

Innovations in Local Infrastructure Finance

**Alternative Methods of Infrastructure Finance
for local governments in Champaign County, Illinois**

Table of Contents

Background.....1

Types of Innovation
The Need for Innovative Finance
Means of Funding Public Infrastructure
Infrastructure Demand Management
Choices
How To Use This Guide

1. Financing Infrastructure

1.1 Borrowing.....4

1.1.1 Short Term Financing
1.1.2 Smart Debt
1.1.3 Senior Government Credit Enhancements
1.1.4 Municipal Community Bonds

1.2 Pay-as-you-go.....6

1.2.1 Dedicated Taxes
1.2.2 Increase Existing Tax Rates
1.2.3 Lower/Eliminate Education Portion of Property Tax
1.2.4 Policy Change to Address Revenue Inelasticity
1.2.5 Create Strategic Reserves and Reserve Funds
1.2.6 Lease Purchase Financing
1.2.7 Leaseback Arrangements

2. Funding Infrastructure

2.1 Taxation.....11

2.1.1 Implement New Taxes
2.1.2 Expanded Tax Revenue Sharing
2.1.3 Modified Conditions for State and Federal Grants

2.2 User Fees.....15

2.2.1 Proper Pricing
2.2.2 Developer Cost Charges
2.2.3 Convert Tax Supported Infrastructure to User Pay

Next Steps.....20

Information contained in this guide is a summary of an existing review of infrastructure finance tools.

New Tools for New Times: A Sourcebook for the Financing, Funding and Delivery of Urban Infrastructure

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Background

This report is a compilation of finance methods that are used to fund public infrastructure. The objective of studying innovative infrastructure finance is to implement strategies that increase revenue efficiency, improve cash flow, support policy objectives, pursue economic sustainability, and provide accountability, transparency and enhanced service across public infrastructure. The Champaign County Regional Planning Commission undertook this study at the request of its member agencies.

The finance strategies identified in this report are split into two elements that while connected, have different functions.

1. Finance - methods of securing money needed for constructing a new asset, or renewing rehabilitating or reconstructing an existing asset.
 - A. Borrowing
 - B. Pay-as-you-go - government pays cost through existing revenue or savings.
2. Funding - methods for repaying money spent on capital.
 - A. Taxation - funds infrastructure regardless of use by the payer
 - B. User Fees - connects repayment of infrastructure to the user.

Innovative Infrastructure Finance

Innovative infrastructure finance is a broadly defined term that includes a number of tools that supplement traditional sources and methods of financing to overcome cash flow shortages and attract new sources of capital (Federal Highway Administration, 2004).

Combinations of these methods provide numerous alternatives that can be shaped to address the needs of specific projects.

The demand for public infrastructure depends on a variety of factors including: the size of the community, level of privatization, and political will.

Types of Innovation

Innovations in public finance reshape familiar tools in order to increase the success and acceptance of finance tools. Innovation can be successful simply through reframing an existing tool. One example is earmarking a portion of property taxes to be dedicated towards paying the debt services on a major infrastructure project. The transparency provided in this method potentially makes it easier to raise the tax revenues necessary for specific projects. Innovation also includes the use of new tools. This may convert a service or infrastructure that is generally supported by a tax to a new user pay system. Finally, innovation can identify familiar methods that are not generally used to finance infrastructure. Leasing is a method that is commonly used in private finance situations and can be applied to public infrastructure and capital. However, additional considerations should be taken into account when this method is used for public projects. In the case of an operating lease, consideration might include the lack of a tangible asset after all of the lease payments are made. Another consideration is that even though up front costs may be smaller, the total cost at the end of the lease may be greater than an outright purchase.

Root Causes of Infrastructure Deficits and Debt

1. Urban population growth and outward physical expansion
2. Aging infrastructure
3. Rising standards
4. Lack of full cost pricing and lack of incentive to reduce consumption
5. Fiscal restraint and recession
6. Competing budget priorities
7. Heavy reliance on property tax as opposed to tax revenue diversity
8. Increase in pay-as-you-go financing
9. Revenues collected are not paying for required maintenance
10. Limitations from public accounting practices

The Need for Innovative Finance

Innovation in public finance is a necessary step for two reasons. First, current finance approaches are unable to secure the increasing amounts of capital needed to meet the demand for infrastructure. Second, long-term solutions are needed to address the problems that have accumulated because of existing funding gaps.

Ways that Public Infrastructure is Funded

In discussions of public finance, it is useful to identify urban infrastructure by the three means that it is financed. Categorizing infrastructure in this manner may help identify opportunities for funding innovations when comparing finance situations with other communities.

1. Tax Supported – entirely supported by taxation (open access parks, urban road networks, except tolls).
2. Self-financed – commercial, marketable or enterprise infrastructure provided on a user pay basis. Fees are sufficient to provide up-front costs, operation, maintenance, rehabilitation, and eventual replacement (water, wastewater).
3. Quasi-commercial or Blended Infrastructure – combines taxation and user pay where the taxation provides a subsidy for the user cost (public transit, recreation facilities).

Infrastructure Demand Management

Infrastructure management is not solely about financing services and capital. Demand for public infrastructure should be managed through incentives for efficiency and disincentives for over-consumption. Planning and management methods that span infrastructure life-cycles can help achieve an efficient use of infrastructure that is targeted by demand management.

Additional information is critical for implementing infrastructure demand management. This information could include greater detail about:

- Estimated Life-cycle
- Infrastructure Inventory
- Replacement Cost
- Condition Assessment
- Spending Requirements (operations and capital)
- Timing
- Future Costs

Several strategies exist to help drive infrastructure demand management.

- Strategic Capital Management - The current disconnect between life-cycle costs and financial decision-making is caused by a lack of understanding in life-cycle demands. This strategy targets infrastructure deficits by using a longer view to understand sustainable infrastructure and service provision.
- Maximize existing infrastructure - New technology and new concepts in public infrastructure can establish an efficient use of assets. Regional perspectives may offer opportunities for efficiency, and alternative uses for infrastructure that may provide additional community benefits.
- Behavior Modification - Pricing schemes can help modify behavior to a point where infrastructure is used more efficiently over time.
- Changing requirements - The provision of infrastructure could be revised to better suit the needs of current populations and the fiscal situation of public entities. Application of this strategy would replace peaks and troughs with more balanced usage.
- Accrual accounting - This strategy provides a better method of determining the real cost of infrastructure by reflecting costs at the time of service. However, this is at the cost of transparency since the method is not as straight forward as cash accounting. Balance sheets may show a steep decline or negative balance when payments are made after the service is received.

- Activity-based accounting - This strategy identifies the actual cost of infrastructure by including additional overhead costs with the direct costs. Accurate information is difficult to ascertain, but is essential when moving towards a proper pricing method.

Choices

Choosing a suitable financial device can be a complex process. Existing and projected fiscal conditions, as well as scope and purpose of the project are important considerations. While each finance or funding method is unique, several factors can be determined to help refine the options.

