

Rail Freight Density  
(Tons)

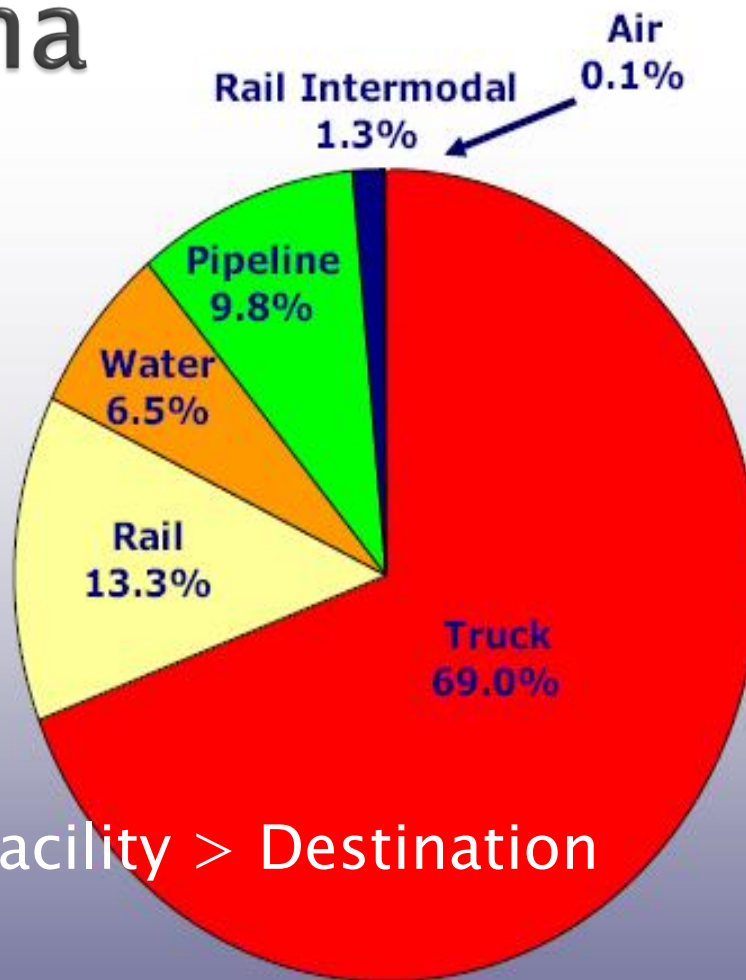
I PRO - 307

# Intermodal Container Transport System Solutions for Chicago



## Distribution of Tonnage by Mode: 2006

# The Dilemma



- ▶ Commodities
  - Manufacturing Facility > Destination



Good stuff.



# ATA's For-Hire Truck Tonnage Index

Seasonally Adjusted; 2000 = 100

Through August 2008\*

## Tonnage is up!

•Demand

The August number is an estimate and not an official number



Source: ATA



# Trucking Failures

- ▶ High Company Failures
  - Diesel Cost
  - Economy



# Goal: +50% ~ 10 YRS

## ▶ Trucking Fleet is Down

- -2.6% in 2007
- -1.3% in 1<sup>st</sup> Half of 2008

*But...*

## ▶ Available Truckers

- Life Style
- Hours of service regulations
  - 11 ON – 10 OFF (60Max per week)
- *New York Times* (Dec. '06)
  - America's most treacherous industry

