



# FREIGHT PLANNING TOPICS: SETTING GOALS AND OBJECTIVES FOR THE FREIGHT SYSTEM

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# **Freight Planning Topics: Setting Goals and Objectives for the Freight System**

## **INTRODUCTION**

This document contains images of all slides in a course module about the development of goals and objectives for a freight planning process. Sources and additional content are found on the “note pages” of the original slide presentation. This presentation is available upon request to Alan Horowitz, [horowitz@uwm.edu](mailto:horowitz@uwm.edu).

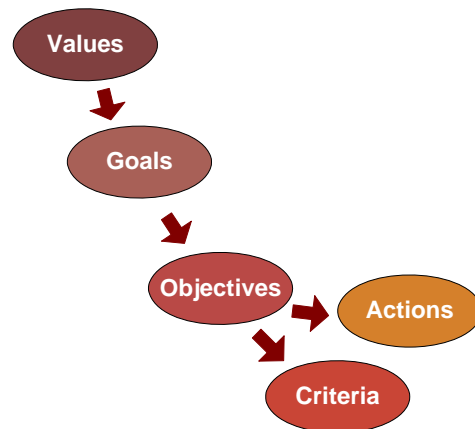
# Freight Planning Topics

## Setting Goals and Objectives for the Freight System

Prepared by Alan J. Horowitz  
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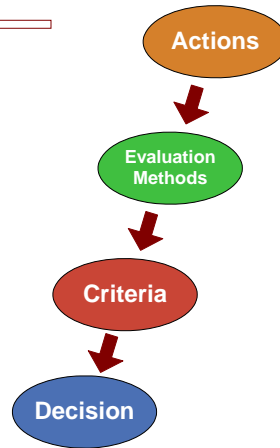
## Overview

- Public agency planning for freight system enhancements and operations.
- Planning seeks positive change through "actions".
- Actions are derived indirectly from community "values".



## Actions

- Some synonyms to "action"
  - Alternative
  - Project (programming)
  - Policy
  - Operational Scheme
  - Subsidy
  - Tax
  - Regulation
  - Creating a governing body
  - Public information
  - Study and data collection
  - Strategy
  - Tactic



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Setting Goals and Objectives

Actions

## Contexts for Freight Planning

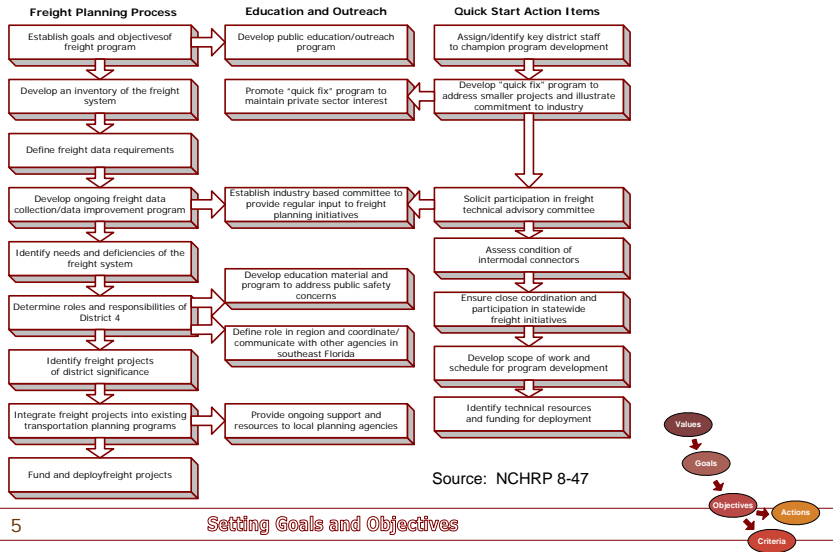
- Long Range Transportation Plan (LRTP)
  - Freight Specific Long-Range Plan
  - Freight Specific Short-Range Plan
  - Freight Facility Plan
  - Transportation Agency Freight Organizational Plan
- 
- Many actions from plans must be included in a Transportation Improvement Program (TIP)



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Setting Goals and Objectives

