


Michigan Association of Planning

Striking a Balance Between Planning and Budgeting

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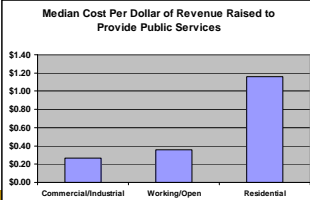


October 2, 2008

Intro to Cost of Community Service Studies (COCS studies)

- American Farmland Trust (AFT)
 - ❑ Began COCS studies in the mid-1980s
 - ❑ Support contributions of agricultural land
 - ❑ Simplified Methodology:
 - 3 categories - residential, commercial, agricultural
 - Supported agricultural uses over residential

AFT's COCS Ratios	
Residential	\$1.16
Commercial/Industrial	\$0.27
Working/Open	\$0.36




Category	Median Cost
Commercial/Industrial	\$0.27
Working/Open	\$0.36
Residential	\$1.16

Source: American Farmland Trust Fact Sheet

Intro to Cost of Community Service Studies (COCS studies)

Hierarchy of Land Uses

Gain



Loss

Research & Office

Industrial

High Rise Apartments

Commercial

Age Restricted Housing

Break-Even for Twp. & Schools

Townhouses/Attached Condo

High End Single Family Homes

Less Expensive Single Family Homes

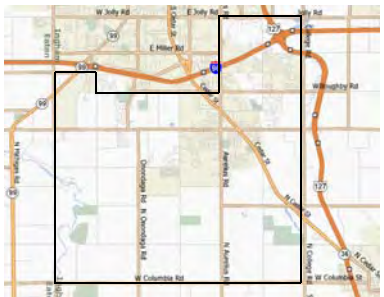
Low Rise Apartments

Mobile Homes

Source: Fiscal Impacts of Alternative Land Development Patterns in Michigan, SEMCOG, 1997

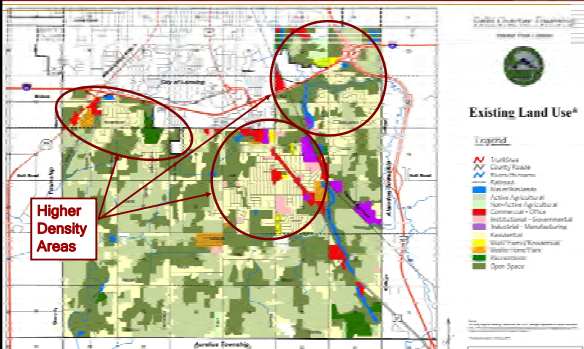
Introduction to Delhi Township

- Located south of Lansing (Holt)
- Experiencing outward growth from Lansing
- 2006 Census Data:
 - ❑ Population: 25,000+
 - ❑ Median age: 36 years
 - ❑ Median income: \$61,831
 - ❑ Median home value: \$124,700



Map Source: MapQuest

Introduction to Delhi Township



Existing Land Use*

Legend

- ⚡ Township
- ⚡ County Roads
- ⚡ State Routes
- ⚡ Railroads
- ⚡ Water Bodies
- ⚡ Active Agricultural
- ⚡ Commercial - Office
- ⚡ Institutional - Governmental
- ⚡ Industrial - Manufacturing
- ⚡ Residential
- ⚡ Multi-Family/Residential
- ⚡ Public Open Space
- ⚡ Open Space

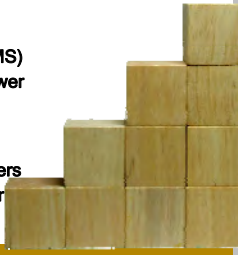
Higher Density Areas

*Delhi Charter Township
*Holt Charter Township
*City of Lansing
*Aurora Township

Delhi Study Purpose: to understand the relationship between land use and the municipal budget.