- Who pays - The question of who pays depends on the type of infrastructure or service, the population who benefits, construction costs, maintenance costs, and operating costs. In many instances there is a direct connection between the added infrastructure and the beneficiary. However, in some cases, additional taxes or fees are passed on through rate hikes or higher initial costs that may result in undesirable subsidies or fiscal disparities.
- Portfolio diversity - Financing public infrastructure requires both balanced targeted funds connected to infrastructure and general funds that provide budget flexibility. A diverse portfolio of strategies, while complicated, can help establish this balance. When identifying innovative finance methods, one may become more desirable because it increases portfolio diversity rather than pushing finance strategies out of balance.
- Marketability - Some projects are inherently more visible and appreciated by the community. These projects are more likely to succeed through voter-approved financing. This may be dependent on public awareness and demand rather than just marketability.
- New construction vs. maintenance - New construction is often seen as having community-wide benefits where costs incurred for maintenance does not have the same clout

and perceived benefits. New construction and maintenance of the same type of infrastructure may have better success with two different financing methods.

How To Use This Guide

The background information contained in this guide should help define the world of public infrastructure finance. It is not just about where the money comes from, but also about defining where gaps in funding exist, managing the demand for infrastructure, and ensuring that there is a reasonable expectation that those who directly benefit from infrastructure also make direct payments for the service or infrastructure. Also, reviewing existing debt, cataloging past finance strategies, projecting revenues, and projecting changes in the local economy will also provide insight into the process of implementing innovative finance methods.

The rest of this guide provides a framework of innovative finance strategies, an explanation of the strategy. Strategy categories are summarized by easily identifiable advantages, disadvantages and general applications of the techniques. The general theme of innovation in finance is establishing user fees for marketable products and services, pairing revenue streams for marginally marketable products, and increasing revenue sources to include revenues tied to local economy and local growth.

Additional Information

Illinois Economic Review - A review of local economic conditions are available monthly from the Institute of Government and Public Affairs at the University of Illinois. This contains local economy statistics for the Champaign-Urbana MSA which encompasses Champaign, Ford and Piatt Counties.
<http://igpa.uillinois.edu/analysis/>

Fiscal Futures Project - A research project creating a long term budget-trend projection model for the State of Illinois. This provides information about the fiscal condition of the state which might inform local finance strategies.
<http://igpa.uillinois.edu/content/fiscal-futures-project>

1. Financing Infrastructure

The following innovations are related to infrastructure finance or securing the money needed to construct a new asset or renew, rehabilitate, or reconstruct an existing asset. Borrowing and pay-as-you-go are the two basic methods used to secure funds for infrastructure costs.

1.1 Borrowing

Borrowing will continue to be an important source of infrastructure financing. This method is particularly useful for projects with significant up-front costs and long life spans. Borrowing has seen a significant departure from municipal finance in the recent past because public sentiment has largely demanded a pay-as-you-go approach of operating within existing budgets. It may be accurate that a debt-free local government is better fiscally; however, local governments are more than just a balance sheet.

Traditional Borrowing Methods

Traditionally, borrowing falls under a category of long-term financing. However, short-term borrowing is also used by municipalities to fill gaps in operating cash flow. Borrowing for infrastructure costs is generally a responsible choice when per capita incomes are rising and the economy is expanding. However, local governments should be wary of year after year of increasing tax supported debt. This is unsustainable and will eventually lead to higher taxes.

- Bank Financing (short-term)
- Negotiated Borrowing (short-term)
- Regular Amortized Debenture Bond (long-term)
- Pooled Debentures (long-term)
- Borrowing Against Reserves (long-term)
- Local Improvement or Special Assessment Debentures (long-term)
- Municipal Tax Exempt Bond (TEB)
- Bond Banks
- Revolving Loan Funds
- Infrastructure Banks
- Private and Public Pension Plan Capital
- Asset-Backed Borrowing

1.1.1 Short-term financing

There are relatively few potential applications of short-term financing, however the strategy proves useful and can be used continually.

- **Tax and Revenue Anticipation Notes** can help government units meet cash and other expenditure needs. This is especially important during the parts of the fiscal year where revenues may not be realized consistently. Notes can be issued for principal, interest thereon and cost of issuance as long as it does not exceed 85% of taxes levied for a specific fund. Unlike bonds, notes are borrowed against cash proceeds and must be accounted for in the funds where the revenues will be generated.
- **Bond Anticipation Notes** are short-term notes that are expected to be replaced by long-term bonds. These can only be obtained after receiving necessary voter approval and legislative authorization. This will allow governments to postpone the issuance of bonds in order to obtain a favorable long-term interest rate or start construction without needing to wait for the lengthy administrative and legal hoops.
- **Grant Anticipation Notes** use federal and state grants or tax revenue sharing payments as a source of revenue for short-term financing.
- **Capital Outlay Anticipation Notes** borrow against appropriated funds from the capital budget and will be repaid through the capital budget funds.

Advantages – These alternatives expand on traditional choices for short-term borrowing. Short-term notes can be purchased by a wide variety of lenders allowing a municipality to generate significantly more funds than with traditional short-term borrowing through commercial banks.

Disadvantages – Notes will always incur transaction costs and potentially higher interest rates. Short-term borrowing is generally paired with long-term projects or pay-as-you-go projects which adds to the complexity of establishing funding solutions.

Applications – Short-term financing can be applied to nearly any local government infrastructure project. It can be used to help start projects while longer-term financing is being negotiated, or can supplement funds when cash flows are interrupted or are inadequate for a limited time. A number of these tools are locally available through the Illinois Finance Authority.

1.1.2 Smart Debt

Smart debt increases the amount of tax-supported debt, but does so through very specific and stringent parameters. These parameters seek to facilitate investment through public and political tolerance of additional debt. Generally, parameters include:

1. Project Selection – Smart debt selects large projects with substantial sums that provide well defined benefits to the community. Public support is obtained because a visible link is established between the incurred debt and the infrastructure investment. This is similar to the Illinois Statewide Transportation Improvement Program (STIP) finance method where large scale projects are identified in the STIP list in order to become eligible for federal funding.
2. Optimal Debt Levels – Municipalities identify their acceptable tolerance for debt and establish caps and frameworks for suitable projects to not exceed their accepted debt level. Levels could be reflected in dollar amounts or a percentage of revenues.
3. Appropriate Amortization – Interest costs should not be the only consideration in determining amortization periods. The amortization schedule should also reflect (but not match) the expected life of the asset.
4. Debt Structure – Consider use of structured, retractable and bullet-style debt. These may result in higher costs in the end, but can help finance immediate needs.
5. Repayment Policies – Borrowing costs money. A fund can be established to help pay the costs associated with borrowing.

Smart debt requires significant preliminary work regarding acceptable debt levels. Smart debt is largely a tool for ensuring proper use of debt, it does not provide additional tax levies or diversify revenues to help finance infrastructure projects.