## ▶ Slip Seating

- Living in some one else's bed. {Slip Seating is...}

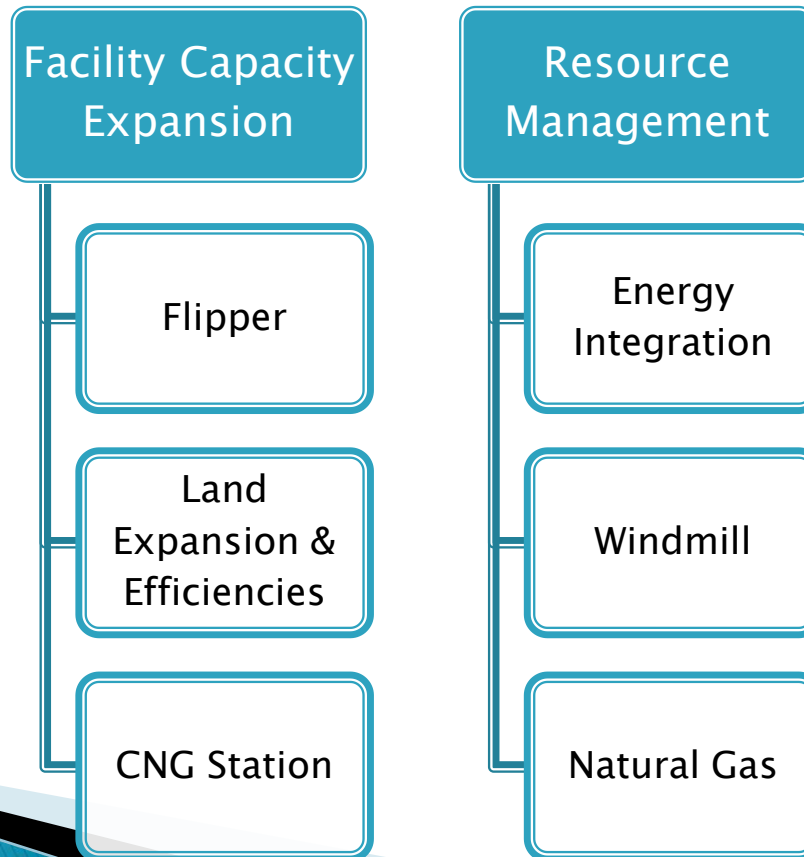
Capacity needs to improve in order to meet the demand

# Objective

+50% Capacity = +50% Pollution

*“Increase the capacity with out increasing the pollution”*

Intermodal:  
Containers:  
Trucks > Rail



# Norfolk Southern Yard Visit

## Preliminary Investigation

- ▶ Gathered Hard Data
- ▶ Discussed Future Projections
  - 5yr Plan
- ▶ Observed Processes
  
