value of a greenway that is designed to improve water quality and to help in flood mitigation would be appreciable, even measurable.

Studies have also shown that open space and parks is a significant quality-of-life factor that may help retain and attract businesses and residents. If Ann Arbor is going to compete for the desirable demographic highlighted by the "cool cities" initiative, the city will need to ensure that sufficient attention is given to quality-of-life factors.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, pp. 15-16

¹⁵ Promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities.

¹⁶ A perspective, method, and goal for managing the growth of a community. It focuses on the long-term implications of growth and how it may affect the community, instead of viewing growth as an end in itself.

¹⁷ Arbor Update: <http://www.arborupdate.com/article/719.html>

PARKS AND RECREATION PRIORITIES

The 2000-2005 Ann Arbor Parks, Recreation and Open Space Plan (PROS) does not list a greenway along the Allen Creek valley as a priority for Ann Arbor's Central Area. It does reference park amenities along the Huron River as a goal as well as activities that help to improve the water quality of the river. The plan supports efforts within the park system to reduce non-point sources of pollution and to help with storm water management within the Allen Creek watershed.

The greenway would seem to match up well with the goals outlined in the PROS plan even though it was not called out specifically. Since the greenway was not addressed in the plan it would seem fair to conclude that it was not an immediate priority. PROS does recognize the pending availability of the city maintenance lots and the need to consider the sites in future plans, however.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, pp. 17-20

CITY-OWNED PROPERTIES

One of the reasons that the greenway has become such a controversial topic in Ann Arbor is tied to the coming availability of two city properties (415 W. Washington and 721 North Main) as the city's maintenance operations move to the southeast part of Ann Arbor. Another reason is the DDA proposal to develop the surface parking lot at First and William. Unfortunately, the debate about the DDA proposal and the two other properties is confusing the discussion of the greenway. Some are tying the exclusive use of these parcels as parks to the greenway. The DDA, on the other hand, suggests that the first section of the greenway will be funded by its proposal to build a parking structure at First and William that includes a small green space. We do not see resolution of this debate as critical to the greenway's future.

The city leadership appears to be unanimous in its support of some type of open space that would be part of the greenway on at least part of all three parcels. This is enough to get started. A master plan which leaves multiple options for the way in which the greenway passes through these properties could even be developed without specific knowledge of what will happen there.

All three of these properties are partially within the floodway, severely limiting their development possibilities. The area in the floodway in each of these parcels would be attractive greenway land because of the potential benefits outlined in the water section. Adjoining areas outside of the floodway in the flood fringe could be developed in such a way to create "eyes on the park."

The sites also require varying levels of soil remediation with the First and William site requiring over \$750K alone.

If the city of Ann Arbor embraces the tenets of New Urbanism, then mixed-use development on one or more of these sites along with a greenway section could possibly achieve the goals of higher density and a pedestrian friendly environment.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 21

POLITICAL CONTEXT

With so many stakeholders and issues caught up in the greenway debate it is challenging to navigate the political landscape. Also, different motivations for wanting a greenway are driving key stakeholders. There is a lack of clear delineation between complimentary, but substantially different ideas.

Is it necessary to turn all three city parcels into parks in order to realizing the greenway vision? The DDA does not think so, but the local chapter of the Sierra Club and the board of the Old West Neighborhood Association disagree. Some members of the Downtown Residents Task Force do not believe a greenway running along the Allen Creek valley would be viewed as a public amenity for residents living in the immediate downtown area. And the Main Street merchants are more concerned about easily accessible parking than new green space, though they recognize the need for greater residential numbers downtown. All seem to agree on the need for an active, vibrant downtown and most seem to embrace the idea of mixed-use development. According to the mayor, however, there is widespread support for some type of greenway along Allen Creek.