## A Sample Freight Planning Process: SE Florida



## Participation

- Participation is critical to getting the plan started:
  - EIS "Scoping"
  - Public Information
  - Public Input
    - Formally established councils
    - Focus groups
    - Expert panels
    - Consensus building (Delphi?)
    - Charrettes
    - Surveys
    - One-on-one interaction at public events
    - Interviews with key stakeholders
  - Content Analysis

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Setting Goals and Objectives

Values

## Define the Planning Universe: Spatial Extent

- Spatial Extent of Alternatives
  - Multi-states, State, Region, City, Subregion, Site, District, Neighborhood
- Spatial Extent of Analysis
  - Local, State, Continental US, International

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Setting Goals and Objectives

Actions

## Define the Planning Universe: Modal Extent

- Traditional Modes
  - Truck, rail, air cargo, in-land water, deep water, pipeline
- Intermodal Combinations
  - Truck-rail, sea-rail, sea-truck, etc.
- Operational Distinctions
  - Truck load, LTL, package delivery and mail, local product delivery, etc.

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Setting Goals and Objectives

Actions

## Define the Planning Universe: Facilities Extent

- System, Subsystems (e.g., highway connectors)
- Mode (vehicle + network)
- Corridor
- Segment/Critical Link
- Intersection/Crossing
- Terminal/Port
- Transshipment Location(s); Intermodal connections

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Setting Goals and Objectives

Actions

## Planning Universe: Temporal Extent

- Time frame
  - Long-range
  - Mid-range
  - Short-range
- Scenarios: Possible futures
  - Apply to mid-range or long-range plans where futures are less reliably known.
  - Scenarios can handle contingencies.
  - Goals are invariant with the scenario.
  - Ideally, every alternative should be tested against every scenario using similar criteria. However some alternatives may be technically incompatible with some scenarios.

|               | Scenario A        | Scenario B        | Scenario C        |
|---------------|-------------------|-------------------|-------------------|
| Alternative 1 | • —<br>• —<br>• — | • —<br>• —<br>• — | • —<br>• —<br>• — |
| Alternative 2 | • —<br>• —<br>• — | • —<br>• —<br>• — | • —<br>• —<br>• — |
| Alternative 3 | • —<br>• —<br>• — | • —<br>• —<br>• — | • —<br>• —<br>• — |

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Setting Goals and Objectives

Actions

## Scenario Analysis: DVRPC

|   | SCENARIOS |    |         |   |   |         |   |   |              |    |        |    |
|---|-----------|----|---------|---|---|---------|---|---|--------------|----|--------|----|
|   | 2025 PLAN |    | SPATIAL |   |   | ECONOMY |   |   | DEMOGRAPHICS |    | OTHERS |    |
|   | 1         | 2  | 3       | 4 | 5 | 6       | 7 | 8 | 9            | 10 | 11     | 12 |
| 2025 PLAN PREVAILS  |           |    |         |   |   |         |   |   |              |    |        |    |
| URBAN CORE REPOPULATES  |           |    |         |   |   |         |   |   |              |    |        |    |
| SERVICES ACCELERATES  |           |    |         |   |   |         |   |   |              |    |        |    |
| INFORMATION TECHNOLOGY SERVICES GROW                            |           |    |         |   |   |         |   |   |              |    |        |    |
| REGIONAL ECONOMY STRENGTHENS                                    |           |    |         |   |   |         |   |   |              |    |        |    |
| GLOBAL TRADE INTENSIFIES  |           |    |         |   |   |         |   |   |              |    |        |    |
| ENERGY COST RISES   |           |    |         |   |   |         |   |   |              |    |        |    |
| INFRASTRUCTURE INVESTMENT EXPANDS                               |           |    |         |   |   |         |   |   |              |    |        |    |
| IN-MIGRATION INCREASES  |           |    |         |   |   |         |   |   |              |    |        |    |
| OUT-MIGRATION INCREASES   |           |    |         |   |   |         |   |   |              |    |        |    |
| "GREEN" REGION EMPHASIZED                                       |           |    |         |   |   |         |   |   |              |    |        |    |
| HOMLAND SECURITY TIGHTENS                                       |           |    |         |   |   |         |   |   |              |    |        |    |
| <b>POSITIVE-NESS</b><br>HOW LIKELY TO OCCUR IF ALL IS RESILIENT | 3         | 2  | 11      | 8 | 7 | 9       | 6 | 4 | 5            | 10 | 1      | 12 |
| <b>PREPARED-NESS</b><br>HOW PREPARED IS THE REGION?             | 4         | 3  | 8       | 2 | 1 | 6       | 9 | 5 | 6            | 11 | 10     | 12 |
| <b>LIKELIHOOD</b><br>HOW LIKELY TO OCCUR IS THIS?               | 6         | 10 | 1       | 5 | 7 | 2       | 3 | 8 | 12           | 4  | 10     | 8  |