Study Process

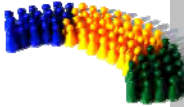

- 1. Define Land Use Categories:**
 - Included 3 densities of residential
 - Included tax exempt category
- 2. Collect and Analyze Data:**
 - Township budget
 - Public Safety reports (fire, police, EMS)
 - Alternative Analysis of roads and sewer
- 3. Allocate Revenue and Expenditures**
 - Direct allocation
 - Default percentages / fallback numbers
 - Alternative analysis of roads & sewer
- 4. Calculate Ratios**



Step Three Allocate Revenues and Expenditures by Land Use 2008
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Default Percentages

- > **Tax Revenue**
 - Percent of taxes collected from each land use category
 - Used to allocate delinquent tax fees, interest, etc.
- > **Property**
 - Number of parcels in each land use category
 - Used to allocate assessing & community development budgets
- > **Population**
 - Population within each land use category
 - Used to allocate election costs, civic programming, or items that benefit residents only

Step Four Analyze and Calculate Ratios 2008
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What is a COCS Ratio?


- > Amount the township spends to serve a land use for each dollar it receives in revenue from that land use.
- > > \$1 = net loss
- > < \$1 = net fiscal benefit

How is a COCS Ratio Calculated?

- > Total all revenues and expenditures by land use
- > Divide the total expenditures by the total revenues.

Step Four Analyze and Calculate Ratios 2008
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Overall Township COCS Ratio



Delhi Overall Budget:

RATIO = \$0.97

For each **\$1** received in revenue,
the Township spends **97¢**

Step Four Analyze and Calculate Ratios 2008
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General Budget Analysis:

Low Density Residential: (lots >15,000 s.f.) RATIO = \$0.96	Agricultural/Open Space: RATIO = \$0.93
Medium Density Residential: (lots 10,000 to 15,000 s.f.) RATIO = \$0.98	Industrial: RATIO = \$0.20
High Density Residential: (lots < 10,000 s.f.) RATIO = \$1.55	Commercial/Office: RATIO = \$0.62
Tax-Exempt: RATIO = \$2.36	

Step Four Analyze and Calculate Ratios 2008
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Alternative Analysis

Sewer Results:

- Low Density Residential requires the most linear feet of sewer per parcel
- Wider/Larger lots (with more road frontage) cost the most to serve

Low Density Residential, 133.8 feet
Medium Density Residential, 69.3 feet
High Density Residential, 63.6 feet

Road Results:

- Township maintains more linear feet of roads for Low Density Residential than for any other land use



Low Density Residential, 157.9 feet
Medium Density Residential, 110.7 feet
High Density Residential, 94.6 feet

Step Four Alternative Analysis 2008
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Impact of road and sewer costs on COCS Ratios:

Low Density Residential	↑	Agricultural/Open Space	↑
Medium Density Residential	↑	Industrial	↓
High Density Residential	↑	Commercial/Office	↓
Tax-Exempt	↑		






Key Observations 2008
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- If this study had only one Residential category, its ratio would be \$1.13
- Ratios of High Density Residential were higher due to *increased public safety demands* 
- Outlying, suburban areas require more linear feet of sewer and roads, which were not calculated into the ratio
- The Agricultural ratio was higher due to very few active farms in the township 

Key Observations 2008
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- A high Ratio for High Density does not mean that small lots are bad... rather,
 - ❑ It implies that *concentrations of high density* development often leads to *increased public safety costs*
 - ❑ Delhi should pursue *high quality, high value* development or mixed-use
- Additional High Density study needed:
 - ❑ Large range of residential types from mobile home parks to large lot, rural residential
 - ❑ Does form of development affect the demand for services?
 - ❑ Neighborhood-based study needed

In-Depth High Density Study 2008
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- **Sub-categories created:**
 - ❑ **Low-Intensity** - areas where predominant building type were single-family or duplexes 
 - ❑ **Moderate-Intensity** - areas where predominant building type were 3 to 6 unit buildings 
 - ❑ **High-Intensity** - neighborhoods where predominant building type were 7 or more unit buildings 
 - ❑ **Mixed-Use** - neighborhoods that contain a mix of two or more building types 
 - ❑ **Mobile Home Communities** - neighborhoods developed according to the Mobile Home Commission Act 

