AGENDA

Meeting Type.	SPECIAL
Date:	07/14/1998
JOINT MEETING	: CITY/COUNTY/SCHOOLS

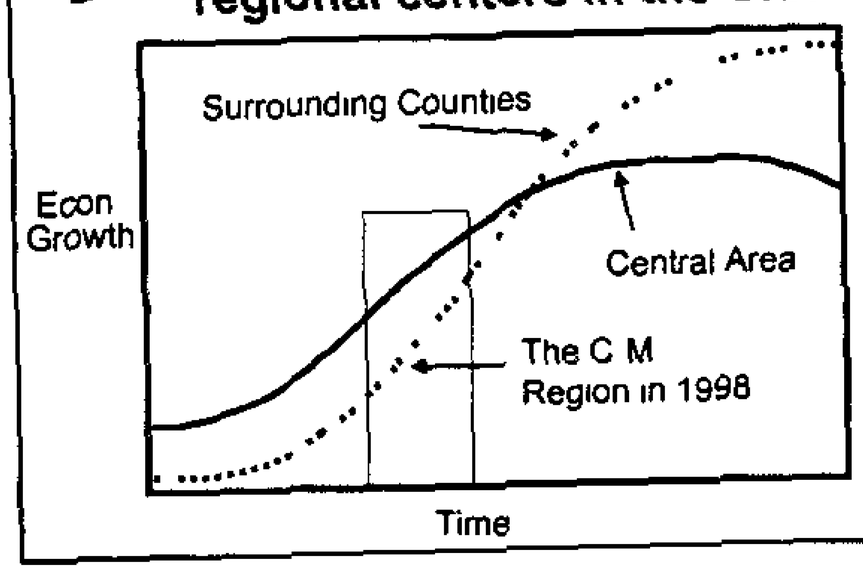
City of Charlotte, City Clerk's Office

Charlotte-Mecklenburg
Integrated
Rapid Transit
and
Land Use Plan

Overview of Presentation

- Issues/Trends
- The Vision
- The Plan
- Cost
- Funding
- Next Steps

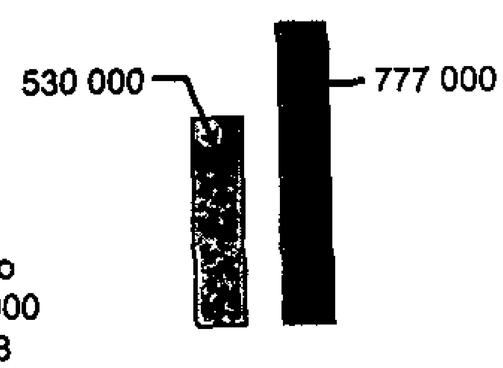
The Typical evolution of regional centers in the U.S.



Why Is This Being Considered for Charlotte-Mecklenburg?

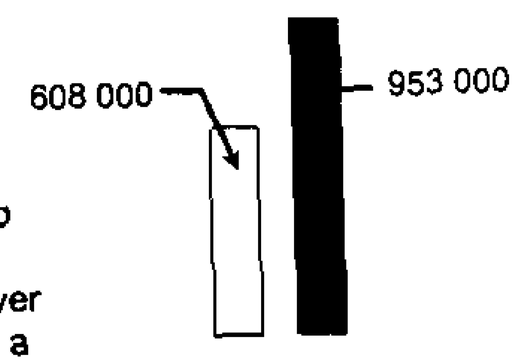
- Substantial & Continued Growth
- Dispersed Development Patterns
- Highway Network Near Capacity

Future Employment Growth

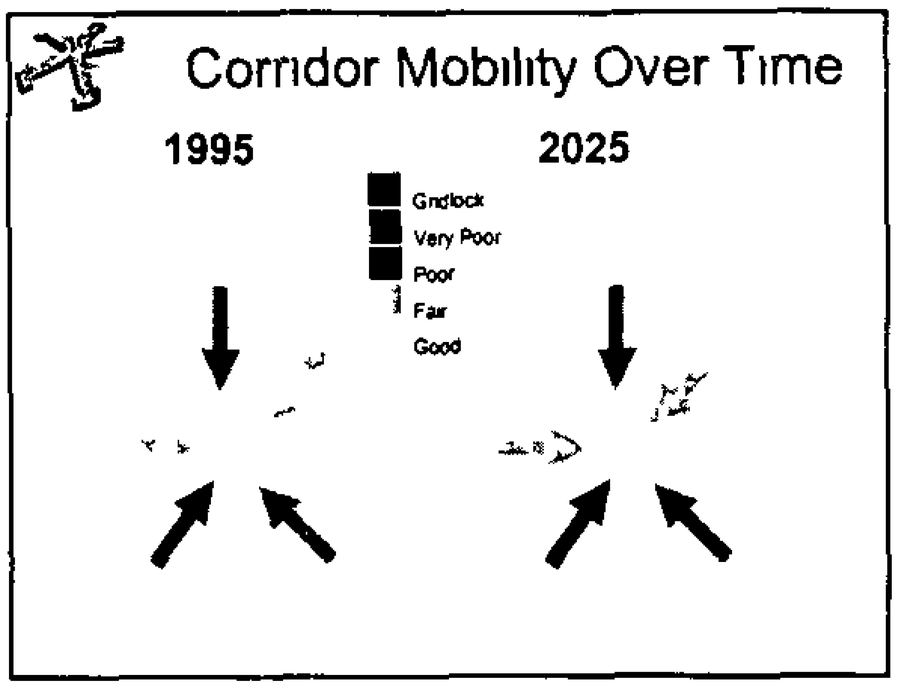


Employment in the county is projected to grow by about 247 000 jobs over the next 28 years a 47 percent increase Where will these jobs go?

Future Population Growth



C-M is projected to grow by about 345 000 people over the next 28 years a 57 percent increase Where will these people live?