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Setting Goals and Objectives

Actions

## Guiding Principles

- Guiding principles are optional but useful aspect of the planning process.
  - Guidelines for enabling the planning process, itself.
  - Dos, don'ts, whos, whens, hows, critical steps, anticipated end products
  - Usually established administratively (committee, board, etc.)
  - Incorporates values and professional practice.
  - Addresses the evaluation of attainment of objectives.
  - Does not replace values, goals and objectives.



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Setting Goals and Objectives



## Guiding Principles Example: NM Statewide Transportation Plan

- Multimodal Transportation
- Partnership with Tribal Governments
- Environmental Responsibility
- Partnership with Local Governments
- Safety and Security
- Efficient Use of Public Resources
- Economic Vitality



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Setting Goals and Objectives

## Values

- Values are abstract, irreducible statements of human needs and desires.
  - “It has been stated that there are certain irreducibles which form the basic desires and drives governing our behavior. To these, we assign the term “values”. Whether these values are viewed as inborn and instinctive, or whether they are seen as culturally defined and acquired by people as they grow and learn, values form the basis for perception and behavior” – Wachs and Schofer, 1969
- Values can be found in statutes, common law, religion, cultural heritage, case law, and the constitution. Only a small subset of human values is pertinent.

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Setting Goals and Objectives

Values

## National Values: SAFETEA-LU Planning Factors

1. Support the **economic vitality** of the metropolitan area, especially by enabling global **competitiveness, productivity, and efficiency**.
2. Increase the **safety** of the transportation system for all motorized and non-motorized users.
3. Increase the ability of the transportation system to support **homeland security** and to safeguard the **personal security** of all motorized and non-motorized users.
4. Increase **accessibility** and **mobility** of people and freight.
5. Protect and enhance the **environment**, promote **energy conservation**, improve the **quality of life**, and promote **consistency** between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the **integration** and **connectivity** of the transportation system, across and between modes, for people and freight.
7. Promote **efficient system** management and operation.
8. Emphasize the **preservation** of the existing transportation system.

Values are in **bold** type.

## National Values: National Environmental Policy Act of 1969

1. fulfill the responsibilities of each generation as trustee of the environment for **succeeding generations**;
2. assure for all Americans **safe, healthful, productive, and** aesthetically and culturally **pleasing surroundings**;
3. attain the widest range of **beneficial uses** of the environment **without** degradation, risk to health or safety, or other **undesirable and unintended consequences**;
4. preserve important historic, cultural, and natural aspects of our **national heritage**, and maintain, wherever possible, an environment which supports diversity, and **variety of individual choice**;
5. achieve a **balance** between population and resource use which will permit high **standards of living** and a wide sharing of **life's amenities**; and
6. enhance the quality of **renewable resources** and approach the maximum attainable **recycling** of depletable resources.

## Environmental Justice Values

- USDOT Order on Environmental Justice: there are three fundamental principles:
  - To avoid, minimize, or mitigate **disproportionately** high and adverse human **health** and **environmental** effects on minority populations and low-income populations.
  - To ensure the full and **fair participation** by all potentially affected communities in the transportation decision-making process.
  - To prevent the denial of, reduction in, or significant delay in the **receipt of benefits** by minority and low-income populations.