Advantages – By implementing specific policies, and using strict parameters additional tax supported debt may become acceptable to the public. Using other finance options to ensure low interest rates helps make this a feasible option.

Disadvantages – While local debt-to-gross domestic product is potentially low, state and federal debt levels may be high. This debt adds to the local concern of overall government debt and may be a barrier to this method of financing at the local level.

Applications – To varying degrees, the Smart Debt parameters are incorporated into most finance decisions. However, true application of smart debt establishes these concepts as a fundamental part of taking on new debt.

1.1.3 Senior Government Credit Enhancements

Federal and state governments can provide both financial and non-financial assistance that make local debt more attractive to potential investors. Local governments can benefit from lower interest rates, improved marketability and lower overall project costs. Generally, senior government funds are used to leverage additional financing or investment through a variety of modes including public/private partnerships. Types of senior government credit enhancements include:

- Additional credit
- Subsidies on interest rates
- Subsidies for bond issuance and insurance
- Loan guarantees
- Enhanced debt position
- Direct loans

Advantages – Credit enhancement encourages investment in infrastructure and encourages finance professionals to combine strategies and innovate within public finance.

Disadvantages – Local priorities and senior government priorities may not match, making it difficult to obtain funding for desired local projects. Long time-lines may also prevent use of this tool.

Applications – The most widespread use of this concept is through the federal Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides credit assistance to nationally or regionally significant surface transportation projects. Projects are required to be listed in the Statewide Transportation Improvement Program (STIP) in order to qualify for the credit assistance program.

1.1.4 Municipal Community Bonds

Municipal Community Bonds raise a portion of infrastructure debt financing from within the community. The process is essentially the same as securing a regular bond, except the community bond requires more work on the part of local officials to help sell the bond to local residents.

Advantages – Local governments are able to control the interest rate, obtain local recognition of helping to build the city, and express greater ownership of city investments. This tool provides the opportunity for personal investment within the city.

Disadvantages – This also requires significant effort from local officials who have to advertise, market and sell the bonds. Infrastructure projects will largely be limited to financing that can be generated within the community. This may not generate the desired amount of revenue.

Applications – This innovation can be applied widely, however the projects must have broad appeal within the community. If projects are not carefully selected, bond issues will fail to sell.

1.2 Pay-as-you-go

The pay-as-you-go strategy allows for only the purchase or construction of capital assets made possible by current financial resources. This includes annual revenues, as well as savings gathered over time. This is a more conservative approach to financing public infrastructure that is appropriate for recurring expenditures which can be planned and budgeted. This method is also appropriate for technological infrastructure and smaller projects that carry lower initial costs and possess shorter life-spans. Oftentimes, the pay-as-you-go finance method results in initial advantage, but long-term disadvantage to future generations. Without a method of capturing revenues, future generations may be unable to upgrade or maintain infrastructure using the same pay-as-you-go method. Pay-as-you-go is also more appropriate for projects that are not easily marketable.

Traditional Pay-As-You-Go methods

- Transfers to Capital from Current Revenue:
 1. Property Tax
 2. Sales Tax
 3. User Fee
 4. General Purpose
 5. Operating Surplus
- Improvement Levies and Special Assessments
- Intergovernmental Grants and Contributions
- Intergovernmental Tax Revenue Sharing
- Reserves and Reserve Funds
- Operating and Capital Leases

1.2.1 Dedicated Taxes

Dedicated taxes (also known as earmarks) assign revenues from tax streams to specific funds for infrastructure. There are two modes for implementing this method:

1. Separate the current property tax mill rate into multiple mill rates and identify as an operating portion and a capital portion.
2. Allocate a percentage of increased revenue over time for capital expenditures.

Advantages – Dedicating taxes establishes a fund that is insulated from legislative and political pressures. These funds help infrastructure compete against program spending such as policing, emergency medical services, or social services. Dedicated taxes add fiscal accountability because of the clear connection between the tax source and the infrastructure or service expenditure.

Disadvantages – Carving out portions of general revenue reduces flexibility in the budget. Outdated priorities can potentially lead to over-investment in specific sectors and result in the potential need to borrow against funds. This defeats the purpose of dedicating revenue and complicates the budgeting process.

Applications – A reduction in discretionary funds in a budget is often difficult for public officials to agree upon, yet the transparency that the dedicated fund provides is often attractive to the public. A successful infrastructure/capital earmark achieves a balance between dedicated funds and budget flexibility. This concept is often used by local governments at a staff level in order to prepare and monitor budgets; however, the method is rarely adopted as an official strategy.

Case Study: Funding Fringe Roads

In 2005, Champaign County signed a resolution (4965) that dedicates \$1,000,000 of Motor Fuel Tax (MFT) funds towards urban fringe road agreements. This dedication was primarily to ensure that the county is able to continue maintenance on roads that under County jurisdiction using the remainder MFT dollars. Additionally, it dedicates revenue to projects with existing funding agreements.

Representatives from both Champaign and Urbana disputed the resolution as good policy due to the concern that the 1 million dollars would not equate to the County's "fair share" of development costs.

Even with the dispute within the community, Champaign County's funding method was approved and resulted in a dedication of taxes to support and implement County priorities.

1.2.2 Increase Existing Tax Rates

Increasing tax rates may be a logical choice, although it is generally a politically unpopular option. Financial short-comings for local infrastructure are often in part due to increasing costs while the tax rate remains stable. Increasing tax rates is not necessarily an innovation; however, the method and rhetoric used to gain approval of the increase can be made innovative. Examples of innovation in existing taxes include:

- Dedicate revenues from increased taxes for a specific purpose and obtain voter approval.
- A sunset tax expires after the purpose for the taxation is completed. Upon expiration, another project or capital plan may be presented to the voters for renewal.

Advantages – Presenting infrastructure projects to taxpayers creates a connection between what is being paid and what is being received. Officials and staff are required to thoughtfully prepare and sell the increase to the public.

Disadvantages – Taxpayers may look for every type of tax increase to be earmarked reducing flexibility in municipal budgets. Also, infrastructure that does not attain high visibility may run a higher risk of failure.

Applications – Property Tax Extension Limit Law (PTELL) limits property tax extensions for non-home-rule taxing districts and was approved by referendum in Champaign County in November of 1996. In April 2007, an increase in sales tax was approved.



Property Tax Extension Limit Law (PTELL)

The PTELL is designed to limit the increases in property tax extensions (total taxes billed) for non-home rule taxing districts. However, rather than a strict 'cap' on the tax extension, the PTELL allows a taxing district to receive a limited inflationary increase in extensions on existing property, plus an additional amount for new construction.

The limit slows the growth of revenues to taxing districts when property values and assessments are increasing faster than the rate of inflation. Under PTELL, the limitation is set by the lesser of 5% or the increase in the Consumer Price Index for the preceding levy year.

In Champaign County, voters approved PTELL in 1996. However, tax rates other than the property tax can potentially be increased. Jurisdictions that are home rule may still consider increasing the property tax.