The Friends of the Greenway, Joe O'Neal and the Sierra Club have all promoted various visions of the greenway in recent months. The greenway will continue to be dragged around in this many-faceted debate until clear ownership of the idea is established. The mayor believes the city should now take charge of the vision with the pending availability of the city sites.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 21

KEY ISSUES

In our introduction we highlighted our key findings and areas for further research. But these findings can only be understood in the context of key greenway related issues. These issues range from how to manage private and public sector cooperation to how to solve the problem

of exploding manhole covers in the Allen Creek drain during heavy rainfall events. Many issues may also be opportunities. For example, the city is reexamining its flood strategy and flood mitigation policies. A greenway running along and over the Allen Creek watershed drainage course might be developed in such a way to help ease some of the problems of flooding, safety and water quality. In the pages that follow we highlight the most important of dozens of greenway related topics.

ANN ARBOR RAILROAD

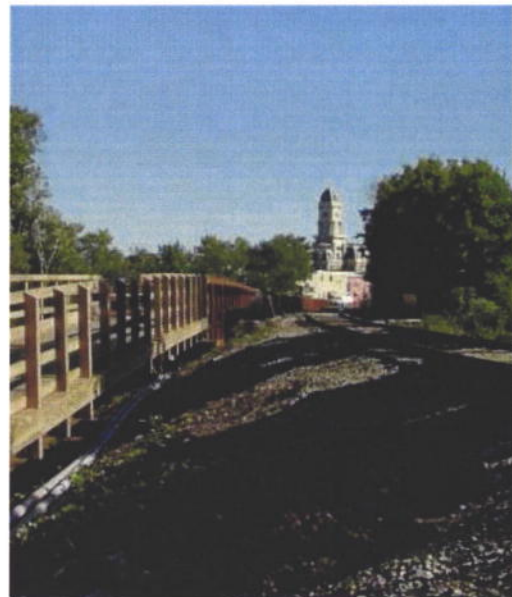
Both the short-term and long-term designs of the greenway depend heavily on licensing access from the Ann Arbor Railroad for use of the railroad's exclusive right-of-way. Even though the railroad currently runs a very limited schedule, the rail corridor was identified by the Federal Government¹⁸ as a regionally significant transportation corridor that needed to be preserved. The trains run south to Toledo and primarily service the automotive industry.

There are a total of sixty-one (61) greenways and trails next to active railroads across the country. These existing "rails-with trails" were surveyed extensively for a 2000 study by the rails-to-trails conservancy. One key finding was that rails-with-trails have impeccable safety records, with only one cited incident involving a path user and a passing train¹⁹. The study also showed that there was a wide variance in the average distance and type of barrier between the railroad track and the trail. Other key findings addressed the frequency of trains on the tracks and methods for indemnifying the railroad against liability from trail user accidents.

The railroad is a unique player that does not fall under the jurisdiction of the city or state and is not subject to local property tax. While the design specifications will be the subject of considerable discussion, creation of a greenway along the Allen Creek valley without the participation and cooperation of the railroad will be difficult if not impossible.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, pp. 2-3

Figure 9: Elevated Rail-with-Trail



Source: www.indianatrails.org/WRG.htm

¹⁸ www.cbo.gov/ftpdocs/50xx/doc5016/doc22c-Part04.pdf

¹⁹ Rails-to-Trails Conservancy – "Design, Management and Operating Characteristics of 61 Trails Along Active Rail Lines" (2000)

WATER

Figure 10: Allen Creek Floodway and Floodplain



Source: City of Ann Arbor

The Allen Creek valley is part of the Allen Creek watershed and the larger Huron River watershed (See Figure 10 above). Allen Creek is actually buried in a storm drain, the result of industrial and residential growth in Ann Arbor at the turn of the 20th century. The problems of the Allen Creek (e.g. water quality, flooding) still exist and some new problems were created when the drain was buried under contaminated fill.