- ▶ General Yard Layout & Functions



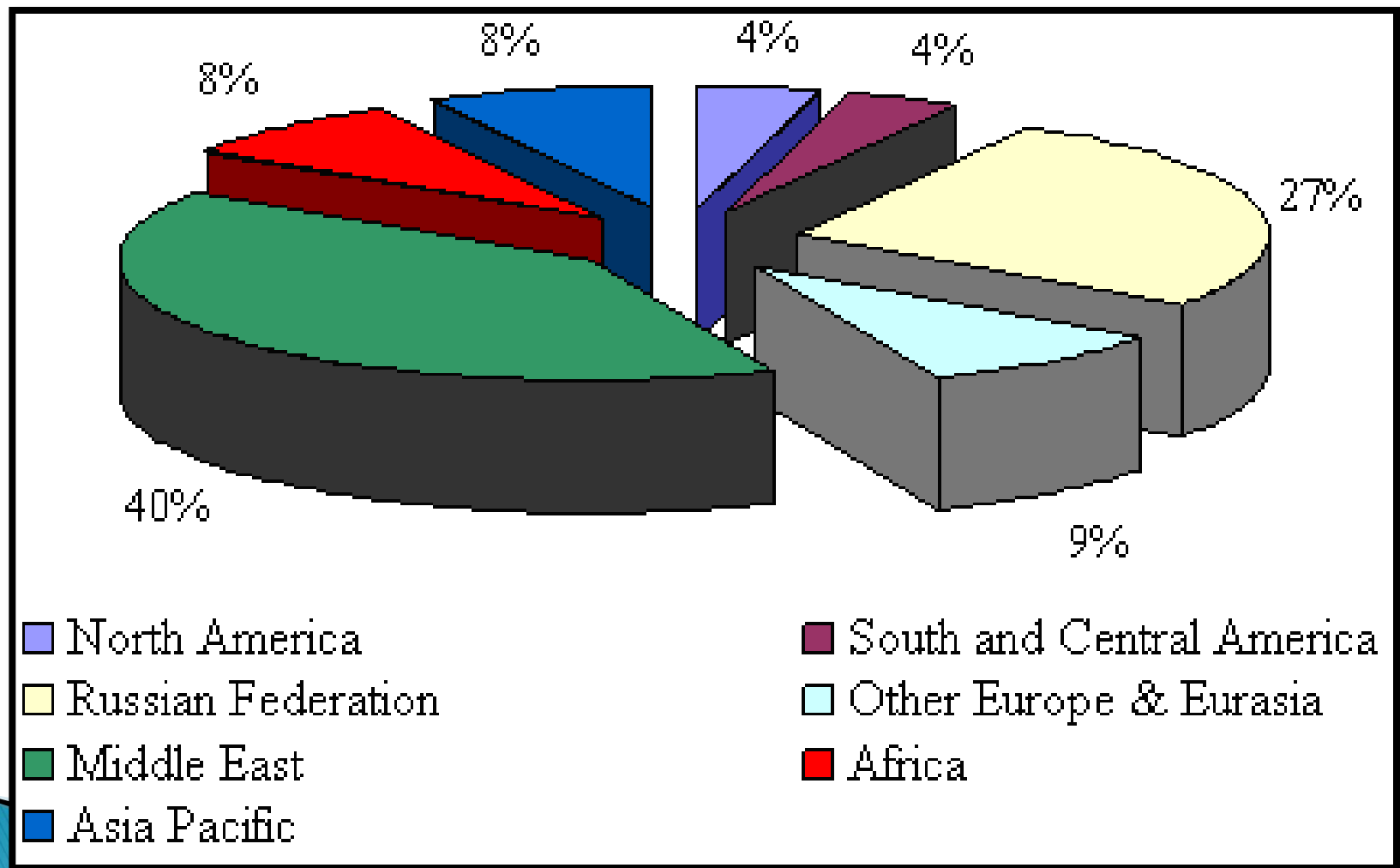
# Fuel in Question

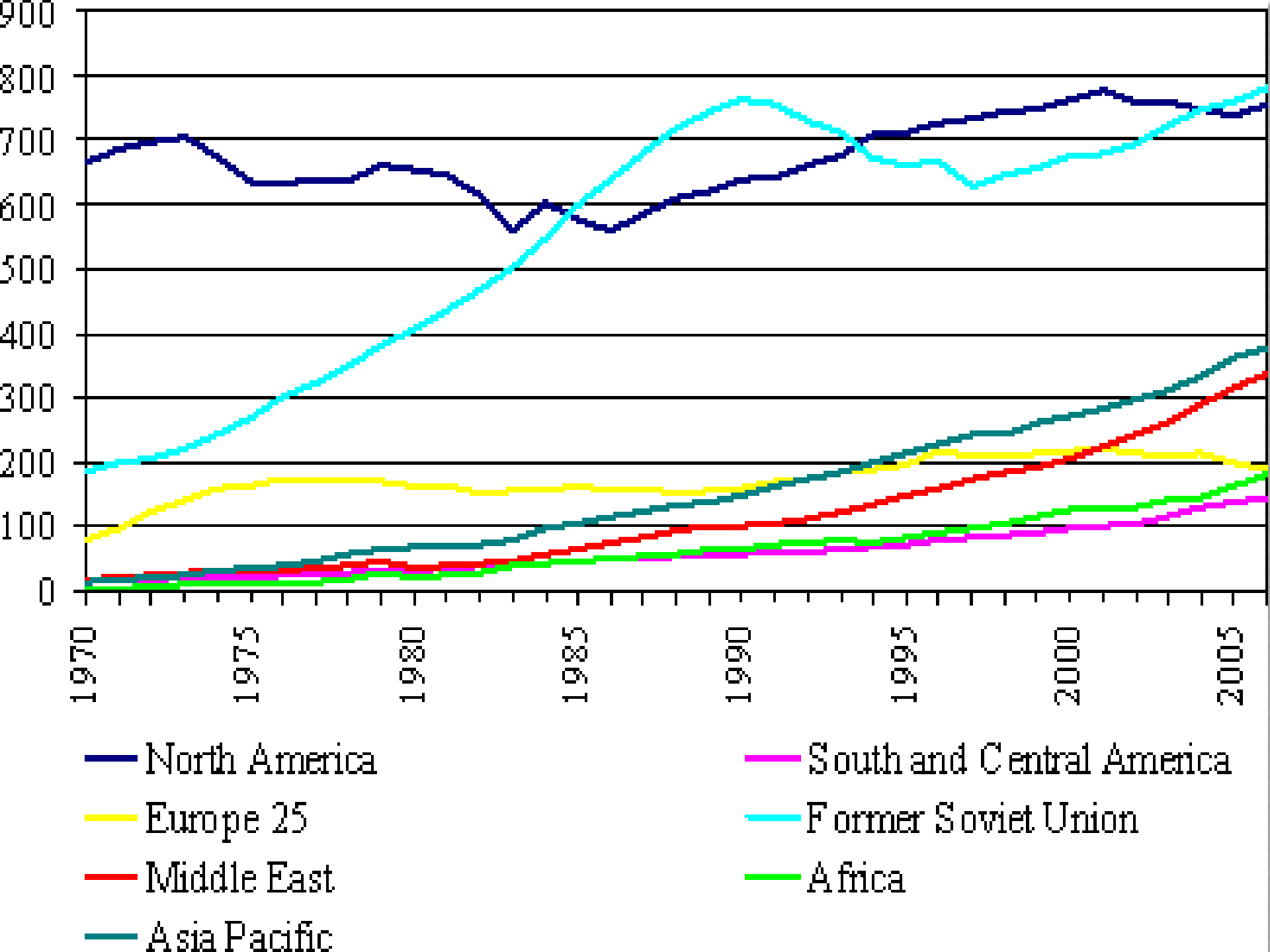
- ▶ Diesel
  - Cost of refinement
  - Truck
- ▶ Bio Fuel
  - Not readily available
  - Truck
- ▶ LNG
  - Cost of production
- ▶ CNG

Is it readily available?  
Will it minimize disruption?

