



# Chapel Hill Transit

Triangle Clean Cities  
Stakeholders Meeting

January 27, 2011

# CHT Mission

Chapel Hill Transit (CHT) provides safe, convenient and reliable public transportation services to the residents and visitors of Chapel Hill, Carrboro and the University of North Carolina.



# CHT Overview

## Responsibilities:

- Fixed-route bus services (31 weekday & weekend routes)
- EZ Rider (ADA Service)
- System Planning
- Marketing and Public Relations
- Oversight of Taxi Franchise

## Budget:

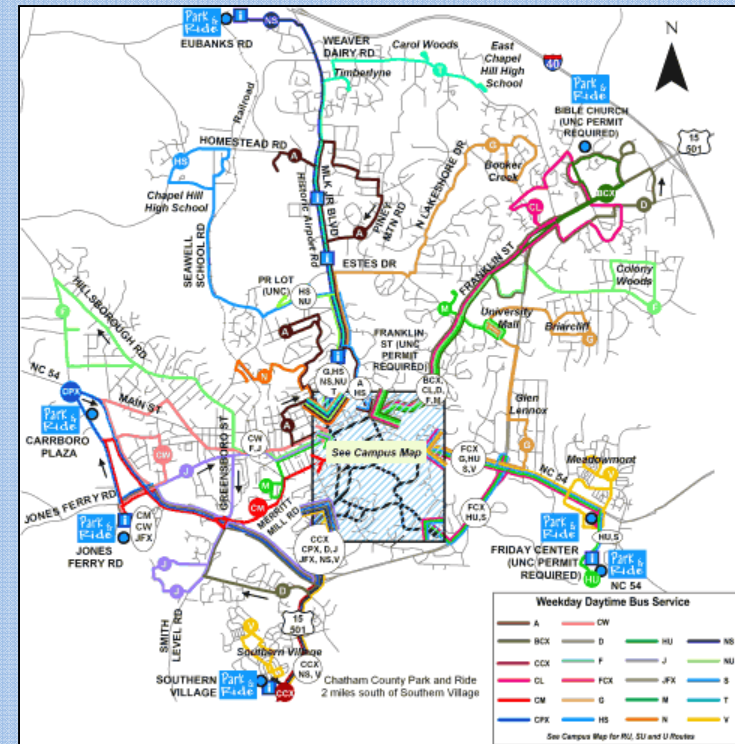
- FY 10/11 - \$17.4 million

## Staff (194 employees):

- Operations – 152
- Maintenance – 31
- Administration – 12

## Fleet (121 vehicles):

- Buses – 99
- Demand Response – 22



# CHT Delivers

Ridership is booming:

- 7,049,113 annual rides (FY09-10)
- Over 134,000 rides per week
- Over 70 rides per capita
  - Service Miles: 2,287,474
  - Service Hours: 199,808

Performance standards:

- Rides/Hour: 41
- Rides/Mile: 3.6
- Cost/Ride: \$2.11
- Cost/Mile: \$7.72
- Rides/Capita: 70



# Passenger Survey Results

**High Overall Satisfaction:** 88% of riders rated the overall quality of CHT service as excellent or good

RIDER PROFILES	Express Routes	Local Routes
Age	37	34
Sex	Female	Female
Annual household income (median)	\$40,000-\$49,999	\$30,000-\$39,000
Household size	2.4 people	2.4 people
Occupation	Professional	Student
Uses NextBus	No	Yes
Has vehicle	Yes (80%)	Yes (61%)

## CHT passengers are most satisfied with:

- How safe they feel while using the bus
- Proximity of bus stop to their workplace
- Operator courtesy, knowledge of services, and safe driving
- Cleanliness and maintenance of buses

## CHT passengers are least satisfied with:

- Hours of service availability
- Saturday and Sunday service availability



# CHT & Sustainability

The Town's approach to sustainability includes the perspective that social, economic and environmental progress is of equal importance, and that the community's efforts to meet the needs of the present day should not lessen the ability of future generations to meet their own needs in these same focus areas.



# CHT & Sustainability

- It's all free...
- Using only Ultra Low Sulfur Diesel.
- Purchasing hybrid buses.
- Utilizing 60-foot hybrid articulated buses.
- Replacing administration and supervisory vehicles with hybrids.
- Active role in the development process.
- Promote transit supportive land use and development ordinances.



# CHT & Sustainability

## Biodiesel Pilot Project – Overview:

- Funded by Triangle Clean Cities Coalition through a Clean Fuel/Clean Vehicle Technology Projects grant
- Better understand the feasibility, benefits and cost-effectiveness of biodiesel (B20).
- Demonstrate the potential for widespread use of biodiesel in the entire transit fleet.
- Enhance the sustainability of our operation, improve community air quality and reduce our dependence on petroleum.