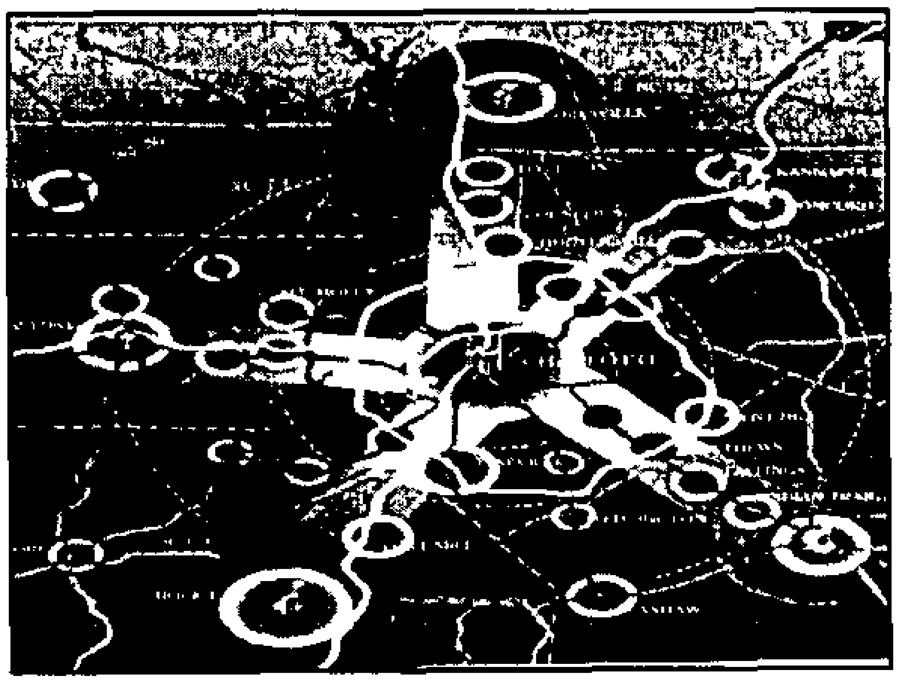


Business As Usual

- Corridor congestion increases
- Center City declines
- Jobs decentralize at low densities
- Jobs start to leave County
- Multi-family housing widely dispersed

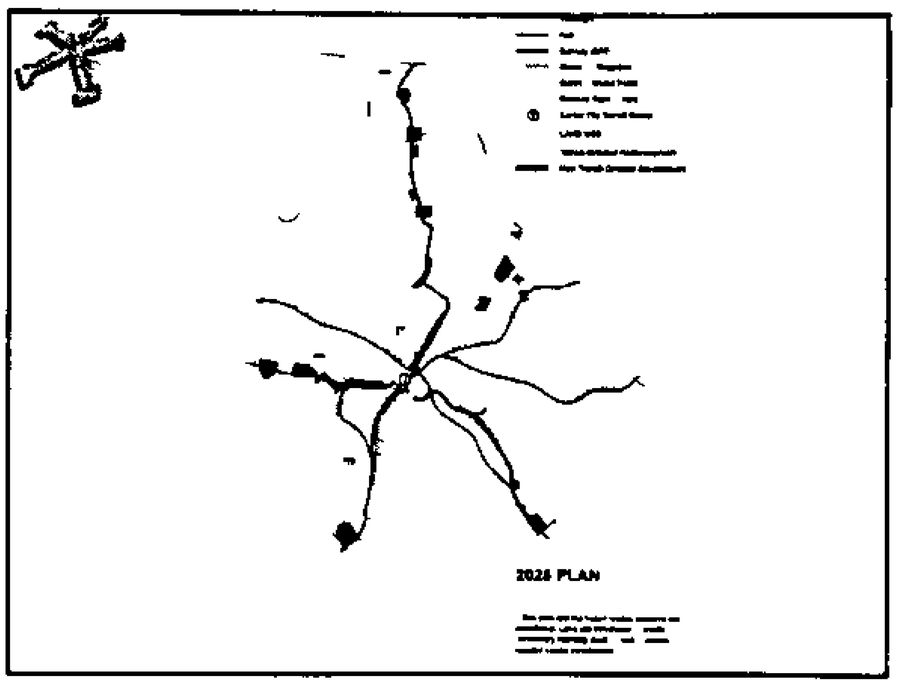
The Vision

- Integrate land use & rapid transit to maintain & enhance
  - Economic vitality
  - Transportation choices
  - Quality of life



The Plan

- Jobs are concentrated in corridor subcenters
- Jobs stay in County
- More multi-family housing shifts to corridors
- Center City continues to grow
- Transit offers alternative to auto-only access