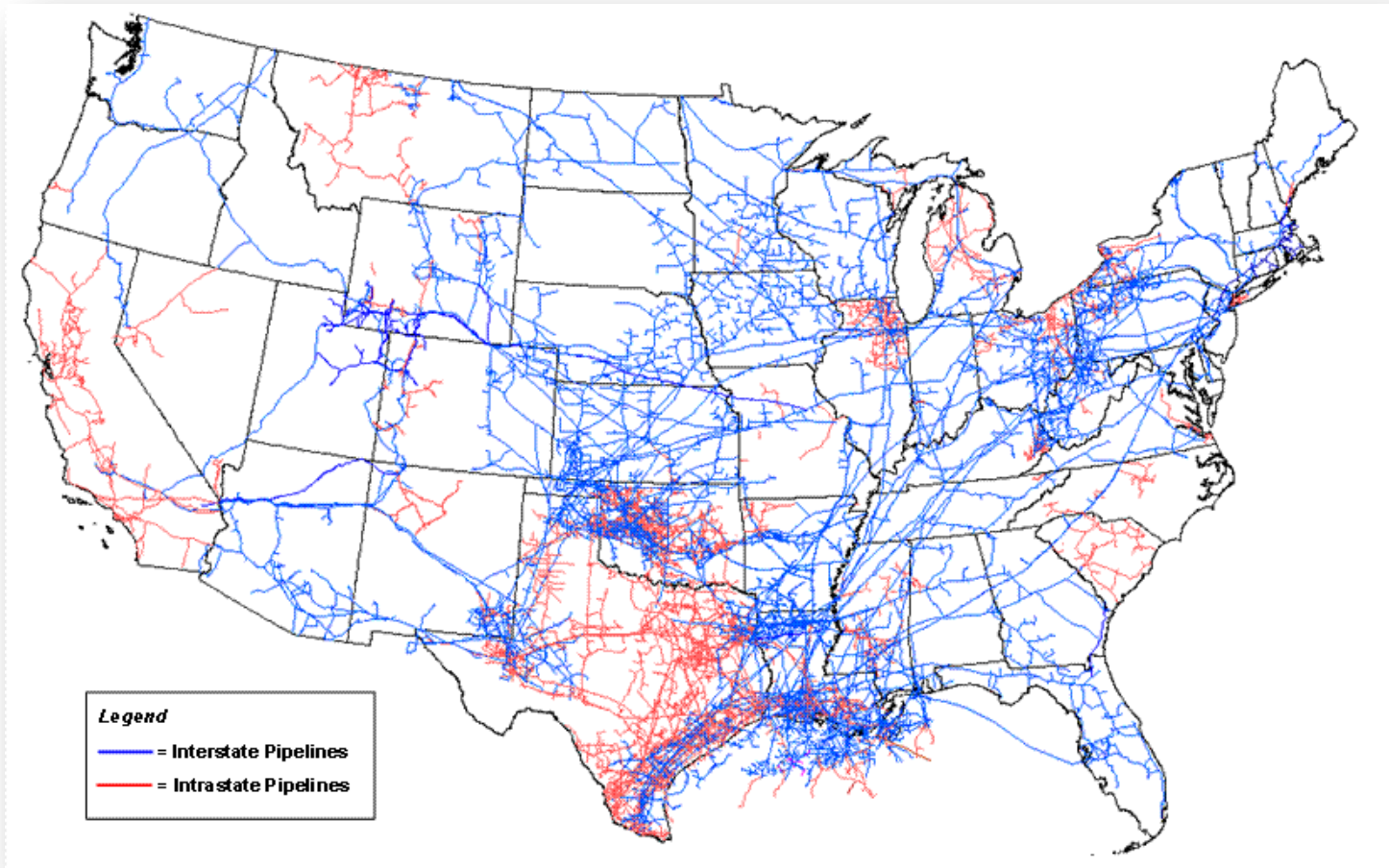


# Natural Gas





# Pipelines