Critical water issues include storm water management, flood mitigation, and water quality improvement. Experts agree that it is not desirable to retain water in the floodway. They do highlight, however, the potential benefits of capturing the first flush (the first 1/2" of precipitation in a rain event that contains the majority of pollutants) through the use of rain gardens, bioswales or filter strips. These first flush strategies aside, experts note that the primary water objective in the floodway is conveyance. Once water is in the floodway it should be allowed to flow unobstructed to the river. The greenway could help improve the conveyance capacity of the floodway if certain obstructions were removed as part of the project. The greenway could also help to limit water surges and flooding by decreasing the total impervious surface area of the watershed. For more detailed information on these water-related topics see "Allen Creek Greenway: Supplementary Research and Preliminary Analysis."

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, pp. 4-13

DAYLIGHTING

Joe O'Neil and others have suggested that the creek might be brought to the surface at the same time that the greenway is developed. While experts disagree about the feasibility of this idea, most are sure that it would be an expensive proposition. Even if the creek remains confined to a drain, officials expect that significant funds will be required in the future to maintain and potentially increase the capacity of the drain (one study estimated this amount to be \$41 million)²⁰. It is unclear how the ongoing cost of maintaining this engineered solution would compare to the total cost of daylighting the creek.

Given the lack of hard data from a formal study, experts are forced to speculate about the feasibility of daylighting on the basis of data from comparable creeks. A study of Ann Arbor's own Mallets Creek suggests that dangerous high volume and high velocity water surges from rain events are likely (they might even be more certain in Allen Creek given the very high percentage of impervious surface in the watershed). In order to safely daylight the creek it is probable that significant detention/retention measures would need to be taken upstream from the greenway. Daylighting would improve water quality by allowing the water to "breathe," but illicit connections and urban runoff would need to be eliminated or substantially reduced to realize significant improvements in water quality.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 13

AFFORDABLE HOUSING

The city of Ann Arbor struggles to create and to preserve affordable housing. The proposed greenway path passes through one of the few market-rate affordable areas in the city and some people, including the Mayor, are apprehensive about any plan that might reduce this rare and highly valuable commodity. One strong argument in support of the greenway is that it will result in higher property values (and therefore property tax revenues) in its immediate vicinity. But these higher values will only exacerbate the affordable housing problem that the city faces.

For the greenway to meet approval from a number of stakeholders, it is critical that planners develop a strategy to address the preservation of the city's affordable housing stock. Perhaps the 501(c)(3) that is created to benefit the greenway could earmark a percentage of its donations to a fund that subsidizes new affordable units in the edge developments around the greenway. Some of this market driven affordable housing stock exists directly in the floodway, meaning

Figure 11: Affordable Housing on Ashley



Source: Joe O'Neal

²⁰ Source: Black & Veatch Allen Creek Drain Study

that its construction would be prohibited by current local, state and federal building codes. This means that its removal could have significant safety advantages.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 14

SECURITY

Urban parks can be both a blessing and a curse. Parks within the urban environment suffer from the same problems of the greater urban setting: loitering, drug trafficking, and homelessness. Ann Arbor has had some difficulty securing some of its existing urban parks and lacks the resources to add staff to police a new park space. Successful urban parks usually have either retail or residential uses, ideally both, in close proximity. This provides highly effective private monitoring.

If the greenway is added to the parks stock it will need to be designed and supported with development in such a way that there are “eyes on the park” around the clock. This is why our recommendations include simultaneous edge development and modest park widths.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 15

NEED FOR OPEN/GREEN SPACE IN THE CENTRAL AREA

The Ann Arbor Parks and Recreation Department has studied the disparity that exists in park acres per capita between residents of the central area and other residents. Currently central area residents have .0057 acres per capita while the city as a whole has more than three times as much at .0175 acres per capita. Park experts consider this statistic to be a key measure of open-space-related quality of life issues. The greenway would clearly help to minimize this disparity.