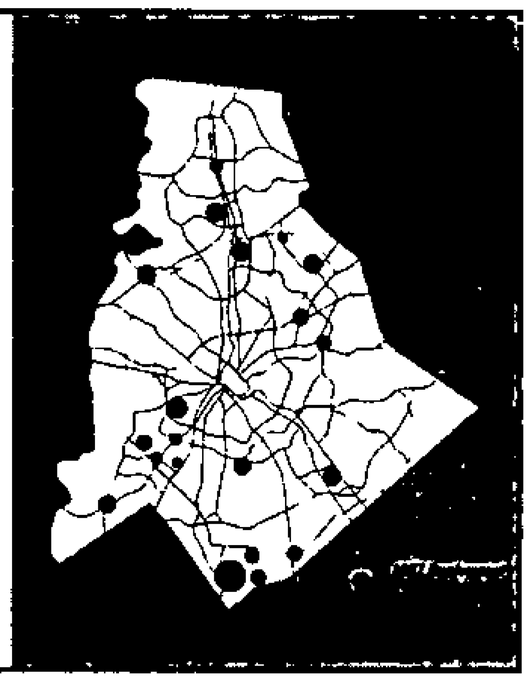


Almost 60% of all jobs are within the corridors today

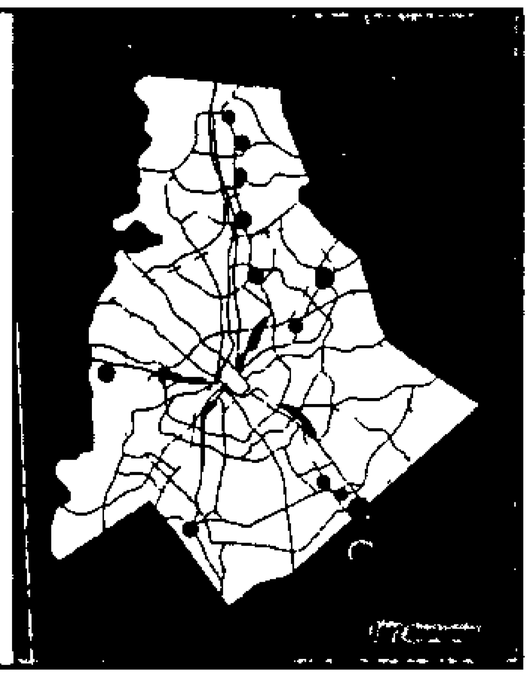
1997 Employment Nodes

Three-quarters of Pipeline outside the corridors

Major employment projects in the pipeline

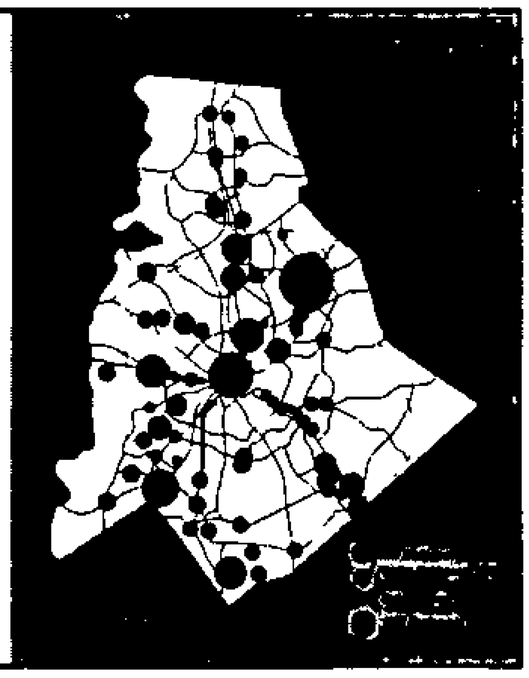


New 2025 Plan Employment Areas



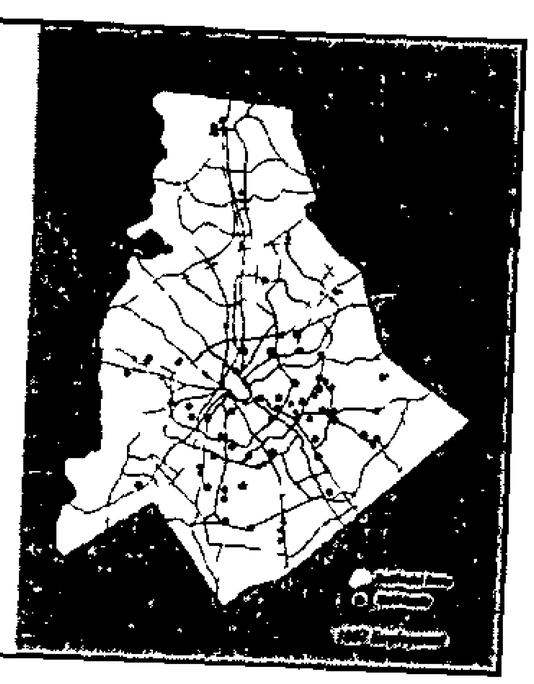
55% of Plan job growth will be within the corridors

New 2025 Plan Pipeline and Existing Employment Areas



Multi family is widely dispersed throughout C M

Major Multi-Family development, 1998

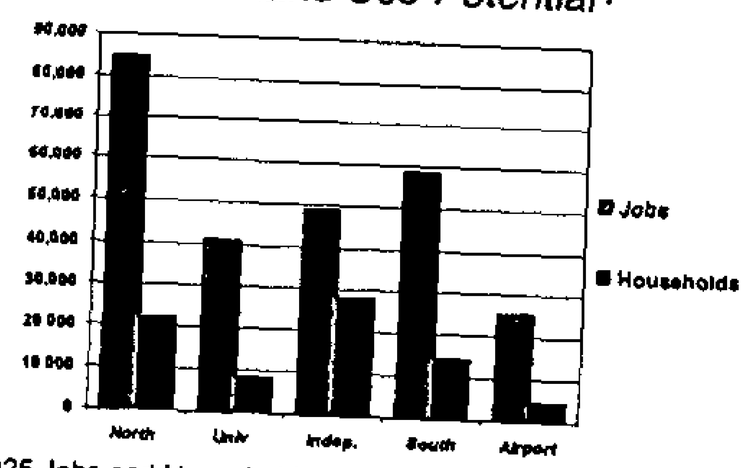


Plan moves 55% of new multi family into the corridors & Center City

Identification of Land Use Opportunities

- Assessed development climate by corridor
- *Identified undeveloped large visible* tracts in the corridors
- Visited the sites
- Evaluated their context for employment vs moderate density housing and proximity to transit

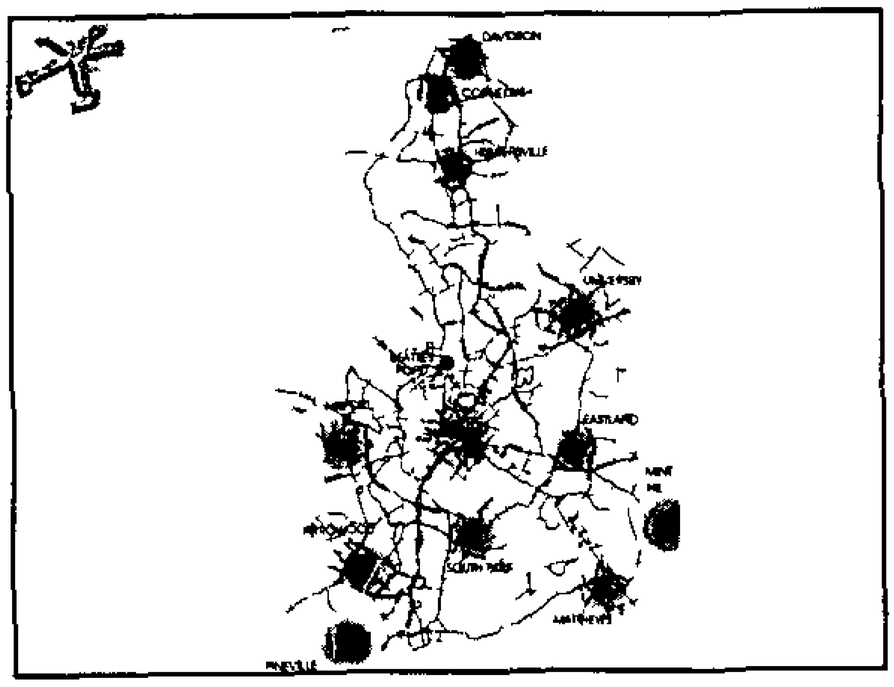
Which Corridors Have Strongest Land Use Potential?