# CHT & Sustainability

## Biodiesel Pilot Project – Description:

- Procure and operate an above ground, temporary biodiesel fuel tank, and cover the incremental cost of biodiesel as compared to conventional diesel over a 3-month period.
- Testing in 5 buses:
  - 1995 / 1996 Gillig Phantom 35' transit coach
  - 1998 Nova / RTS 35' Transit coach
  - 2005 Rehab Nova / RTS 35' transit coach
  - 2002 Nova / RTS 35' transit coach
  - 2007 Gillig 35' low floor transit coach



# CHT & Sustainability

## Biodiesel Pilot Project – Evaluation and Partners:

- We will gather data and monitor items in the following areas:
  - Fuel economy
  - Greenhouse gas emissions
  - Use of fuel filters and other maintenance repairs
  - Engine maintenance
- Partners:
  - Triangle Clean Cities Coalition/TJCOG
  - University of North Carolina
  - Town of Chapel Hill
  - Town of Carrboro
  - Potter Oil Company



# CHT & Sustainability

- Statewide program for recycling used motor oil and antifreeze.
  - Generates a small amount of revenue (\$1,200 since July 2010).
- Testing EMP (mini-hybrid) system (2009)
  - Replaces OEM alternator and cooling system with a high output alternator and a cooling package of heat exchangers and 8 electronically controlled electric fans. Increases MPG by 6-7%
- Idling Policy (June 2008)
  - Vehicles will not idle for more than 3 minutes.
  - CHT employees shall drive within the posted speed limit in all areas.
  - CHT employees shall avoid sudden stops and quick acceleration.
  - CHT employees shall not utilize drive-through services in CHT vehicles.
  - Exceptions for temps (above 85 °F or below 32°F), maintenance, etc.
- Sustainable Printing Policy (July 2009)
- Electronic Distribution of Partners Packets (July 2010)
- [Brake Drum Recycling \(2009\)](#)



# CHT & Sustainability

## Part of Town Operations Center

- Houses Public Works and Transit
- Largest capital project in town history
  - \$52 million total
  - \$22 million transit facility
- Timeline
  - Design began in 2004
  - Construction began mid 2005
  - Completed summer 2007



# CHT & Sustainability

## Environmentally Sensitive Design

- Water conservation
- Solar Oriented Design
- Permeable Pavement
- Bio-retention
- Watershed Protection
- Tree Preservation
- Site Perimeter Buffering
- Stream Buffering
- Water Quality Pond
- Geothermal



# CHT & Sustainability

- Water Quality Pond
  - 2 large ponds constructed on site
  - Capture runoff
  - Benefit wildlife
- Watershed Protection
  - Preserved active Creek running through site
- Tree Preservation
  - Conducted tree survey
  - Preserved portion of property with mature hickory / oak forest
  - Barrel owl and turkey habitats preserved



# CHT & Sustainability

- Water Conservation
  - Systems to capture and reuse water
  - Water collected from building gutters
  - Used to flush toilets and wash buses



- Solar Oriented Design
  - Buildings positioned to make best use of sun
  - Clerestory windows provide lighting throughout building

# CHT & Sustainability

- Bio-Retention
  - Bio-Retention areas constructed with soil that has more porosity to decrease run off
  - Storm Water runoff directed to “rain gardens”



# CHT & Sustainability

- Permeable Pavement
  - Permeable asphalt
    - Employee and visitor lots have pavement that allows water to penetrate surface
  - “Grass Pave”
    - Permeable units that allow grass to grow through
- Stream Buffering
  - Land management ordinance identifies adjacent streams as “Resource Conservation Districts”
  - Preserved intermittent stream on transit land



# CHT & Sustainability

## What does it all mean?

- 2<sup>nd</sup> highest transit ridership in the state.
- Using ULSD we are producing as little emissions as possible from our traditional diesel buses.
- Hybrid buses are 19% more fuel efficient than diesel buses and produce 57% less particulate matter than standard diesel buses.
- By putting one Articulated bus on the road CHT can take 2 traditional buses off the road.
- By designing for public transportation in initial development plans, CHT transit vehicles are accommodated, thereby promoting transit as a viable means of transportation.



# CH & Sustainability

- Office of Sustainability
  - Coordinates with senior mgt. and other staff to address sustainability within Town operations
  - Officer a liaison to community and those outside of Chapel Hill on sustainability-related issues
- Sustainability Management Team
  - Town employees dedicated to fostering sustainability
- Sustainability Committee
  - Citizen advisory board, 11 members
- Sustainability Energy and Environment Council Committee
  - Council Committee, 4 members
- Mayor's Youth for a Sustainable Future
  - Youth Council: 9-12 grade, Parks & Rec.



# CH & Sustainability

- **LED Street Light Pilot Project:** Ongoing study of LED street light technology
- **Energy Management Program:** Position to identify resource/cost savings
- **Municipal Lighting Project:** Installation of high-efficiency lighting and sensors in Town facilities
- **Green Fleet Program:** Acquisition of alt-fuel vehicles for all departments (8% GHG drop since 2005)
- **Idle-Reduction Technology:** Pilot study in Police Department
- **Residential Energy Efficiency Program:** Program aims to incentivize home improvements which result in energy savings (15% above baseline) and assist in the development of a local market for contractors that perform energy assessments and energy efficiency home improvements.
- **Earth Action Day:** A Parks & Recreation Event supporting action for a more sustainable community



# Questions or Comments

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