Source: MN Statewide Transportation Plan

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Setting Goals and Objectives

Values

## Some Example Values for Freight

- The Ability to Communicate
- The Ability to Conduct Trade and Business
- Access to Knowledge
- Cultural Identity
- Economic Vitality
- Equitable Opportunity
- Fiscal Responsibility
- Health, Safety, and Welfare
- A High Standard of Living
- Mobility and Accessibility
- Neighborhood Preservation and Livability
- Options
- Personal Security
- Property Security
- Preservation of Personal Property
- Preservation of Resources
- Proactive Planning
- Protection of the Natural Environment
- Smart Land Use
- Time Efficiency

Source: Milwaukee Freight System Design

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Setting Goals and Objectives

Values

## Goals

- "Goals are the broadest expressions of a community's desires. Goals give direction to the plan as a whole. Goals are concerned with the long term, and often describe ideal situations that would result if all plan purposes were fully realized. Since goals are value-based, their attainment is difficult to measure." – City of Portland OR
- Most plans only have a few goals.
- Goals should cover all critical values without appreciable overlap.
- General transportation plans tend to embed freight goals into larger system issues.

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Setting Goals and Objectives

Goals

## Example Goals, General Transportation Planning I: DC

- The ... region's transportation system will provide reasonable **access** at reasonable cost to **everyone** in the region.
- The ... region will develop, implement, and maintain an interconnected transportation system that enhances **quality of life** and promotes a **strong and growing economy** throughout the entire region, including a healthy regional core and dynamic regional activity centers with a **mix of jobs, housing and services** in a **walkable** environment.
- The ... region's transportation system will give priority to **management, performance, maintenance, and safety** of all modes and facilities.
- The ... region will use the best available technology to maximize system **effectiveness**.

Source: Washington DC LRTP

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Setting Goals and Objectives

Goals

## Example Goals, General Transportation Planning II: DC

- The ... region will plan and develop a transportation system that enhances and protects the region's **natural environmental** quality, **cultural** and **historic resources**, and **communities**.
- The ... region will achieve better inter-jurisdictional **coordination** of transportation and land use planning.
- The ... region will achieve an enhanced funding mechanism(s) for regional and local transportation system priorities that cannot be implemented with current and forecasted federal, state, and local funding.
- *The ... region will support options for international and interregional travel and commerce.*

Source: Washington DC LRTP

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Setting Goals and Objectives

Goals

## Example Goals I, Freight Planning

- Provide a **safe, efficient, and sustainable** multimodal freight transportation system that provides **mobility** and **accessibility** to all freight users.
- Provide an environment that promotes **equitable** economic **prosperity**, employment, and trade for both the public and private sectors as it relates to the movement of goods.
- Promote **open communication** and **cooperation**, and foster the dissemination of information pertaining to goods movement.
- Synchronize the movement of goods with **cultural heritage, responsible land use, natural environment protection, neighborhood preservation**, and the **conservation** of resources.
- Provide a freight transportation system this is **safe** and **secure**.

Source: Milwaukee Freight System Design

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Setting Goals and Objectives

Goals

## Example Goals II, Freight Planning

- To improve the transportation of freight by removing **burdensome** government regulations and **restrictions**.
- To improve the physical infrastructure of the transportation system for freight related transport among shipping and receiving points, and major terminals and ports.
- To improve the **reliability** and overall movement of freight in the region by encouraging **expedient** and **cooperative** multimodal shipment of freight.
- To improve the reliability and overall movement of freight in the region by expanding alternatives for trucks and other commercial vehicles.
- To improve the freight system's strategic redundancy.

Source: NYMTC Freight Plan

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Setting Goals and Objectives

Goals

## Goals/Planning Factors Interaction Matrix

- Aligning goals to SAFETEA-LU planning factors will assure inclusion of certain national values.

|        | Economic | Safety | Security | Mobility | Environment | Connectivity | Efficient | Preservation |
|--------|----------|--------|----------|----------|-------------|--------------|-----------|--------------|
| Goal 1 |          |        |          | ✓        | ✓           |              |           |              |
| Goal 2 | ✓        |        |          |          |             |              |           |              |
| Goal 3 |          | ✓      | ✓        |          |             |              |           |              |
| Goal 4 |          |        |          |          | ✓           |              |           |              |
| Goal 5 |          |        |          |          |             |              | ✓         | ✓            |