2025 Jobs and Households within 1/2 Mile of Transit Service

2025 Transit Corridors Plan

• North	*Rail & Bus Rapid Transit*
• University	*Bus Rapid Transit*
• Independence	*Bus Rapid Transit*
• South	*Rail Transit*
• Airport	*Bus Rapid Transit*



Identification of Land Use Opportunities (cont'd)

- Spoke to area planners about current Master Plans
- Assigned appropriate densities for residential and employment to the sites at station locations
- Reconciled corridor growth and station capacity numbers
- Ran ridership model

Regional Plan Features - Transit

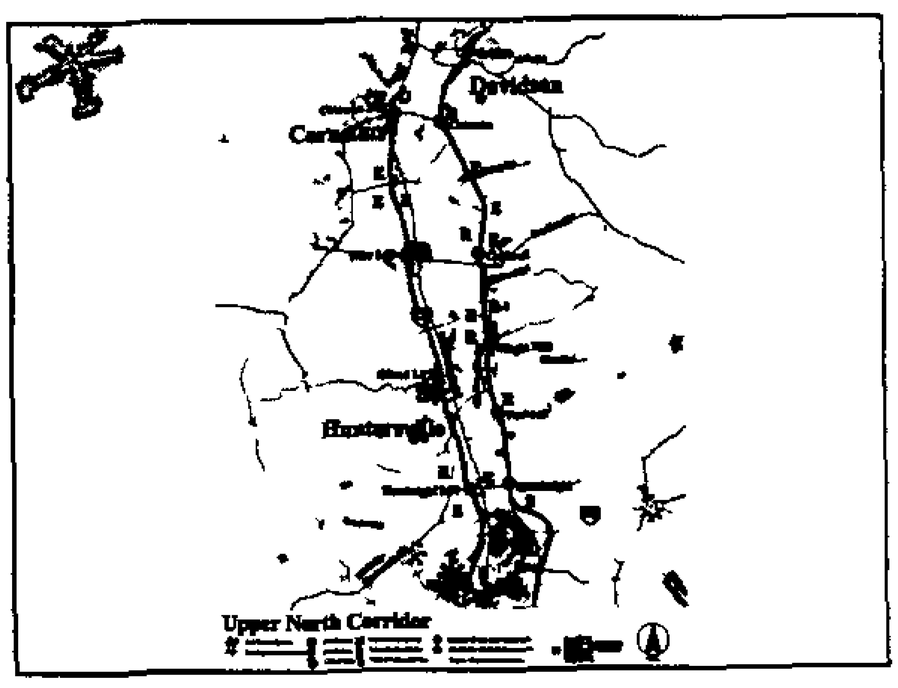
- City Center links with new transitway"
- Feeder service
- Crosstown connections
- Park and ride
- Extendable