Source: Property Tax Extension Limitation Law by Referendum, An Overview. Illinois Department of Revenue. April 2002



Disadvantages – This approach provides a simple answer for local jurisdictions, but creates a difficult situation for the State making it hard to gain traction. Additional revenue sources would have to be identified and dedicated to the purpose of funding education.

Applications – Overall, this strategy seeks to increase the number of taxes paid, but generally maintain the dollar amount paid by each person. This may prove to be difficult to implement in terms of structuring a new system as well as obtaining voter approval. Another concern is that the tax space released by the education portion may still not meet the needs of current infrastructure shortcomings.

1.2.3 Lower/Eliminate Education Portion of Property Tax

A reform of the property tax suggests a significant change in tax policy that would likely be established at the state level. In 2002, 62% of real estate taxes in Champaign County were levied by School districts. Removing some or all of this burden would allow other taxing jurisdictions the use of the vacated tax room. Additional taxes on infrastructure and service costs could be enacted with little or no change to the total levy for the property tax.

Advantages – This allows local areas to capture more tax dollars, without increasing tax rates. The state would then be required to identify revenues to fund education. Options exist to either tie increases to inflation or to level off the rate over time.

Illinois Senate Bill 750 - The School District Property Tax Relief Fund

Illinois Senate Bill 750 seeks to reform school funding by providing property tax relief and generating revenues for education through other means. This bill was first introduced to the Illinois State Senate in 2005. An alternate version has been under review since 2006, but has been without action since August 2009.

Among other things, the bill increases income taxes, expands sales taxes to include services, and issues tax relief to property owners and low/middle income households.

Regardless of the details of this bill, this is potentially a positive innovation in finance.

Source: <http://www.ilga.gov/legislation/BillStatus.asp?DocNum=750&GAID=8&DocTypeID=SB&SessionID=50&GA=94>

1.2.4 Policy Change To Address Revenue Inelasticity

This innovation is essentially a reversal of the tax and expenditure limits (PTELL) which has been imposed on property taxes for many non-home rule jurisdictions in Illinois. The tax and expenditure limit could be used to prescribe the amount by which revenues can increase annually. A policy change to address revenue inelasticity might state that property tax revenues would keep pace with changes in area income or another means of economic growth. The policy would include an identified measure that as it changes, could then be matched by the tax. This is a significant diversion from existing tax policy and would likely be enacted through a change to state policy rather than local policies. Economic measures that might be useful include income, employment, housing trends, and lending activity.

Advantages – A standing policy connecting taxes to economic conditions would simplify annual budget discussions by providing a uniform basis for decisions.

Disadvantages – The method would not help diversify municipal tax sources and would depend on the complexity of accurately measuring economic conditions. The policy would implement a regressive tax that negatively impacts lower and moderate income families unless additional measures are taken in the form of rebates or deductions.

Applications – The potential for negative social and economic consequences suggests that additional measures should be taken such as tax rebates for low and fixed incomes. A number of methods of accounting for social and economic disparities exist, have been tested and could be adopted. The most common might be the senior citizens homestead exemption for the property tax.

1.2.5 Create Strategic Reserves and Reserve Funds

The combination of dedicated taxes and reserve funds to establish strategic reserves for infrastructure is another innovation in public finance. While a simple savings fund is not necessarily innovative, it is becoming increasingly popular as it is paired with other strategies. Local governments are faced with efficiently using the financial resources provided by its residents and maintaining a positive fund balance without that fund becoming a slush fund. Strategic reserves will often make a balance sheet appear flush, but the use of multi-year financial plans and dedicated funds can help alleviate the misconceptions about municipal slush funds. Recapitalization reserves can be created to help fund rehabilitation of existing infrastructure while replacement reserves are appropriate for capital with relatively short life spans. Both types of reserves are funded through portions of a dedicated tax.

Advantages – Establishing reserve funds generally requires a connection to expected costs. This forces entities to understand their life-cycle cost needs and account for maintenance and eventual replacement. These costs are then used to determine the required revenue for the reserve fund.

Disadvantages – Reserve funds exacerbate issues with intergenerational equity, potentially changing who pays for infrastructure and services. With reserve funds, it is more likely that residents who no longer live in the area will be helping to pay for improvements through past contributions to the reserve fund. Another issue revolves around maintaining current service levels while dedicating revenues to costs that are potentially decades away.

Applications – Proper use of strategic reserves successfully balances the amount of funding in reserve and the amount of funding generated for reserves. Over zealous use of reserves may cause tax payers to doubt the use of reserve funds and force authorities to return the reserves to the public.

1.2.6 Lease-Purchase Financing

With Lease-Purchase financing, local governments have the ability to acquire the use and ownership of assets and equipment without incurring standard debt. Unlike an operating lease, the lease-purchase arrangement anticipates full ownership at the end of the lease term. With each payment of principal and interest, the lessee increases its equity interest in the asset. Unlike a standard lease, the lessee owns the title from the beginning of the lease while the lessor retains only a security interest in the asset. This method provides a mechanism for funding infrastructure when voter approval might be difficult to obtain. Of significant note to municipalities, this type of finance does not show up as debt on the balance sheet.

Advantages – This tool allows municipalities to finance what they need when they need it. All costs can be captured in the finance arrangement including delivery, training, installation, software maintenance, etc. Finally, arrangements can be adapted to almost any circumstance and allow for variations in cash flow.

Disadvantages – With a lease, there is a risk of losing accumulated equity if funds are not appropriated annually. Also, interest rates are generally higher than for standard municipal bonds. However, this is potentially more efficient if a municipality is seeking multiple bonds for small assets where they need to cover underwriting fees, insurance, and other legal expenses.

Applications – This innovation helps expand municipal finance alternatives after limitations have been continually set by both voters and legislative tax caps. Lease-purchasing is generally only cost effective for infrastructure or capital that has a life cycle between 3-10 years and where the lease-purchase term expires within 10 years.

1.2.7 Leaseback Arrangements

The leaseback arrangement either sells or leases a new asset to a private third party. The local government then leases the asset back over a set time period. There are multiple methods of arranging the contract using this concept:

- Purchase (government), Lease (third party), Leaseback (government) seeks to save money through tax benefits that can be obtained by private firms which are partially passed back through the leaseback to the public sector.
- Another method is Purchase (government), Sale (third party), Leaseback, (government), purchase (government) which is generally used for existing assets. The sale generates large up-front payments which can then be used to invest, finance other projects, and facilitate the future repurchase of the improved asset.
- Another variant is similar to the ones identified above, but uses a third party in a different country that might be able to take advantage of tax deductions that may not be available domestically. Leasebacks have been used for public buildings like museums and concert halls, utilities, and transportation systems.

Case Study: Route 3 North - Boston, MA. Leaseback Arrangements

The Route 3 project used \$385 million to add a third lane in each direction, create a median shoulder, improve 13 interchanges and replace 40 bridges. Massachusetts legislation allowed for a not-for-profit 63-20 corporation to issue tax fee revenue bonds backed by lease payments from an annual appropriation from the State legislature.