In-Depth High Density Study



- Neighborhood-based study:
 - ❑ **Step One** - assess each neighborhood's attributes (streetscape, sidewalks, community amenities, etc.)
 - ❑ **Step Two** - allocate each neighborhood to a sub-category based on number of units per building
 - ❑ **Step Three** - re-allocate revenues and expenditures of the original High Density category to each sub-category
 - ❑ **Step Four** - calculate new ratios for each sub-category
 - ❑ **Step Five** - develop amenities matrix and compare to ratios to establish recommendations

In-Depth High Density Study



Preliminary Results for High Density Sub-Categories:

 Low Intensity: RATIO = \$1.27	 Mixed Use: RATIO = \$0.89
 Moderate Intensity: RATIO = \$1.55	 Mobile Home Communities: RATIO = \$2.64
 High Intensity: RATIO = \$1.78	

In-Depth High Density Study



Preliminary Conclusions:

- Project is still in process - more study to come for infrastructure
- Mixed-use is the best high density alternative
- Mobile Home Communities are the least cost-effective form of housing
- Township should support:
 - ❑ More mixed use development
 - ❑ Owner-occupancy
 - ❑ Condominium development (requires a perpetual Homeowner's Association - for maintenance)
 - ❑ Community amenities such as recreational facilities, community buildings, pathways, etc.



Contacts





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Striking a Balance Between Planning & Budgeting

**St. Clair County
Infrastructure Assessment
& Planning Toolkit**

David Struck, AICP, Senior Planner
St. Clair County Metropolitan Planning Commission

Michigan Association of Planning Annual Conference • October 2, 2008



Project Overview

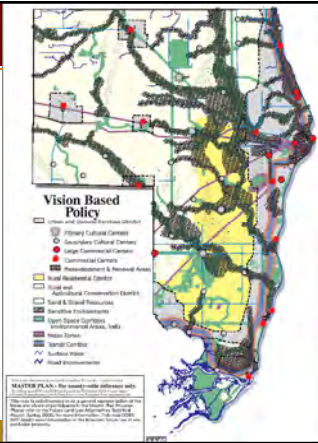


- Michigan Coastal Management Program (MDEQ)
- MPC: Utilities data & GIS layer
- LSL Planning: Analysis & Planning Toolkit
- Local cooperation & support
- Numerous presentations/input sessions



Vision Based Policy - 2000

- Preserve rural character
- Protect water & air quality
- Sensitive environments
- Sufficient commercial & industrial land
- Direct growth to appropriate areas
- Attract tourists
- Foster a healthy economy



Striking a Balance Between Planning & Budgeting

Infrastructure Assessment

Infrastructure Assessment

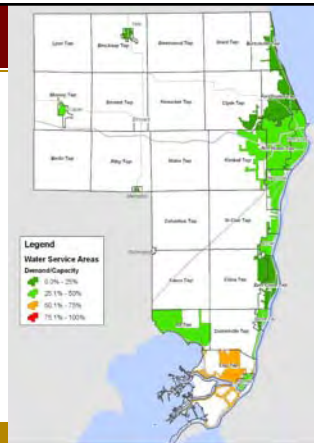
- Avg. Daily Demand & Capacity (except Port Huron)
- Data provided by system operators

Community	Water (mg/d)		Wastewater (mg/d)	
	Capacity	Demand	Capacity	Demand
Algonac City	2.75	1.3	-	-
Algonac	1.0	0.46	-	-
Clay Twp	1.75	0.84	-	-
St. Clair County	-	-	2.7	1.9
Algonac	-	-	0.82	0.63
Clay Twp	-	-	0.94	0.63
Isa Twp	-	-	0.94	0.63
Burtchville	1.0	0.22	none	none
Capac	0.4	0.2	0.24	0.21
East China	2.7	0.6	3.35	0.85
China Twp	0.27	0.06	0.34	0.08
East China Twp	2.45	0.54	3.01	0.77
Isa	2.25	0.7	-	-
Marine City	2.0	0.80	7.0	0.80
Cottleville	0.05	0.02	0.17	0.02
Marine City	1.95	0.78	6.825	0.78
Marysville	7.5	2.2	6.1	2.22
Memphis	0.39	0.09	none	none
Port Huron	30.0	7.7	20.0	11.3
Clyde Twp	69	0.2	none	none
Ft. Gratiot Twp	5.7	1.5	3.8	1.28
Kimball Twp	2.01	0.4	1.4	0.34
Port Huron Cty	15.9	4.1	10.8	5.74
Port Huron Twp	5.7	1.5	4.0	2.1
St. Clair	3.0	1.4	1.6	1.4
St. Clair Cty	2.42	1.15	1.28	1.12
St. Clair Twp	0.58	0.25	0.32	0.28
Yale	1.65	0.23	1.8	0.35