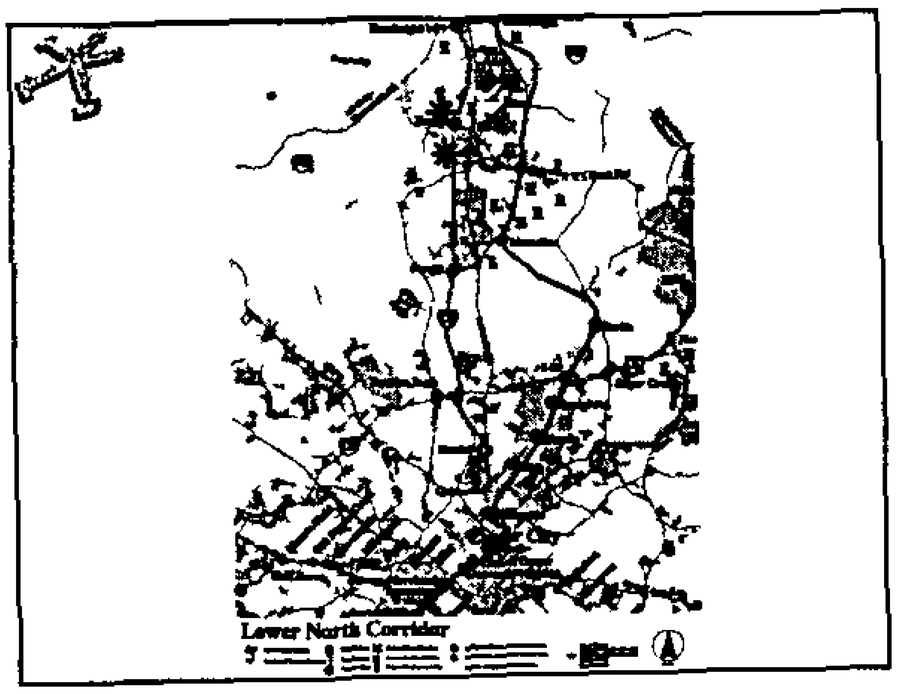
Overall Key Plan Features – Land Use

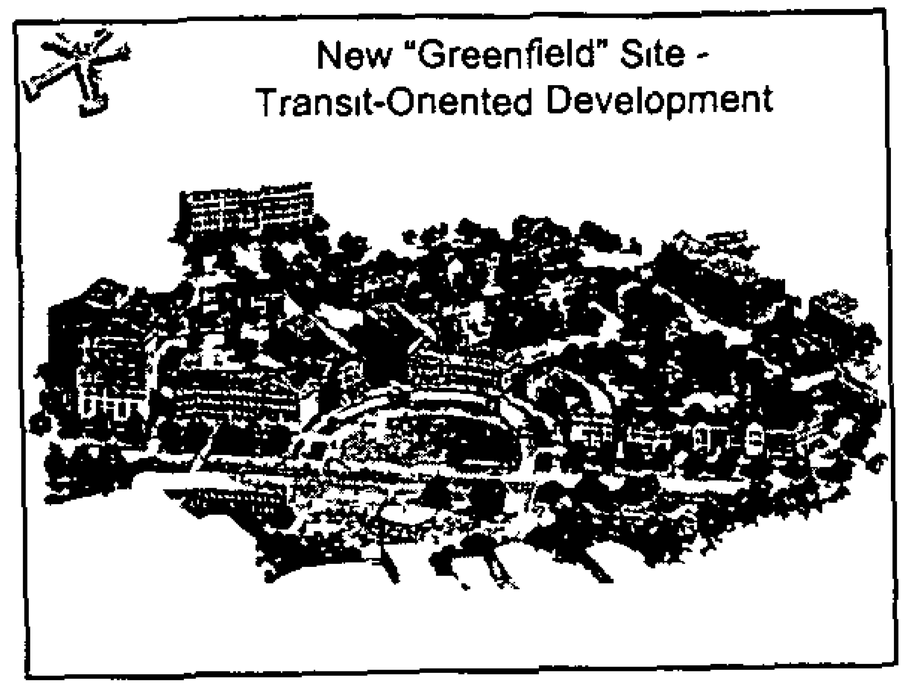
- Shifts of employment & multi family development into selected transit station areas
- Priority opportunity corridors are outer ends of North & University corridors & in Matthews
- Job sub-centers as primary strategy
- Supports residential multi-family at sub-centers
- Buildup of CBD jobs & housing

North Corridor - Land Use

- Revitalization of Cornelius Town Center
- Mixed use development at Caldwell
- Major regional employment centers at Hambright & WT Harris/Metrolina
- Redevelopment at Craighead & Sunset Road
- Rail requires more intensive corridor development
- Greatest potential for transit oriented growth beyond 2025