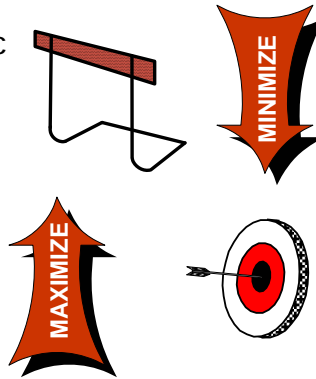
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Setting Goals and Objectives

Goals

## Objectives I

- Objectives are expressions of goals as they relate to specific aspects of the freight system.
- Objectives can be phrased to:
  - Achieve a Target
  - Satisfy a Hard Constraint
  - Maximize Something
  - Minimize Something



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Setting Goals and Objectives

Objectives

## Objectives II

- "Objectives are measurable benchmarks that can be used to assess incremental progress in achieving the broader purposes expressed in policies and goals." – City of Portland OR
- Objectives are often hierarchically placed under goals, but do not directly reference values. Rather they refer to specific sets of actions.
- "Measurable" does not necessarily mean "quantifiable".
- Vagueness should be avoided.

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Setting Goals and Objectives

Objectives

## Example Objectives: Florida

- GOAL 2: Enhanced economic competitiveness and economic diversity.
  - Increase the efficiency and competitiveness of existing businesses by reducing transportation-related costs;
  - Assist in the diversification of the economy towards high-wage jobs, and promote growth in key targeted industries identified in the Strategic Plan for Economic Development;
  - Improve interregional service to economic centers of statewide significance as identified in the Strategic Plan for Economic Development;
  - Improve interregional access to expand economic opportunities in Rural Areas of Critical Economic Concern; and
  - Expand commerce of goods, services, and visitors to existing and new domestic and international markets.

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Setting Goals and Objectives

Objectives

## Example Objectives: National

- Improve the operations of the existing freight transportation system.
- Add physical capacity to the freight transportation system in places where investment makes economic sense.
- Use pricing to better align all costs and benefits between users and owners of the freight system and to encourage deployment of productivity-enhancing technologies.
- Reduce or remove statutory, regulatory, and institutional barriers to improved freight transportation performance.
- Proactively identify and address emerging transportation needs.
- Maximize the safety and security of the freight transportation system.
- Mitigate and better manage the environmental, health, energy, and community impacts of freight transportation.

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Setting Goals and Objectives

Objectives



## Criteria/Standards/Outcomes/MOEs

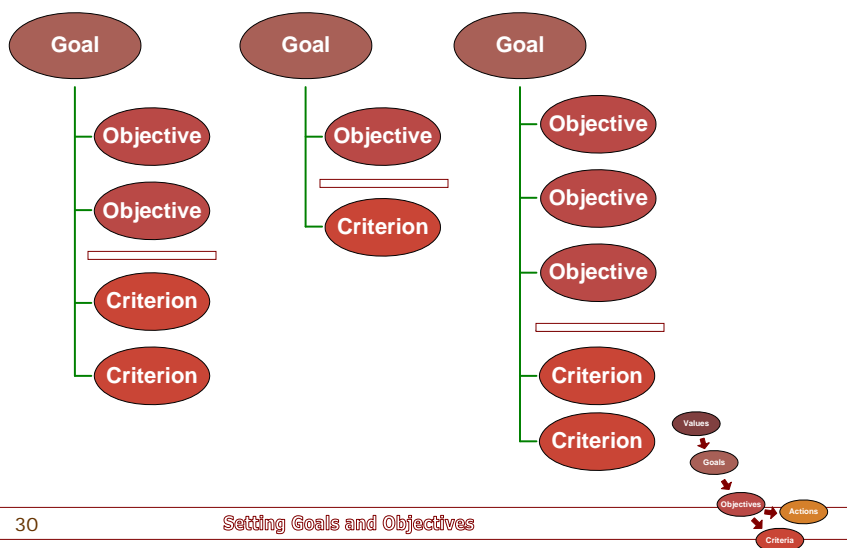
- **Criterion**
  - A measure of an objective
  - An objective may have more than one criteria
  - A criterion may relate to more than one objective
- **Outcome**
  - Similar to an objective; often more specific
- **Standard**
  - A specific level of a criterion that would indicate success
- **Measure of Effectiveness (MOE)**
  - An output of a travel forecasting model that indicates the degree of success of an alternative