The project entailed a 30-year agreement for design, build, and operation of the roadway. This approach is estimated to have cut project delivery time from 9 years to 42 months. The requirement that the developer operate and maintain the road for 30 years provided a strong incentive for quality assurance.

Source: http://www.fhwa.dot.gov/ipd/case_studies/ma_route3.htm

Advantages – This allows local governments to benefit from certain tax deductions only available to the private sector or third parties in a different country.

Disadvantages – These arrangements are complex in nature, involve high transaction costs, have substantial risks and require significant negotiation.

Applications – Changes to the legal system may disrupt anticipated interactions between the government and the third party. Legal advice is essential regarding future changes in the legal system. Legal changes that would impact a lease back arrangement includes federal and state corporate taxes and incentives, cross-border taxes, and risk due to changes in foreign exchange rates.

Traditional taxation methods

- Property Tax
- Local Improvements Levies or Special Assessments
- Selective Sales Tax
- Intergovernmental Tax Revenue Sharing
- Intergovernmental Transfers
- Other General Purpose Revenue
- Tax Increment Finance
- Real Estate Transfer Tax
- Local Option Sales Tax
- Special Local Option Sales Tax
- Municipal Option Sales Tax
- Local Car Rental Tax
- Utility Tax

2. Funding Infrastructure

The following innovations are related to infrastructure funding or repaying the upfront capital costs of infrastructure. Taxation and user fees are the two general methods of funding infrastructure.

2.1 Taxation

Taxation is the simplest form of fund generation due to the ease of the centralized system. Tax revenue gets deposited into a central general revenue fund and then spent through a variety of programs and budgets. This takes less effort than user fee systems which are required to track money to ensure that it is spent on the service which generates the revenue. Taxation seeks to ensure access to services regardless of socioeconomic status. In terms of infrastructure, taxation is at a disadvantage because it does not establish a direct link between the payer and the benefit. Since there is no direct connection, there is no financial incentive to reduce consumption of infrastructure and services and increase efficiency on an individual user basis.

2.1.1 Implement New Taxes

Increased dependence on the property tax for infrastructure is primarily a result of limitations on user fees (which must be attached to specific services and infrastructure) and declining intergovernmental transfers from state and federal government sources. Diversity in the tax structure would seek to establish stronger connections between individual tax payers and the infrastructure or services that they receive. Implementing new taxes would focus on changing the way that government collects tax and not increasing the tax. When implementing new taxes, governments should review the amounts to be collected, but more importantly, how taxes are collected, from whom they are collected, and how the funds are used. The following identifies different types of taxes and innovated ways of changing those taxes

1. New Property Taxes

- **Special Capital Levy on General Property Tax** is a surcharge on the general property tax which can be issued for either a specific amount of time or indefinitely. The levy is generally earmarked for a specific project or type of capital improvement. The transparency of these funds work in favor of implementing the additional tax. The use of this method can be repeated as many times as the voters approve.

- **Differential Property Taxation** includes several methods of implementation. Areas which benefit from a particular infrastructure or service can be taxed to provide for the cost of the service. Differential taxation can also target abatements for existing distortions in the property tax (multi-family homes, commercial vs. residential).

Case Study: City of Austin - Transportation User Fee

The City of Austin has enacted a levy for transportation that is attached to municipal utility bills. The fee supports the Public Works and Transportation Departments in a variety of activities including street and bridge repair, preventive maintenance, and improvements; operation and maintenance of traffic signals, signs, and pavement markings; construction of sidewalks and bicycle lanes; school crossing guards and child safety education; and transportation planning.

The levy, while described as a user fee, is really a property tax. The charge is based on the estimate average number of daily trips made by individuals residing in different types of property (single family, duplex, apartment, etc.)

Residents who do not own and do not drive a car. This can add up to a savings of about \$40 per year.

Source: City of Austin website
<http://www.ci.austin.tx.us/>

- **Personal Property Tax** is incurred upon personal or business property. This method draws from a small base and generates a limited amount of revenue. Additionally it is dependent on the local residents since the government would not be able to tax outside of its jurisdiction.
- **Land Value Capture or Land Value Uplift Taxes** captures the portion of increased value that accrues when infrastructure improvements occur near land property. The uncertainty of whether infrastructure improvements or some

other factor has increased property values makes determining the attributable value a difficult exercise. While this tax is generally seen as fair, land owners may realize the increase in property value at different times and may be unable to afford the additional tax. These revenues can then be used to fund infrastructure improvements or extensions.

- **Site Value Taxation** focuses taxation on the land portion of property rather than an even split between land and improvements. The case for site value taxation (or land value taxation) has many parts. The land value tax is efficient in that it does not distort investment choices, while the part of the property tax that falls on structures does discourage investment. The burden of the tax on land falls entirely on landowners, who have no opportunity to shift the tax to others. The land value tax is neutral with respect to the choice of when to develop a parcel and the density of development or sprawl, while the alternative of taxing improvements probably increases sprawl.
- **Special Service Area** is a taxing mechanism that can be used to fund a wide range of services



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and/or physical improvements within a defined area. A special service area is a contiguous area within a municipality or county. The cost of the special services to be paid from revenues collected from taxes levied or imposed upon property within that area. Corporate authorities are the governing body of the special service area however, an area can be proposed someone other than a corporate authority though an owner of record within the service area must sign the application. The corporate authorities may accept or reject any application for a special service area.

Case Study: City of Champaign - Campustown Special Service Area

The Campus Town Special Service Area was established in 2001 and allows for a percentage of the increase in property taxes for the area to be diverted into a special account for payment of streetscape bonds. 10 percent of the cost for the additional services were expected to be paid by the district while the remaining revenue is generated through the local food and beverage tax.

This example combines the use of a special service area with land value capture to generate revenues to pay for the streetscape and maintenance.

Source: http://ci.champaign.il.us/wordpress/wp-content/uploads/2008/05/university_district_action_plan-small.pdf

2. Other Real Estate-Based Taxes

- **Development Taxes** are applied uniformly across jurisdictions and are raised as a general revenue to support both operating and capital expenditures. This quality differentiates the development tax from development cost charges exactions, or impact fees. These can be used in place of comprehensive costing systems. However, since development taxes are uniform, they do not reflect actual costs and may encourage inefficient development.
- **Blight Taxes** are special levies against land owners of abandoned or vacant properties

and under-utilized land. This is used to encourage property owners to redevelop urban brownfields or sell them off to someone who will.

- **Parcel Taxes** are flat taxes on real property which are capped and expire after a certain amount of time. Revenues are generally targeted towards improvements on existing infrastructure.

3. Selective Sales and Excise Taxes

This type of tax is already being collected by the State of Illinois and a number of local jurisdictions. Sales tax in Illinois is divided into three categories:

1. food and prescription and non prescription drugs;
2. vehicles;
3. general merchandise.