Source: Local units of government and utility authorities
 Peak demand for Port Huron system in red. Average demand provided for all other communities

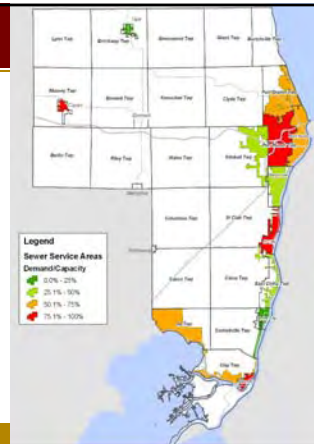
Infrastructure Assessment

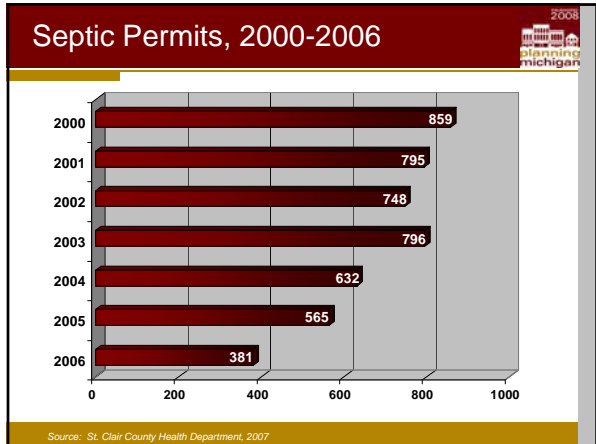
- Water demand relative to capacity is generally low
- Water demand nearest capacity:
 - ❑ Clay Twp 51%
- Greatest unused water capacity:
 - ❑ Yale 14%
 - ❑ Clyde Twp 20%
 - ❑ Burtchville Twp 22%
 - ❑ East China Twp 22%



Infrastructure Assessment

- Sewer demand relative to capacity is higher than water.
- Sewer demand nearest capacity:
 - ❑ St. Clair 88%
 - ❑ Capac 88%
 - ❑ St. Clair Twp 88%
 - ❑ Port Huron Twp 82%
 - ❑ Algonac 77%
- Greatest unused sewer capacity:
 - ❑ Yale 12%
 - ❑ Marine City 19%





Striking a Balance Between Planning & Budgeting

County Master Plan Update

2000 County Master Plan

- Previous plan: 1974
- MPC worked on new plan: 1997-2000
- Extensive public/local unit input
- MPC & planning consultants
- Innovative format:
 - ❑ Technical Reports
 - ❑ Summary Document
 - ❑ Vision Based Policy
 - ❑ Recommendations Booklet
 - ❑ Master Plan Poster

Master Plan Update Process

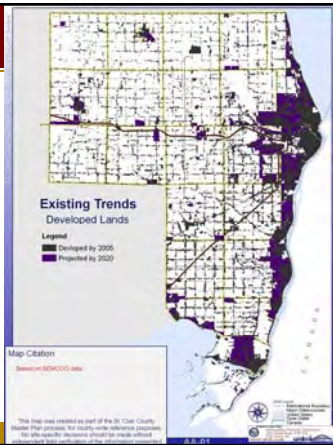


- 3 Joint BOC/MPC meetings
- Reviewed & updated of Technical Reports
- Integrated goals from other projects/plans
- Ongoing public input from projects
- Online public survey
- Summarized Tech Reports
- Analyzed Alternatives for Future Land Use
- Updated Vision Based Policy