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Setting Goals and Objectives

Criteria

## Typical Arrangement of Goals, Objectives, and Criteria



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Setting Goals and Objectives

## Actions/Alternatives/Strategies/Tactics

- Action
  - An implementation of a policy, facility, or operational scheme or any other initiative to improve the freight system.
- Alternative
  - A set of actions (or a single action) that can be implemented to accomplish the goals. Usually an alternative involves one possible option, exclusive of any other alternative.
  - Null Alternative: A required alternative that only includes normal maintenance and other low cost items that would logically be implemented regardless of the plan.
- Strategy
  - In business strategic planning a strategy is usually thought to be a proposed action that is short-term, focused and proactive. Occasionally used in transportation planning to describe a package of actions.
- Tactic
  - Similar to a strategy, but reactive.

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Setting Goals and Objectives

Actions

## Deficiency Analysis

- Capacity (or LOS) Deficiency Analysis
  - Using a travel model, run future growth scenarios under the null alternative; determine where greatest potential relief is possible.
  - Model must be correctly sensitive to freight.
  - Highly artificial; results may be difficult to interpret.
- Other deficiencies
  - Clearly identified areas of concern.
  - Opposite of objectives.
  - Attained primarily through public participation.

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Setting Goals and Objectives

Objectives

## Example Deficiencies: NY

- Lack of Coordination – Historically, freight transportation has evolved around independent modal networks, each competing with others in a redundant and often destructive manner.
- Modal Dependence – The region is overwhelmingly dependent on a highway infrastructure that is subject to tremendous congestion at all times of the day.
- State of Infrastructure – Freight movements over both rail and highway systems are restricted by inadequate dimensional envelopes to prevent rail cars and trucks from moving in the most logical and expedient fashion.
- Operational Limitations – Truck access is hampered by a highway system that is not always contiguous for commercial vehicle movement, while freight trains must share publicly owned and intensively used passenger rail lines.
- Economic Challenges – These deficiencies inflate the price of goods and services, impacting business locational decisions, reducing the profitability of existing companies, and otherwise sapping the region's economic vitality.

Source: NYMTC Freight Plan

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Setting Goals and Objectives

Objectives

## Planning Resources/Strengths

- Advisory Council
- Freight community cooperation
- MPO Board
- Stakeholders
- Staff
- Model
- Data



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Setting Goals and Objectives

## Vision/Mission

- Vision and mission statements are normally associated with business strategic plans.
  - Example Vision 1: Provide the best performing transportation system for people, business, and places. (PA Mobility Plan)
  - Example Vision 2: The United States freight transportation system will ensure the efficient, reliable, safe and secure movement of goods and support the nation's economic growth while improving environmental quality. (Framework for a National Freight Policy)
- Vision statements tend to be very optimistic.
- Would logically be appropriate for the transportation agency or planning agency, but would not replace the goals of the plan, itself.

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Setting Goals and Objectives

Strategic

## Organizational Strategic Planning

- SWOT Analysis
  - Business planning technique developed by Albert Humphrey at Stanford University
  - Strengths
  - Weaknesses
  - Opportunities
  - Threats

|                      |                   |                      |
|----------------------|-------------------|----------------------|
|                      | <b>Strengths</b>  | <b>Opportunities</b> |
| <b>Advantages</b>    | ●<br>●<br>●<br>●  | ●<br>●<br>●<br>●     |
|                      | <b>Weaknesses</b> | <b>Threats</b>       |
| <b>Disadvantages</b> | ●<br>●<br>●<br>●  | ●<br>●<br>●<br>●     |
|                      | <b>Internal</b>   | <b>External</b>      |

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Setting Goals and Objectives