The Parks and Recreation Department has also highlighted the need to improve the city’s gateways (the major traffic arteries coming into the central area). The greenway provides an opportunity to address this goal because one of the major central area gateways is on North Main Street where the Allen Creek greenway would meet

Figure 12: Eyes on the Park



Figure 13: A Lively Urban Park



Source: <http://images.search.yahoo.com>

the larger Huron River greenway system. Another goal is to increase use of the Huron River system. The new greenway would help direct its recreational users (primarily residents of downtown and the old west side) to the river system, helping to achieve that goal as well. Finally the Department hopes to better accentuate streetscapes. The greenway could aid with that goal as well by weaving pedestrian traffic onto certain street corridors. This increased demand would energize those areas with increased pedestrian use (e.g. Main Street Promenade).

TRANSPORTATION/PARKING

Ann Arbor hopes to achieve greater density, build a pedestrian-oriented downtown and mitigate the growth of sprawl. The city's current low-density forces it to spend heavily (25% of tax revenue collected) on a mass transit system that is underused, however. At the same time the city is under pressure to increase parking capacity for commuters. The city is committed to providing safe routes for non-motorized transportation, but climate and current infrastructure force most residents to rely heavily on motorized transport.

The greenway is included in the latest version of the Ann Arbor Non-Motorized Plan, but experts feel that it does not have potential as a major transportation corridor. Frequent road crossings that occur at mid-block locations make the proposed path less desirable for cyclists. Additionally, while the portion of the greenway that connects the Old West Side neighborhood to the Huron River may be more heavily used for recreational purposes, a natural traffic flow does not exist from endpoint to endpoint of the greenway currently – in part because of a lack of density at both ends.

Figure 14: Greenway Path along Argo Pond



For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 15

FUNDING SOURCES

Federal and State funding will be difficult to obtain due to recent cut backs and budget problems. Within federal and state funding, MDOT will become a more probable source once the greenway path is defined as a part of Ann Arbor's non-motorized transportation plan, but is not currently a good prospect. Funding under the SAFETEA act is contingent upon congressional approval. Michigan transportation money available via Act 51 is also a possible source of funding.

Clean Water Act money through MDEQ may also be limited since the Allen Creek has received a storm water permit, and therefore, is no longer eligible for certain funding.

EPA Brownfield money, FEMA (flood mitigation) and TIF (DDA and Brownfield) are additional potential sources of funding for the greenway. However, by definition a TIF uses the property tax revenue to finance further development of the property and for this reason cannot be put towards the sole development of the greenway, but instead would require edge development on the property that will generate property tax revenue. Brownfield TIF is available beyond the DDA district and captures more money than the DDA TIF because, unlike the DDA TIF, it includes the millages for the schools in calculating dollars available in addition to using the value of the increase in property tax and not just the initial property tax value as with the DDA TIF.

HUD funding may be available to developers along the greenway as long as their projects stand to benefit the needs of low to moderate-income residents.

For more detailed information and analysis, please see Allen Creek Greenway: Supplementary Research and Analysis, p. 36-45

EXISTING PROPERTY APPRECIATION

In addition to public sources of funds and increased property tax revenue from new development, we have included in our financial model small increases in property tax from existing residences whose value should be enhanced by the greenway. In 2001 Dr. John Crompton of Texas A&M University compiled all of the published economic analyses that attempted to isolate the impacts of open space on property values. He found that properties directly adjoining parks average a 20% price premium over similar houses not on park land, all other factors like neighborhood quality held constant. In high-priced, high-density areas the 20% figure was typically very low (e.g. a Fairfield, CT study which found a 79%-120% increase in value). Ann Arbor will realize the benefit of land appreciation over time as properties change hands from sales and taxable values are readjusted to market levels. We anticipate that this likely increase in taxes coupled with significant increases from new edge development will dwarf any decrease in revenue resulting from the removal of certain parcels from the tax roles for new park space.

If the city works with developers to rezone parcels, with sensitivity to existing land usage, it can use the greenway to help achieve the higher density goals of the city. Mixed-use zoning, an underpinning of New Urbanism and Smart Growth, would further benefit the city because of the higher tax rates charged to commercial properties.