Alternatives Analysis

1 Continuing with Existing Trends

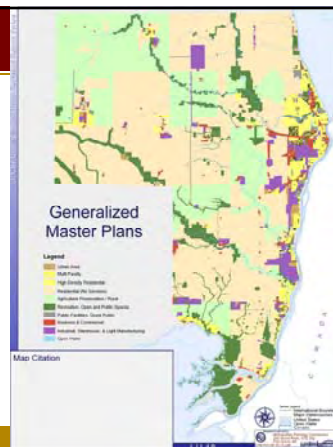
- Localized planning
- Urban sprawl
- Market forces
- Increased demand for services
- Loss of farmland
- Environmental degradation



Alternatives Analysis

2 Use Generalized Master Plans

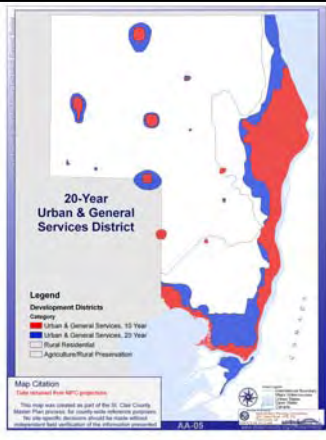
- Allow for homes adjacent to farmland
- Inadequate buffers
- Incompatibility among local units
- Weak protection of water quality & farmland
- More land than necessary planned for industrial, commercial, & residential



A New Vision

20-Year Urban & General Services District

- Some existing sewer/water
- Planned sewer/water service areas
- Anecdotal evidence/trends
- Local plans/ordinances
- Natural boundaries
- Long-term, phased growth



A New Vision

Rural Residential District

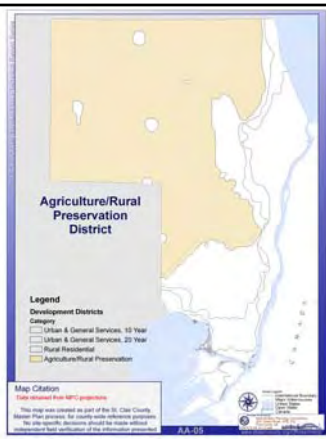
- Housing not primary focus
- Lot splits
- Low/Med density
- No urban services/no extensions
- Ag preservation limited
- Strip residential discouraged
- Farming where viable

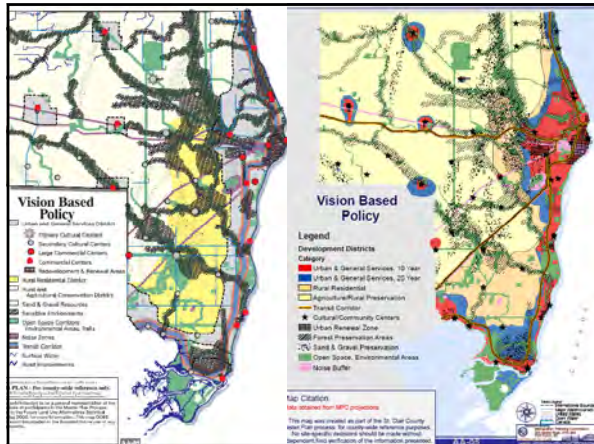


A New Vision

Agriculture & Rural Preservation District

- Focus on long-term farming
- Prime farmland soils
- PA 116 Agreements
- Very large tracts
- Continuous blocks of Ag.
- Target area for PDR
- No extension of services





Striking a Balance Between Planning & Budgeting

The Planning Toolkit

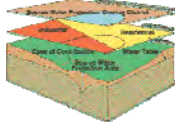
Smart Growth Options

- Direct growth to existing developed areas, as opposed to "leap-frog" development
- Create hamlets/more compact settlements within townships
- Make better use of existing public infrastructure by encouraging public & private investment in already developed areas
- Make efficient use of land with compact development
- Mix land uses
- Cluster development
- Preserve farmland and sensitive environmental areas