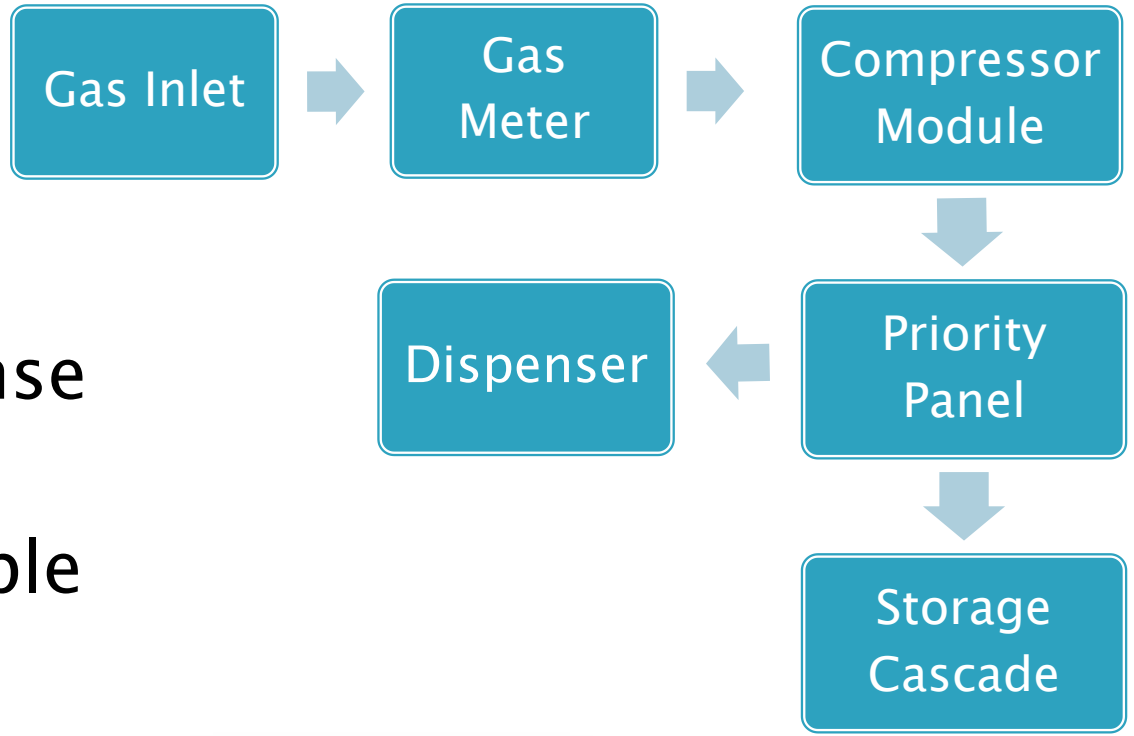
Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