Additional sales tax can be applied by local jurisdictions, although some products are exempt. In terms of infrastructure finance, sales tax allows a jurisdiction to capture a portion of economic activity generated by visitors. Selective sales taxes can be used as general revenue, for a specific purpose or both. Generally, the revenue is used to support the activity that was taxed. If a tax is imposed on lodging and accommodations, the revenue would be used to support tourism promotion or operating and capital costs for convention centers.

4. Vehicle Specific Sales and Excise Tax

This type of tax is the classic case of a use tax. The tax is paid only by those who use vehicles and roadways. Federal and State Motor Fuel Tax is passed down to support local transportation infrastructure, however, this is generally not sufficient to cover the funding requirements. This has led to other taxpayers subsidizing the cost of transportation leading to overuse, increased pollution, and other distortions in infrastructure provision. Theoretically, the tax should be set at a level that is sufficient to cover the funding requirements of the infrastructure. In most instances, local motor vehicle taxes do not cover the cost of infrastructure.

- **Local Option Fuel Tax** is a first order user tax which means that the tax is directly related to the amount of fuel consumed. The tax is able to generate a relatively significant amount of revenue due to a large tax base. Funds generated through this method are best used for auto-related transportation infrastructure. However, this tax is unresponsive to inflation and revenues may become less effective over time due to the use of alternative fuels and efficiency.

Case Study: The Local Option Fuel Tax

The City of Danville's Infrastructure Improvement Fund is based on their local gas tax applied to gas and diesel. The rate increases based on increases in construction costs. The tax in 2009 generated approximately \$1,000,000.

Local motor fuel taxes are not without controversy. The tax is generally applied as pennies per gallon rather than a percentage of the fuel price. This results as a lag in revenues over time. Increasing efficiency of newer vehicles may also limit revenues. Setting an appropriate tax rate is also of concern. When the fuel tax is properly used as a supplementary source of revenue, local stations are unlikely to have a disparity in gas prices. However, over-dependence on the tax could result in different prices at the pump.

Even with the concerns, fuel taxes are a logical choice for funding transportation infrastructure. Some authorities recommend that fuel taxes should be levied as a percentage of fuel cost, however this has not been widely accepted.

Source: City of Danville website
http://www.cityofdanville.org/index.php/departments/public_works/your_local_road_funds/

- **Local Parking Taxes** do not have the same direct connection to transportation system use. A driver who drives 1 mile and parks in an alternate space would get taxed the same as one who drives 30 miles and then parks in the space. However, rates can be differentiated to encourage particular behaviors like use of transit.

- **Local Vehicle Ownership or Registration Tax** can be either a fixed amount or based on the value of vehicles. These fees are generally used to offset the cost of administration, record keeping and enforcement.

5. Income Tax

A local level income tax has not been authorized in the State of Illinois even though local jurisdictions receive disbursements from the State income tax. This potential source of revenue is less appropriate for infrastructure funding and more for redistributing wealth through social programs which promote equality and opportunity. Should the state allow a local income tax, its use towards infrastructure improvements should be limited.

6. Business Taxes

Commercial and industrial properties are taxed differently than residential properties. It is generally accepted that businesses should help subsidize the cost of infrastructure because they generally have the capability of shifting the added tax onto someone else.

- **Gross Receipts Taxes** have not been authorized for use in the State of Illinois. The tax is applied to all types of businesses and collected through a tax form rather than at the point of sale. These taxes are generally structured to exempt certain businesses where tax is already imposed, or the additional burden would have negative impacts, in the case of some small businesses. This tax helps diversify revenue streams; however, structuring the tax for efficiency is often difficult.
- **Payroll Taxes** have not been authorized for use in the State of Illinois. The tax is based on a percentage of employer payrolls and is often used to support the operating and capital needs of public transportation. The tax can be tailored to establish financial incentives by waiving the tax when a business issues passes for public transit or has a car pool program. Small business are also generally exempted from the payroll tax.
- **Employee Taxes** have not been authorized for use in the State of Illinois. This is generally

a flat rate split by the employee and the employer based on income. The revenue is used to pay for transit.

Advantages – New taxes would benefit local governments by diversifying their tax system and establishing taxes that are strongly linked to the local population and economic growth. Development subsidies that cause sprawl can be reduced by lower property taxes and additional taxes types of tax that reflect the costs incurred by the city of outward expansion. Politically, a more diverse tax system promotes better accountability based upon the decisions made locally to establish funds and contribute to those funds.

Disadvantages – New taxes have the potential to create new distortions. An additional sales tax could modify shopping behaviors and an income tax could lead to businesses leaving the area. While sources of revenue can be expanded, there are not infinite sources. Over taxing on revenues that are closely tied to the economy may result in significant revenue shortfalls during economic downturns.

Applications – There are three broad concepts concerning the implementation of additional taxes.

1. New Municipal taxes should focus on user taxes. These are the most efficient and equitable form of taxes acting generally as a proxy for the more direct user fee.
2. Tax rates that are expressed as a percentage of the total price are more beneficial over time. Revenues that grow in proportion to the service are more sustainable.
3. New taxes should be subject to voter approval, capped, earmarked for capital purposes, select infrastructure, or specific projects. New taxes can also be subject to sunset clauses and accompanied by regular audits and public reporting.

2.1.2 Expanded Tax Revenue Sharing

This type of innovation is primarily related to revenue sharing between local and state or federal governments. State and federal governments may be able to pursue certain changes to the tax structure that may not be politically feasible for a local government, but that would still provide great benefit to the community in terms of revenue for infrastructure. Inter-local tax revenue sharing establishes a method for allocating a regions tax base across municipalities based on population or other measures. Properly structured sharing agreements can help alleviate fiscal disparities and reduce the intensity of fiscal competition between jurisdictions. Tax revenue sharing can also positively impact economic development efforts, promote environmental regulation, and promote efficient development within the region

Advantages – Certain types of tax lend well to revenue sharing. Income and general retail sales taxes are able to capture a portion of local economic growth.

Disadvantages – Stringent requirements may be attached to tax revenues which reduces local autonomy in decision-making.

Applications – The most commonly referenced approach to achieve this is in the form of a direct transfer of a portion of state revenues to municipalities.

Case Study: Options for Inter-local Tax Revenue Sharing

Local taxes generally involved with revenue sharing include sales tax, property tax and business or occupation taxes. Different pots within these revenue sources include the increment of increased tax above a baseline, additional revenues from tax increases, and a negotiated share of tax collections.

Different methods of calculating the amount of revenue shared are identified below.

- Population - distributed on per capita basis.
- Spending Power - distributed to communities based on the percentage of expected retail sales taxable purchases from each member of the revenue sharing agreement contributes to the overall revenue.
- Leakage - distributed back to communities who leak sales tax revenue to communities who are revenue importers.
- Regional Land Bank - Each community contributes to a pool of future regional retail sites or redevelopment sites. Each community would receive a share of the total sales tax generated by those retail sites based on the amount of land contributed and a weighting of development potential.