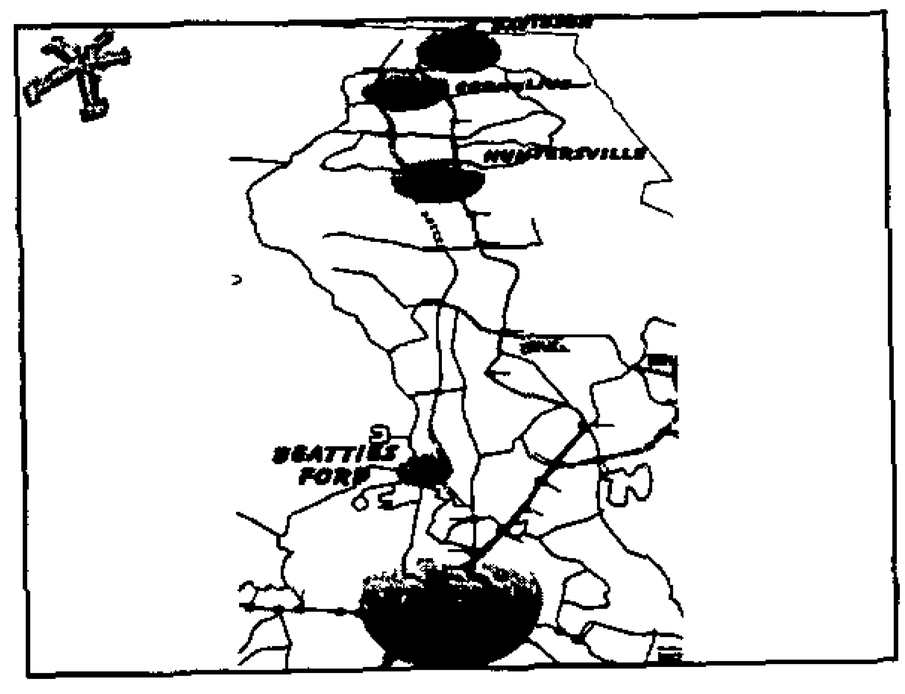






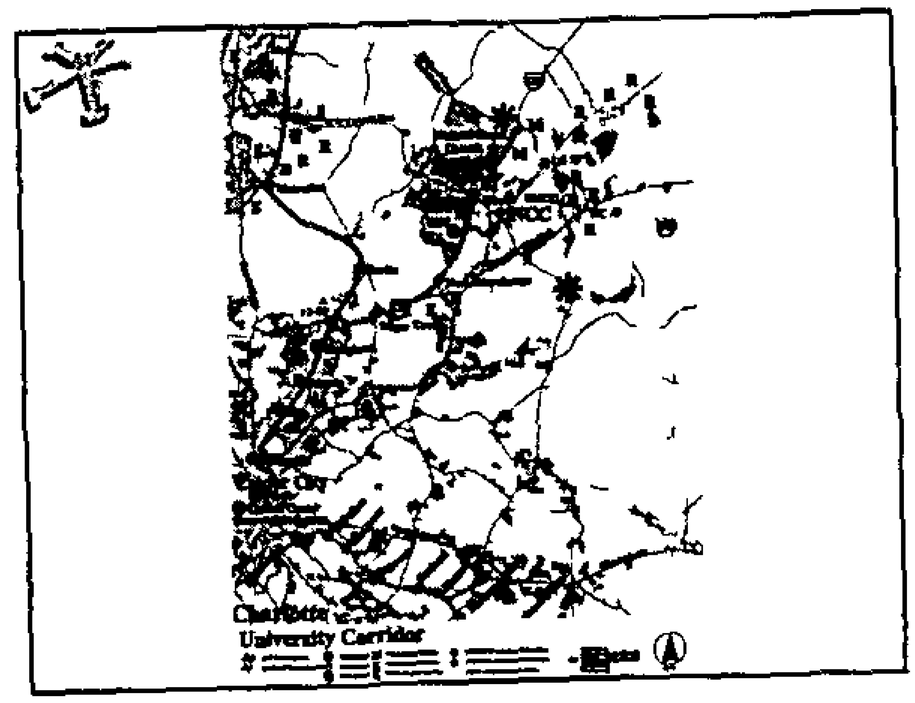
North Corridor - Transit

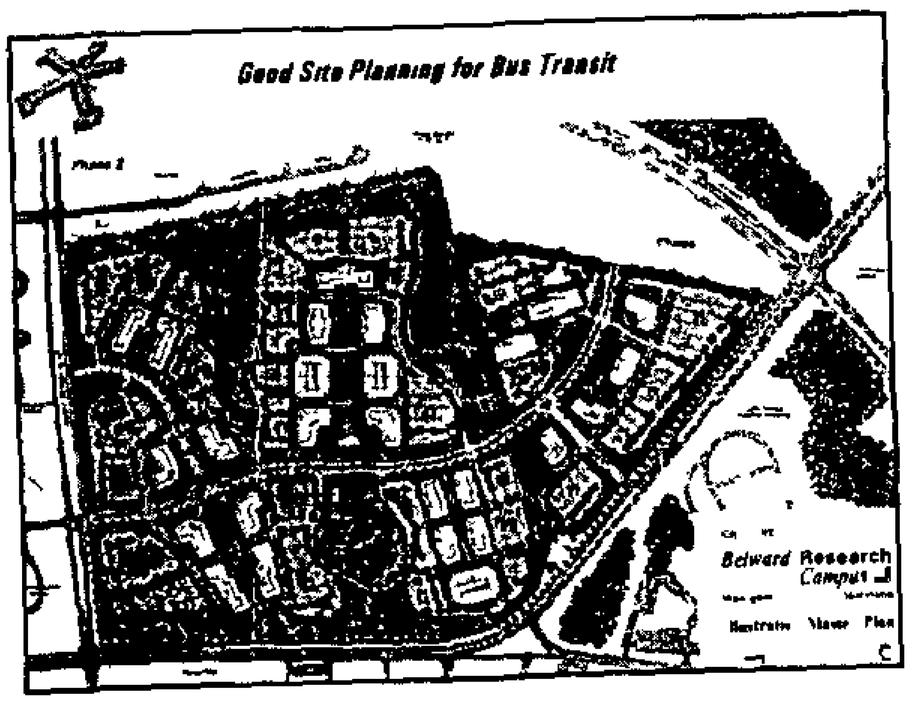
- Combination Rail & Bus Rapid Transit (BRT)
- Rail - Diesel Multiple Units (DMUs)
- Lowest rail capital cost per mile
- Cost- effectiveness within national thresholds
- Contingent on access to railroad track
- BRT cannot effectively serve NC 115 but serves riders west of I-77
- Strong preference by community for rail



University Corridor - Land Use

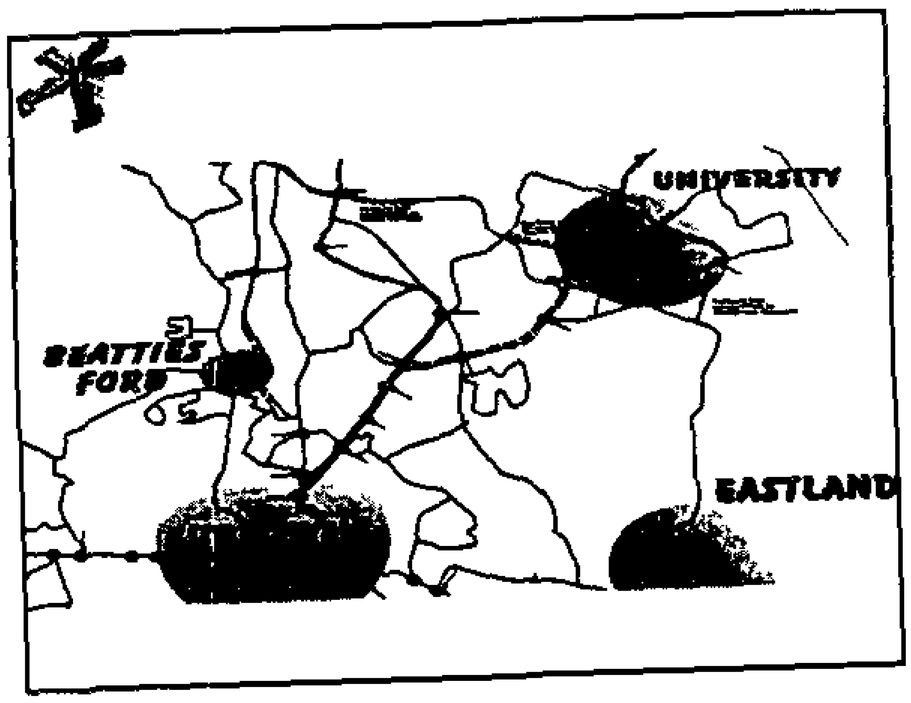
- Dispersed development requires different rail and BRT alignments
- High growth corridor
- Higher densities within University Research Park and IBM Park
- Higher density housing close to UNCC