Strategic

## Some External/Internal Factors for SWOT Analysis

- Internal
  - Agency culture
  - Agency image
  - Organizational structure
  - Key staff
  - Prior experience
  - Operational efficiency
  - Operational capacity
  - Financial resources
  - Educational resources
  - Modeling resources
  - Data resources
  - Research
- External
  - Stakeholders
  - Public
  - Data sources
  - Political environment
  - Physical environment
  - Natural environment
  - Economic environment
  - Social environment
  - Regulatory, legislative environment
  - Technology

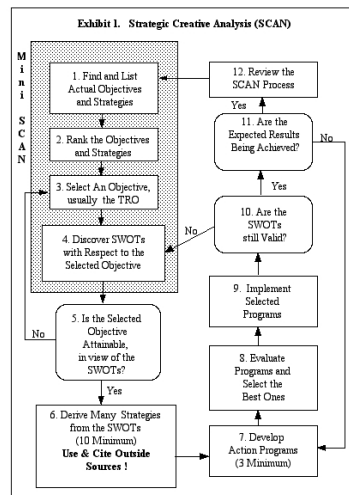
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Setting Goals and Objectives

Strategic

## Strategic Creative Analysis (SCAN): Use of Objectives

- A context in which to execute SWOT
- Starts with TRO: Top ranked objective



Source: MBAToolbox.org

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Setting Goals and Objectives

Strategic

## Workshop Problem 1

- Find all the values in these goals.
  - Integrated Planning: To foster increased cooperation and coordination among public agencies and between public agencies and the private sector.
  - Economic Development: To retain and generate jobs, maintain and increase revenue, and help maintain and enhance the state's competitive position through strategic freight initiatives.
  - Mobility: To improve access to the system and improve the efficiency of freight movement.
  - Sustainable Investment: To cultivate and protect freight initiatives which provide lasting returns on public investment.
  - Community and Environment: To promote freight as a good neighbor and the movement of freight in a socially and environmentally responsible manner.
  - Safety and Security: To protect people, cargo, and infrastructure.

Source: NJ State Rail Plan

## Workshop Problem 2a

- Cross-reference these goals with SAFETEA-LU planning factors.
  1. Provide a safe, efficient, and sustainable multimodal freight transportation system that provides mobility and accessibility to all freight users.
  2. Provide an environment that promotes equitable economic prosperity, employment, and trade for both the public and private sectors as it relates to the movement of goods.
  3. Promote open communication and cooperation, and foster the dissemination of information pertaining to goods movement.
  4. Synchronize the movement of goods with cultural heritage, responsible land use, natural environment protection, neighborhood preservation, and the conservation of resources.
  5. Provide a freight transportation system this is safe and secure.

## Workshop Problem 2b

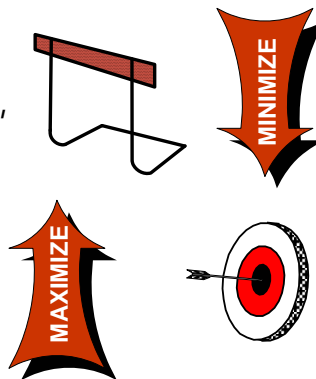
- Which goal (see Problem 2a) goes with each of these objectives
  - A. Form a joint public-private freight advisory committee incorporating local and regional representation, including key shippers, receivers, carriers, and others.
  - B. Reduce congestion through transportation infrastructure improvements.
  - C. Establish an emergency response plan that would maintain the health, safety, security, and well-being of those impacted during the event of an emergency.
  - D. Develop opportunities to further integrate minority involvement in the goods movement industry.
  - E. Implement and sustain uniform state, regional, and local laws and regulations in the goods movement industry so that freight businesses have fair opportunities for profitable operation.
  - F. Promote alternative fuels and clean air strategies which can be implemented in public and private vehicles that transport goods.
  - G. Develop seamless intermodal truck, rail, air, and water facilities.

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Setting Goals and Objectives

## Workshop Problem 2c

- Determine for each objective (see Problem 2b) whether it maximizes, minimizes, achieves a target, or crosses a hurdle.
- Would wording changes make these distinctions clearer?



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Setting Goals and Objectives