Source: http://www.bouldercounty.org/bocc/consortium/materials/BCCResolutionRevStab_Attachment%20B.pdf

long-term bonds, increase their flexibility in cost sharing, and moving from project based finance to financing innovation and use of technology.

Advantages – Increasing flexibility in grant funding may help local governments focus resources on their greatest needs.

Disadvantages – Grants in any form can perpetuate the gap between services or infrastructure delivered and local governments ability to raise the revenue to maintain and support the infrastructure.

Applications – A change to the way that intergovernmental grants are awarded will require a fundamental shift in thinking. Security in future grant opportunities is also important. Municipalities will be restricted in self-financed projects if future funding sources are essentially uncertain or unstable.

2.2 User Fees

User fees can be applied to permits and licensing, for services where consumers are easily identifiable and for one time developments. As a revenue source for infrastructure, trading fees and development cost charges can provide partial cost recovery but rarely full cost recovery.

Regulatory fee are those applied to permits, and zoning changes. Trading fees are applied to services and infrastructure that is marketable and provides a significant benefit to consumers who can be identified. Development cost charges are one-time fees charged at the building permit stage.

User fees promote efficiency by tying consumption to an individuals willingness to pay. Some municipal infrastructure is relatively inexpensive when compared to costs of other utility service, making implementation much easier. User fees are not without disadvantages though. In the case of user fees, efficiency and universal access cannot be achieved at the same time.

2.1.3 Modified Conditions for Federal and State Capital Grants

Existing federal and state grants for infrastructure are tied to program goals that may not match the needs of the local jurisdiction. Projects may: skew local priorities, not address the most pressing needs, come at unpredictable times, weaken accountability because local revenue is subsidized, or have high transaction costs and lead to fiscal leakage. Innovations for this type of funding might provide for local governments to use grants to repay

Traditional User Fees

- Regulatory Fee
- Trading Fee
- Development Cost Charges
 - Impact fee
 - Exaction fee

2.2.1 Proper Pricing

User fees often do not capture the full cost of providing the service. Where they attempt to do so, they often charge the average cost rather than the marginal cost or the peak demand cost. This method, rather than accurately pricing the cost of the service, simply raises revenues which might not be sufficient to cover the cost of service.

- **Full Cost Recovery** is a user fee that incorporates the costs associated with capital consumption or depreciation in order to cover current operating needs as well as future capital needs. Full cost recovery also works as a check against demand and reduces consumption.
- **Marginal Cost Pricing** is the most efficient form of a user fee. User fees are set to match the marginal cost for delivery. This accounts for all additional costs (infrastructure, operations) to increase infrastructure.
- **Variable Unit Rates** establish volumetric charges, operating, and capital costs associated with providing services to a specific property. Potential application would include water and sewer infrastructure
- **Multi-Part Tariffs** combine a flat fee and user fee, attempting to reach the marginal cost for providing services.
- **Peak Period Pricing** increases user fees as demand increases.
- **Differential User Fees** uses different charges based on an identified characteristic. Generally this is seen as higher fees for non-residents and has been implemented where outside users can be easily identified (recreation facilities, libraries, cultural facilities).

Average and Marginal Cost Pricing

Oftentimes, user fees do not capture the full cost of providing services. In some instances, user fees are used to make up the difference between a tax supported portion of the infrastructure and the actual cost. In other cases, the actual cost would impose a greater burden than can be born without generating fiscal disparities. Commonly, user fees represent the average cost of infrastructure rather than the marginal cost.

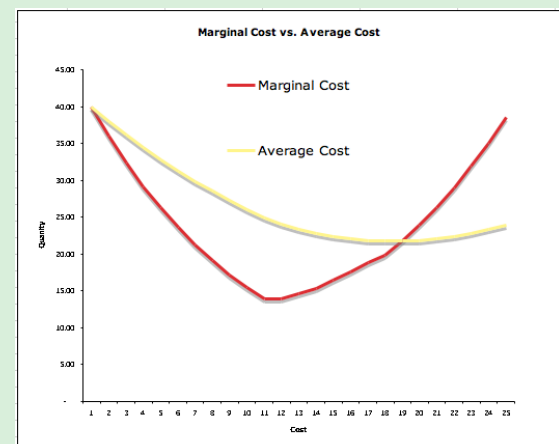
Average Cost

The average cost method calculates the total costs and divides by the total number of users. This method is prevalent because it is less complicated than other methods. However, rather than accurately pricing costs, the average cost is essentially only raising revenues with little reflection on the actual cost of providing infrastructure and services.

Marginal Cost

The marginal cost identifies the actual costs including both infrastructure and operations as the entire system becomes larger, more complex, and more expensive. The fee would equal both the operating cost and capital costs of providing the last unit of a good or service consumed. For this method the charge must increase or decrease based on delivering services and infrastructure to different properties.

The following cost curve compares average cost to marginal cost. This shows that when the average cost is increasing, the marginal cost is greater than the average cost. When revenues are design to only capture the average cost, funding shortfalls are the consistent result.



Advantages – User fees are not simply a revenue generator. The fee should focus on proper pricing and capture the real cost of providing services to individuals and property owners. The real cost should increase efficiency and discourage waste by lessening free-rider problems and urban sprawl by making expansive outward movement more expensive.

Disadvantages – There are a number of unknowns when implementing user fees. Reports have stated that the actual price charged has more impact on behavior, consumption, and infrastructure expansion than the structure of the user fee. Also, full cost accounting is difficult due to unforeseen costs, as well as shared costs. Variable rate costing is based on a jurisdiction's willingness to set rates that reflect rising costs as distance increases or as consumption increases. This funding method does not fit with existing models of building infrastructure to meet future demand. Until that demand is met, revenues will not cover the cost of building.

Applications / Case Study – More accurate pricing could lead to dramatic increases in cost to some areas and lower costs in other areas leading to significant fiscal disallocations. This notion requires jurisdictions to take an incremental approach. In order to implement any type of user fee, jurisdictions must begin a practice of activity-based accounting and tracking actual costs for various infrastructures and services. This knowledge will greatly assist in a transformation in funding.

2.2.2 Developer Cost Charges (DCCs)

This method implements the concept that new growth must pay its own way. Infrastructure that could be included under this category are water, waste water, roads, streetlights, local parks, libraries, and transit. Once again, the objective is not to charge the most you can, but balance an accurate price for infrastructure with feasibility to pay.