POTENTIAL ROLE FOR A NON-PROFIT

A number of interested stakeholders have suggested that one or more non-profit 501(c)(3) organizations be created to promote the proposed greenway at Allen Creek. While all 501(c)(3)s must attract at least 1/3 of their donations from the general public rather than insiders, there are relatively few other restrictions on the non-profit activities that a 501(c)(3)

can engage in. Those advocating two entities suggest that one would do advocacy work while the other functions simply as a land trust. There is no legal reason why one entity could not do both of these activities, although perception problems might be created.

*For more detailed information and analysis, please see Allen Creek Greenway:
Supplementary Research and Analysis, p. 35*

CONCLUSION

The Allen Creek greenway offers potential opportunities and benefits that are currently outside of the public discussion. Many of the opportunities are linked – one cannot be realized without the other. One cannot redevelop an edge parcel without the presence of an adjoining open/green space amenity. The value of removing affordable housing to reduce flood dangers will be lost if the affordable units are not replaced on a no less than 1-to-1 basis. These linkages are not obvious, but essential to realizing the full benefit of the greenway.

However, it would be difficult to broaden the greenway conversation even if the vocal debate about the future of the First and William site was not dominating much of the current discourse. It would be a Herculean task to get the numerous stakeholders and private interests to agree on a strategy for dealing with these sensitive and frequently emotional subjects. In 1988 city planners recognized the need for a sustained commitment from the city and the participation of the private development community for a much less ambitious greenway vision, but that commitment never materialized.

We believe that our preliminary feasibility study suggests that the effort would be well rewarded, but much more in-depth analysis would be required in a number of areas to reach a better understanding of the true cost/benefit of a greenway. Our model is based on a very preliminary design and limited redevelopment. Alternative designs might suggest additional or more attractive development opportunities. Greater scope and increased park space could result in greater costs or benefits. Our recommendations for additional research include:

1. **Contract Zoning** – The applicability of contract zoning in a comprehensive development scheme for the greenway’s adjacent properties
2. **Storm Water Management and Water Quality** – The potential of the greenway to improve storm water management and water quality
3. **Size and Scale** – The appropriate size and scale of the greenway to ensure a viable public amenity and recreational space
4. **Size Parameters** – The size limitations of the greenway that allow the areas to be self-monitoring
5. **Redevelopment** – The appropriate development types and density that would enhance the greenway
6. **Public Policy** – Mechanisms and policies that would ensure that affordable housing is at a minimum preserved if not expanded upon

We also recommend that key stakeholders are engaged:

1. Ann Arbor Railroad
2. Independent greenway advocacy groups

The appropriate collaborative relationship between the city and the groups like the Allen Creek Steering Committee needs to be formalized. There may be advantages to setting up a non-profit for more flexibility to solicit and receive cash and property donations.

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GLOSSARY OF TERMS

501(c)(3) organization – A tax-exempt non-profit organization

Act 51 - Gas and weight tax monies received from the state to fund transportation related projects. At least 1% of the total received by a city must be allocated to non-motorized transportation projects.

assessed value - The value assigned to property for tax purposes

bankfull - The flow that fills the channel up to the top of banks prior to flooding

bioswale - A landscape designed as a water filter, usually using local hardy grasses. The bioswale lets runoff soak into the soil where it is absorbed by the dense roots of the grasses. These plants act as biofilters, removing phosphorous and other soil sediments.

brownfield - A site that suffers from the presences of hazardous substances, pollutant, soil contamination or functionally obsolete structures.

built environment - The urban environment consisting of buildings, roads, fixtures, parks, and all other improvements that form the physical character of a city.

character [city] - The image and perception of a community as defined by its built environment, landscaping, natural features, open space, types and styles of housing, and number and size of roads and sidewalks.

density - The number of dwelling units (houses, apartments, townhouses, duplexes, etc.), or buildings per unit of land. In Neighborhood Planning, this is often expressed as dwelling units per acre or du/ac.

detention - Involves constraining the flow of water into the watershed over time (drain outlets)

discount rate - A certain interest rate that is used to bring a series of future cash flows to their present value in order to state them in current, or today's, dollars. Use of a discount rate removes the time value of money from future cash flows.