# CNG Station

## ▶ LNG vs. CNG

### Benefits:

- ▶ Road Tax – License
- ▶ No Interference
- ▶ Very Very Available
- ▶ Rebates



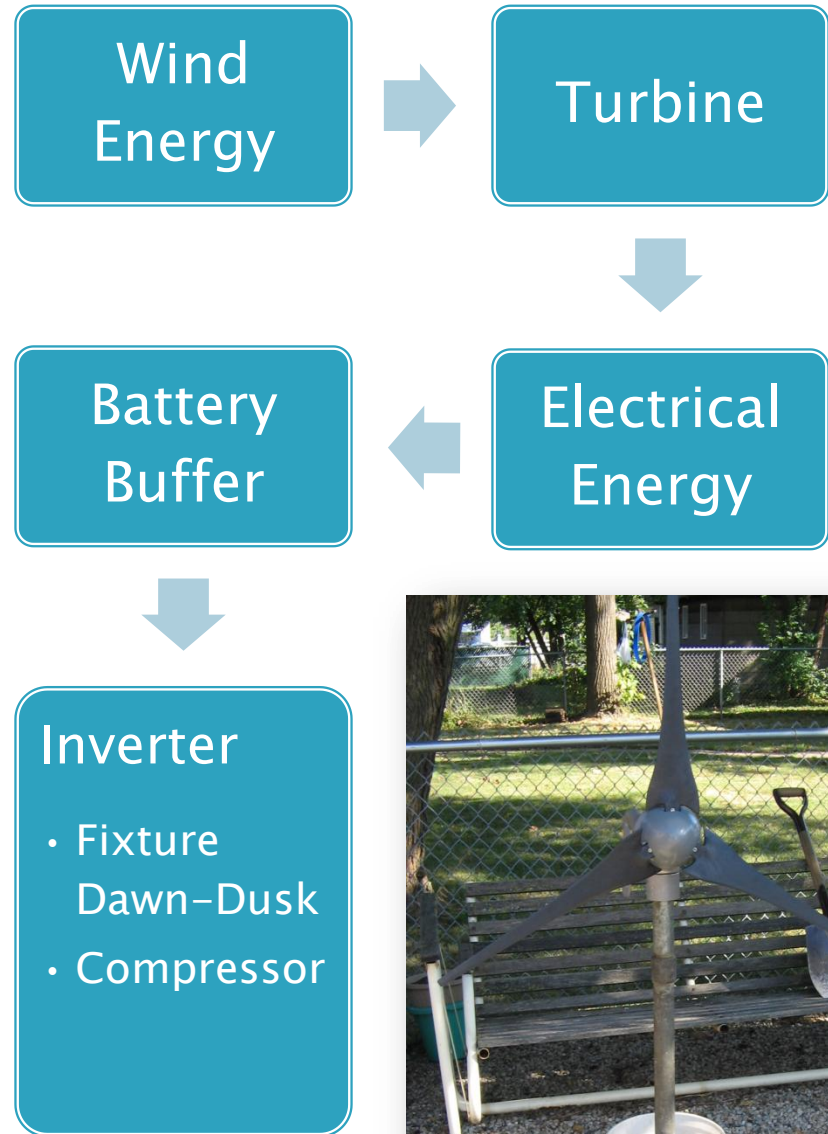
# Windmill

## Integration:

- ▶ Light Towers
  - Power Lights
  - 100ft

## Display:

- ▶ Black Light Fixture
- ▶ Florescent Paint



# Reducing Idle Time

## Flipper:

- ▶ Slip Seating Improvement
  - Live in your own bed!
- ▶ Crane Operation
- ▶ Live Lift (Ideal)
  - Next best thing
- ▶ Overall Improvement in Efficiency!
  