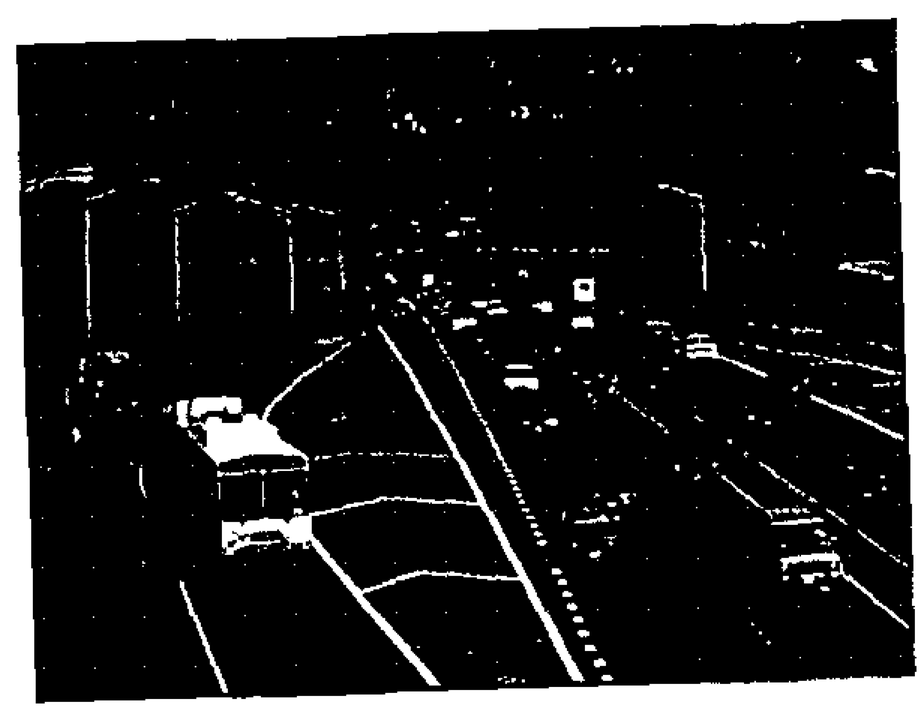




University Corridor - Transit

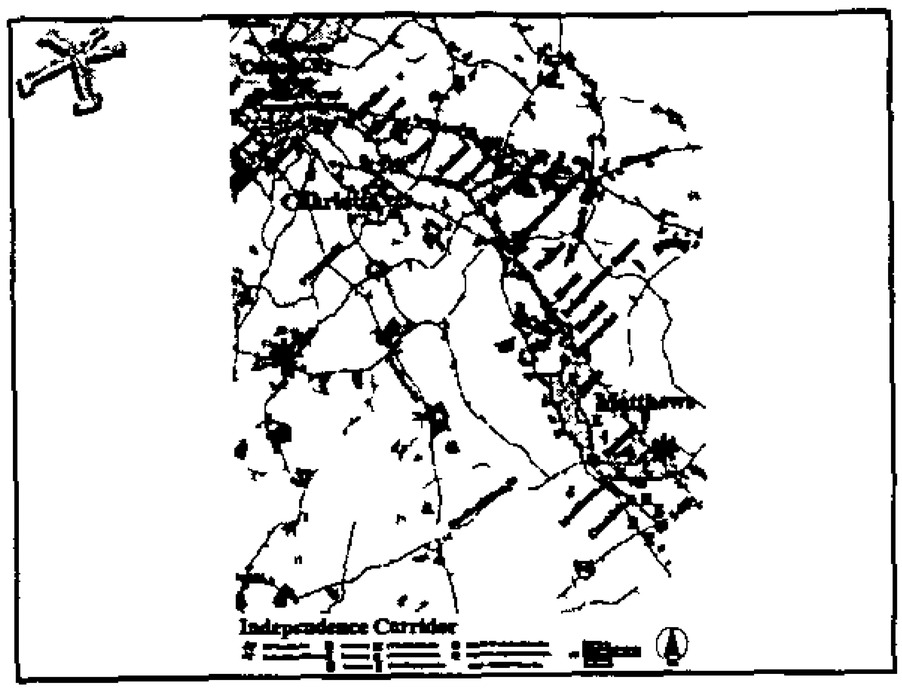
- Bus Rapid Transit
- Rail options less supportive of development opportunities
- Buses more cost-effective in serving dispersed development
- Rail ridership less than BRT
- Rail cost much higher than BRT