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The Planning Toolkit



- Includes policies, regulations, and incentives
- Applicable to all communities
- Goals include:
 - ❑ Reduction in demand on utility systems
 - ❑ Promotion of efficient use of existing capacity
 - ❑ Reduction in cost of providing new utility service
 - ❑ Reduction of the impact of development on water resources

Policy	Relevant Area			Tool Type			Ease of Implementation			Benefits to Community		
	Existing Utility Service	Future Utility Service	No Utility Service	Land Use Regulation or Policy	Utility Regulation or Policy	Incentive	Easy	Moderate	Difficult	Economic	Environmental	Quality of Life
Require Public Facilities ordinances	X	X	X	X	X				X			X
Best Management Practices (BMPs)	X	X	X	X	X			X			X	X
Brownfield and grayfield development	X	X	X	X	X	X		X			X	X
Capital Improvements Plan	X	X			X		X				X	X
Green Development	X	X	X	X	X	X					X	X
Conditional Rezoning	X	X	X	X	X	X					X	X
Designate critical environmental areas	X	X	X	X				X			X	X
Geographic Information Systems	X	X	X				X				X	X
Green Infrastructure Plan	X	X	X	X			X				X	X
Growth Management	X	X	X	X				X			X	X
Green Building / LEED	X	X	X			X					X	X
Hill development	X	X	X	X	X	X	X				X	X
Low Impact Development	X	X	X	X	X			X			X	X
Medium Density Development	X	X	X	X	X	X	X				X	X
Native Landscaping	X	X	X			X	X				X	
On-site Rainfall Storage	X	X	X			X					X	
Performance-based zoning	X	X	X	X	X				X		X	
Process Riparian Areas	X	X	X	X	X			X			X	X
Priority Funding Areas	X	X	X		X			X			X	X
Private Community Wastewater Systems	X	X	X	X	X			X			X	X
Private Use Development	X	X	X	X	X	X	X				X	X
Policies to Manage Water Demand	X	X	X	X	X				X		X	X
Site Plan Review of Natural Features	X	X	X	X	X			X			X	X
Subdivision Design Standards	X	X	X	X	X			X			X	X
Transportation Options	X	X	X	X	X			X			X	X
Transfer of development rights	X	X	X	X	X	X				X	X	X
Transfer of Rights of Government jurisdiction	X	X	X	X	X				X		X	X
Tree protection ordinance	X	X	X	X	X	X				X	X	X
Utility Demand Zoning	X	X	X	X	X				X		X	X
Watershed Plan	X	X	X	X	X			X			X	X

Model Ordinances



- Storm Water Management
- Private Community Wastewater Systems
- Transfer of Development Rights
- Natural Features Setback
- Shoreline Protection Overlay Zone
- Woodlands Protection Ordinance



Implementation 2008
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- Distribute Toolkit to all jurisdictions
- Options for funding infrastructure projects
- Support for local grant applications
- Vision Based Policy → Master Plan/Zoning Reviews
- Creation of Regional Service Authorities
- Enhanced GIS Capabilities

The Impact of GIS on Budgets 2008
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- County departments reducing overhead with GIS:
 - ❑ Road Commission saving over \$32,000 per year due to field application
 - ❑ Drain Commissioner saving between \$30 and \$130 per day in document research
 - ❑ Drain Commissioner saving over \$200 every time a drain roll is printed
 - ❑ Treasurer saving over \$3,500 per year locating foreclosures (expected to double)
 - ❑ Additional savings of tens of thousands per year due to internal mapping capacity
 - ❑ Original property records are available, eliminating delay and recopy issues

Summary 2008
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- New Utilities Data Layer:
 - ❑ Enhanced analytical power
 - ❑ Showed county was inefficiently "over planned"
 - ❑ Better decision making at all levels
 - ❑ Most appropriate locations to direct growth
- Infrastructure Assessment & Planning Toolkit:
 - ❑ Implementation of Vision Based Policy
 - ❑ Strengthens the case for intergovernmental cooperation

Contacts



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