- ▶ Floored Parking
  - Not feasible
    - Cost & Strength



Trucker  
• Unaided

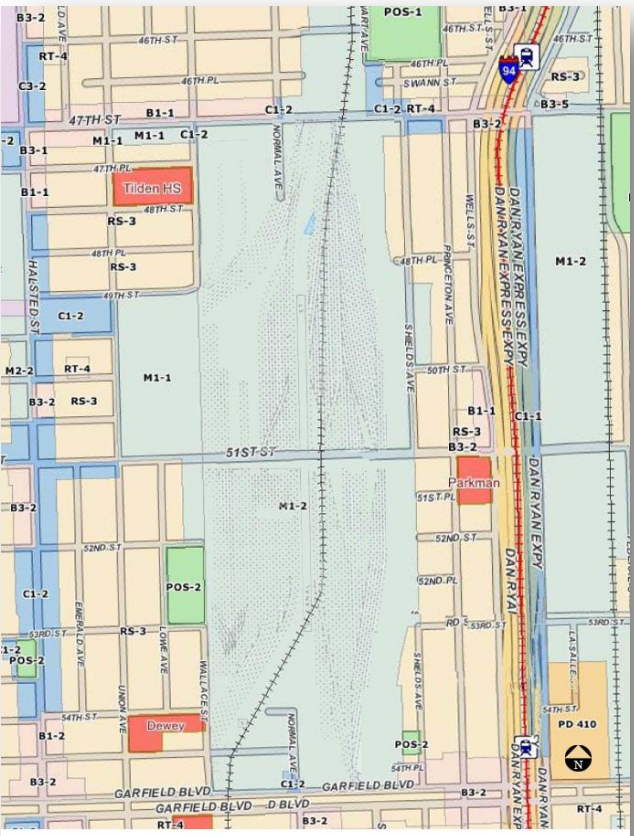


Flipper  
• Container Release  
from chassis



Final Transfer  
• Crane  
• Rail

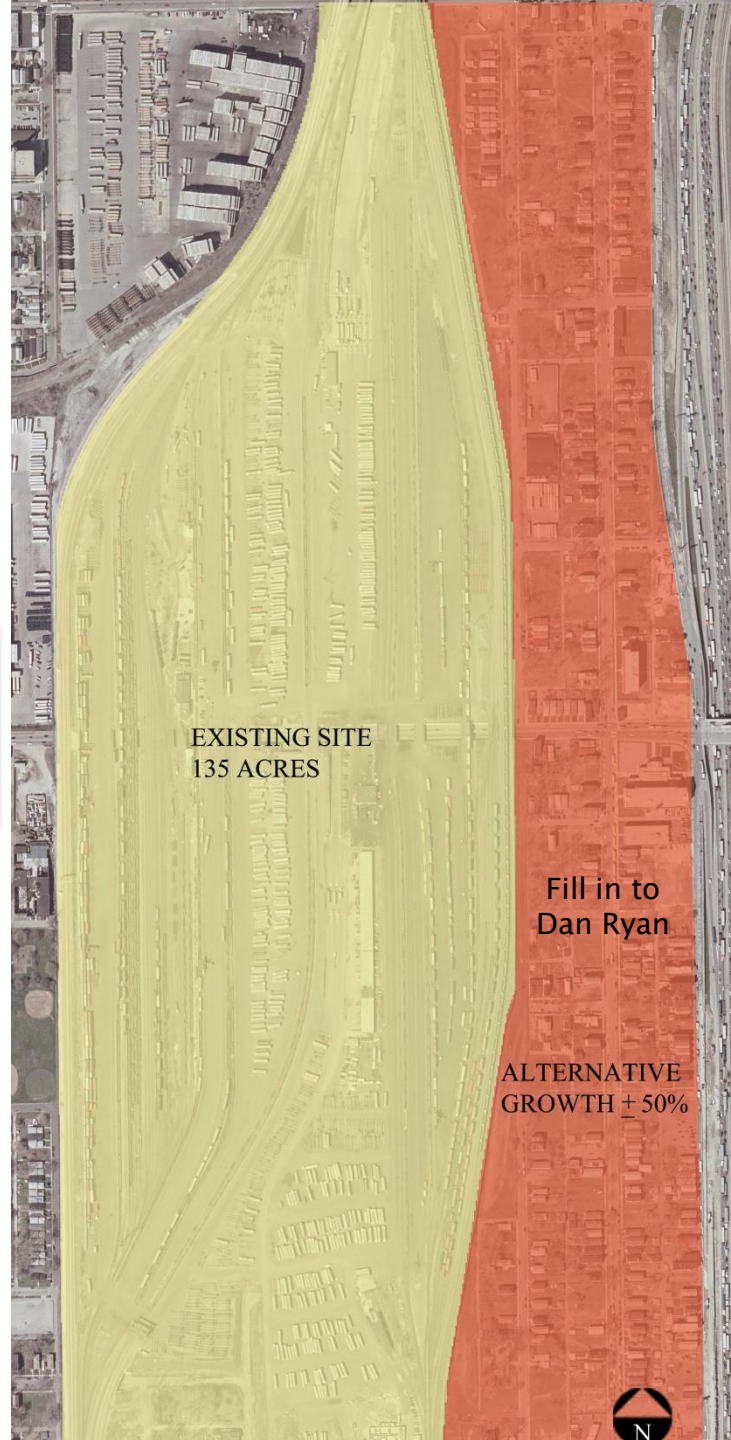
# Horizontal Expansion



Limited Expansion!

- BUSINESS (B)
- COMMERCIAL (C)
- MANUFACTURING (M)
- RESIDENTIAL (RS)
- PSRKS & OPEN SPACE
- SCHOOLS

<http://maps.cityofchicago.org/website/zoning/>



EXISTING SITE  
135 ACRES

Fill in to  
Dan Ryan

ALTERNATIVE  
GROWTH + 50%

# Thanks To:

Mijack (Sponsor)

- Norfolk Southern

- Zero Energy Lab

- Grid Interconnection
- Wind Velocity Test

- Advisors:

- Laurence Rohter, P.E.
- Peter Mirabella
- Professor Sid Guralnick



## Questions?

Fin