- **Variable DCCs** focus on encouraging effective and efficient development. When variable prices are set, developers will be forced to factor in the costs of expanding public infrastructure. If fees are absent or uniform, location considerations are largely absent.
- **Expanded On-Site DCCs** looks at a larger development as a cohesive unit that may include bus stops, fire or police stations and outdoor recreation facilities. Although these are not property specific infrastructure, they might be adjacent to, or serve the surrounding development. When this connection to property can be made, the developer cost charge method might be applicable to infrastructure other than roads, sidewalks, etc.
- **Expanded Off-Site DCCs** is generally termed impact fees in the United States. The fees are meant to generate funds to help offset the costs of building downstream infrastructure. This might include upgrading arterial and collector roads, purchasing right-of-way, supplementing parking systems, and adding recycling facilities. Costs are set by determining a prorated share of new facilities. This is a challenging task which must meet an appropriate relationship between new development and downstream infrastructure costs. The controversy of this method falls within defining this relationship.

Case Study: DuPage County Road Impact Fee

The DuPage County Fair Share Road Improvement Impact Fee Program began in 1989. Fees are determined based on land use projections, estimated demand for roadways, type of development and location. The fee is assessed one time, prior to the receipt of a building permit. This impact fee covers both home rule and non-home rule jurisdictions as is enabled by State of Illinois legislation.

Fees range from \$53 to over \$7000 as of December 2007.

Source: <http://www.co.dupage.il.us/index.cfm>

- **Linkage DCCs** expands the idea of impact fees to off-site soft infrastructure like correctional facilities, government buildings, affordable housing and others. The common connection is that development requires more social infrastructure. However, the relationships are relatively weak essentially resulting in a tax on new development. As a tool for infrastructure funding, the efficiency of this is questionable.
- **Density Bonusing** is essentially a negotiated variable DCC based on an individual development arrangement. In return for a development advantage granted by a local government, the developer agrees to help fund or provide some extent of infrastructure and facilities. The method is also akin to a value capture taxation through the local government receiving additional capital from the increase in property value.
- **Front-Ended DCCs** allow developers to provide funds for the actual infrastructure to the local government in order to proceed with development. Funds are generally repaid over time as other developments proceed and development cost charges are collected. Front-ended DCCs should not circumvent the municipal planning process by allowing developers to expand infrastructure where it does not conform with the adopted municipal comprehensive plan. Additional measures should be implemented to ensure good and proper development if this method is to be used.
- **Scheduled DCCs** are appropriate in instances of continual and regular development. A schedule of costs avoids negotiating fees for each development. In order to achieve long-term planning objectives, these fees can be incorporated into the comprehensive plan and other planning documents.

Advantages – Three benefits can be achieved through DCCs.

1. Variable DCCs promote marginal cost pricing leading to less waste, less urban sprawl, less infrastructure, and lower total costs.

2. DCCs can fund a wide range of infrastructure costs.
3. DCCs are designed for transparency, consistency, and predictability.

Disadvantages – If charges do not reflect the actual cost of development, the charge will act more like a tax on development. Additionally, reaction from developers may be negative.

Applications – DCCs in application are rationalized on a clear connection between the fee, the development, and the infrastructure project. Implementing DCCs may require a regional approach to ensure that disparities are not created.

2.2.3 Convert Tax Supported Infrastructure to User Pay

There are two user pay options that can be converted to from a tax. The first option is to convert to a dedicated tax, the second option is to convert to a direct user fee charge. Not all infrastructure is suitable for user fees. The infrastructure must be marketable or must be presented so that the case is made that the infrastructure would not exist unless for the use of a user pay system. The following are examples of infrastructure that can be converted and some options for implementing the user pay system.

- **Water Treatment and Distribution** is appropriate for a user pay funding system.
- **Wastewater Collection and Treatment** is appropriate for a user pay funding system, although it is difficult to determine the amount of wastewater generated. Often it is set based on the amount of potable water consumed.
- **Stormwater Drainage** is increasingly becoming a user pay funding system. The fee can be based on square footage of property that ties into the system and billed along with other utilities.
- **Solid Waste Collection and Recycling** can be funded through user pay because users can be identified on a per unit cost plus capital costs.

- **Roadways, Tunnels, Bridges** present controversial issues in regards to a user pay system. While they may be the most obvious type of infrastructure in need of additional funding, no single method has proved to be exceptional.

Methods of tolling include:

- **Direct Tolling** - charge all drivers a user fee every time they use the road.
- **Variable Tolling** - also known as congestion pricing and value pricing. The toll is varied in real time as congestion increases and decreases. The primary objective of this tool is to reduce congestion.
- **Indirect(Shadow) Tolling** - This is used in conjunction with public private partnerships or corporate arrangements assigned to a new roadway. Governments pay the private or corporate partner based on the number of vehicles using the new road.
- **Partial Tolling** - allows a partial recovery of costs when the fee for a full cost recovery has a detrimental impact on roadway use. A subsidy can be identified through fuel taxation or through some other revenue source. The general concept being that a partial cost recovery is better than entirely tax supported or failure of a project due to missing anticipated revenues.
- **Cordon Tolling** - essentially restricts traffic to certain areas like a business district or urban core. The area is cordoned off unless a toll is paid. This provides a useful tool for intercity areas where other forms of tolling may not be appropriate.
- **Vehicle Miles Travelled Fees** - are charged to drivers according to the type of vehicle they drive and the total distance they drive. While these more accurately price the use of roads by miles, VMT fees are expensive to administer and have a hard time identifying an appropriate measure of VMT's. With better technology, this concept vastly increases in our options in pricing transportation and potentially presents astonishing impacts on other modes of transportation like mass transit, walking and biking.

Advantages – This type of change directly attacks common infrastructure short-comings. These methods show that it is possible to support infrastructure needs through its own cash flow.

Disadvantages – The conversion from tax supported to user pay can result in a series of problems where some will attempt to avoid the user fee. This may result in negative impacts on community health and welfare. Additional regulations and enforcement may be needed, which will add cost to infrastructure and in turn increase the user fee.

Applications – infrastructure types that are either marketable or marginally marketable are good candidates for user pay systems. For public infrastructure and service that competes with private sector goods and services, user pay systems with full marginal cost pricing should be used. Implementing a conversion is easiest when it involves new infrastructure. In these instances, a case can be made that the infrastructure will not be built unless supported by those who use the infrastructure. The strength of this case will likely determine the outcome of the project. A common criticism of user pay is that while more fees are being created, property tax bill are not going down. Leaders need to communicate that if user fees were not implemented, property taxes would be increasing.

Next Steps

After identifying possible methods of financing infrastructure projects, you will need to assess the methods for feasibility and public acceptance. This can be incorporated into a standard review of finance alternatives. In some instances, public engagement will be necessary and desirable, while others may require new public committees or boards to assist in developing or managing the finance systems.

Innovative finance does not release tax payers from having to fund infrastructure. There is a common misconception that public goods are free. Public goods are not free. However, in order to protect the health and welfare of residents, community infrastructure is needed. By defining connections between the costs and benefits of public infrastructure, communities will be able to provide and maintain infrastructure fairly and efficiently.

A Word of Caution

As with any innovation, a degree of risk is involved. Increasingly complex strategies require a great deal of caution and understanding of repercussions and potential consequences of decisions. However, the need for a change is well established. Some of the solution is wrapped up in innovative finance.