Floor Area Ratio (FAR) - The total floor area of all buildings or structures on a lot divided by the total area of the lot.

filter strips - A naturally vegetated area or native landscaping area used to filter sediment, organic matter and other pollutants from surface water runoff.

first-flush - The first half-inch (0.5) of rain per acre that contains a relatively high concentration of pollutants

floodplain - For a given flood event, that area of land adjoining a continuous watercourse that has been covered temporarily by water

floodway - The area that contains the majority of the moving water during a flood event. The stream channel plus that portion of the overbanks that must be kept free from encroachment in order to discharge the 1 percent annual chance flood without increasing flood levels by more than 1.0 foot

floodway fringe - The area between the floodway and floodplain boundaries

hydrology study - A study used to investigate water flow

impervious surface - A hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from that experienced under natural conditions prior to development

infiltration - The downward movement of water from the surface of the land to the subsoil.

live/work - An officially designated dwelling in which the occupant conducts a home-based business or enterprise.

market-rate affordable - Housing that is able to maintain its affordability based on sheer market conditions as opposed to the use of government subsidies or grants

millage - A tax rate applied to property that is expressed as one-thousandth (.001) of a dollar

mixed-use - A type of development that combines residential, commercial, and/or office uses, within a commercial or office zoning district, into one development or building.

multi-family - A building that is designed to house more than one family. Examples would be a four-plex, condominiums, or apartment building.

Net Present Value (NPV) - The value in today's dollars (discounted) of a series of future cash flows.

New Urbanism - Promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities. These contain housing, work places, shops, entertainment, schools, parks, and civic facilities essential to the daily lives of the residents, all within easy walking distance of each other.

non-point source - Storm water conveyed pollution that is not identifiable to one particular source, and is occurring at locations scattered throughout the drainage basin. Typical sources include erosion, agricultural activities, and runoff from urban lands

open space - An area set aside or reserved for public or private use with very few improvements. Types of open space include – golf courses, agricultural land, parks, greenbelt, nature Preserves.

pedestrian-oriented - Development designed so a person can comfortably walk from one location to another, encourages strolling, window-shopping, and other pedestrian activities, provides a mix of commercial and civic uses.

perpetuity - A constant payment occurring at equal time intervals for an infinite length of time.

Planned Unit Development (PUD) - The PUD allows for more flexible development practices than traditional "grid" zoning. Essentially, PUD zoning permits a developer to meet overall community density and land use goals without being bound by rigid requirements such as minimum lot standards and use categories.

point source - Any confined and discrete conveyance from which pollutants are or may be discharged. These include pipes, ditches, channels, tunnels, conduits, wells, containers and concentrated animal feeding operations

rain gardens - Attractive landscaping features planted with perennial native plants designed to absorb stormwater run-off from impervious surfaces such as roofs and parking lots

retention - Holding storm water until it evaporates or naturally percolates

Smart Growth - A perspective, method, and goal for managing the growth of a community. It focuses on the long-term implications of growth and how it may affect the community, instead of viewing growth as an end in itself.

streetscape - The space between the buildings on either side of a street that defines its character.

taxable value - The allowable value to which the tax rate or millage is applied to determine the applicable taxes

Tax Increment Financing (TIF) - A real estate financing method used as an incentive for developers that captures the future increase in property tax revenue from new development in order to help fund the project.

Total Maximum Daily Load - The amount of each pollutant a body of water can receive without exceeding water quality limits.

urban runoff - Storm water from city streets and gutters that usually contains a great deal of litter and organic and bacterial wastes into the sewer systems and receiving waters

urban sprawl - The outward migration of development away from dense urban environments into more rural and suburban areas

watershed - The area of land that catches all precipitation and then drains it into a stream, river, lake or groundwater.