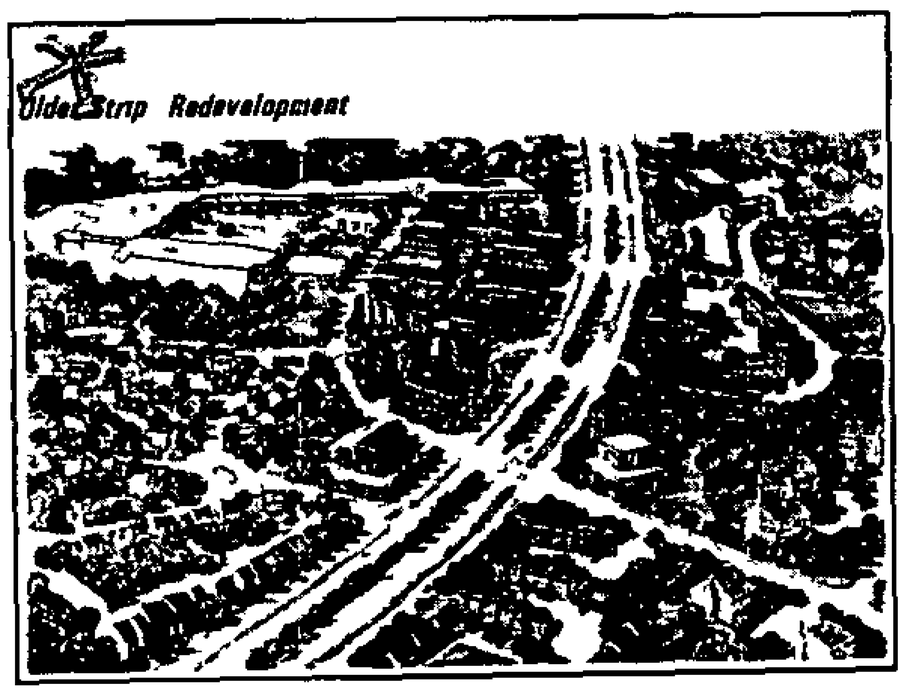




Independence Corridor - Land Use

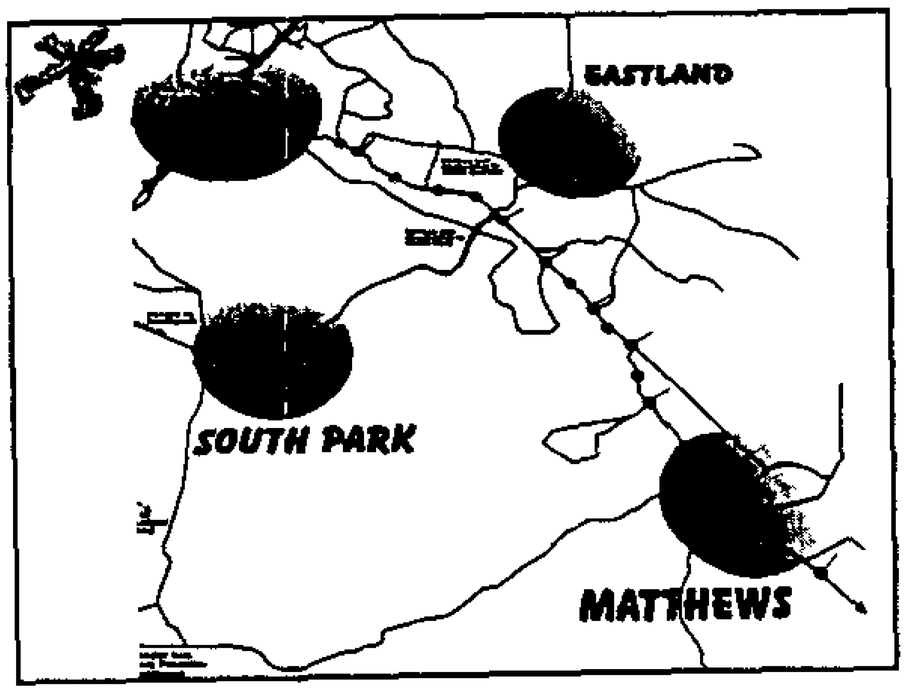
- Redevelopment of older strip commercial
- Mixed development opportunity near Independence Square
- Reserve vacant sites for multi-family housing/office
- Significant residential & employment opportunity at Matthews stations

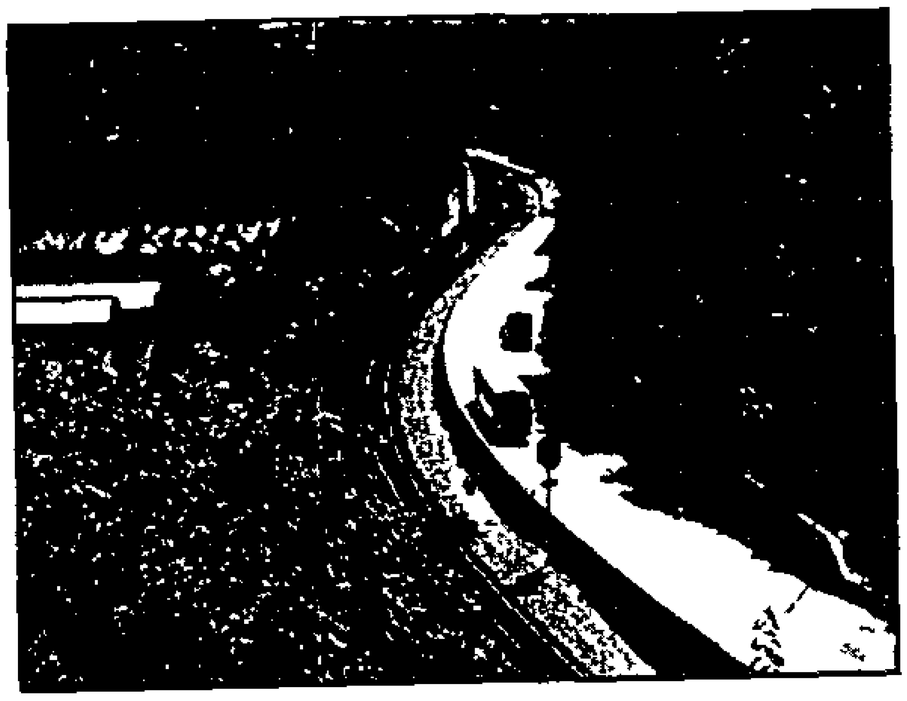


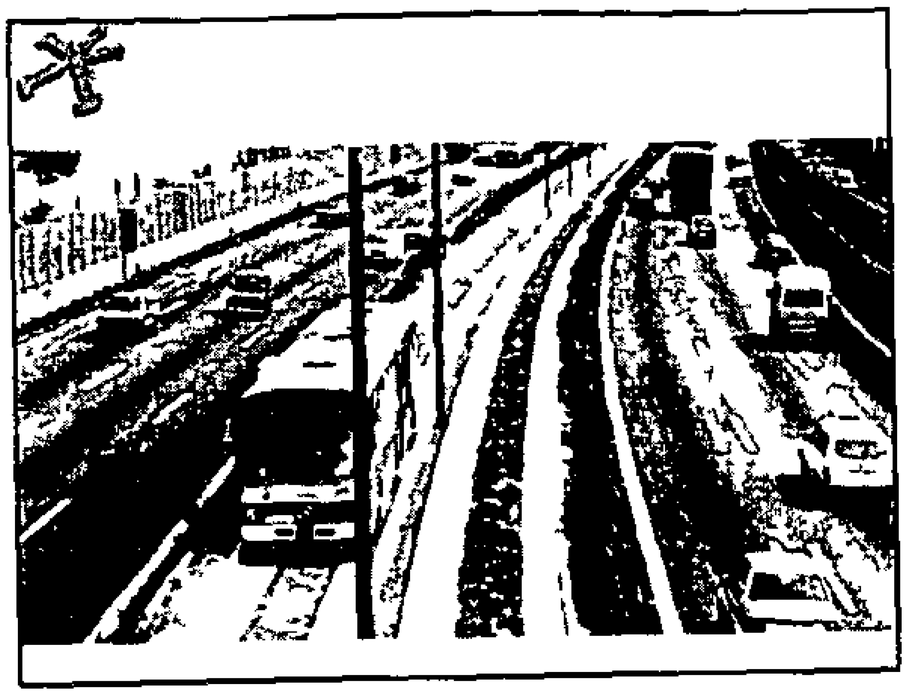


Independence Corridor - Transit

- Bus Rapid Transit
- Funded HOV lane can be converted to 2-way busway
- Bus alignment can be converted to rail in future
- Land use is equally served by BRT & Rail

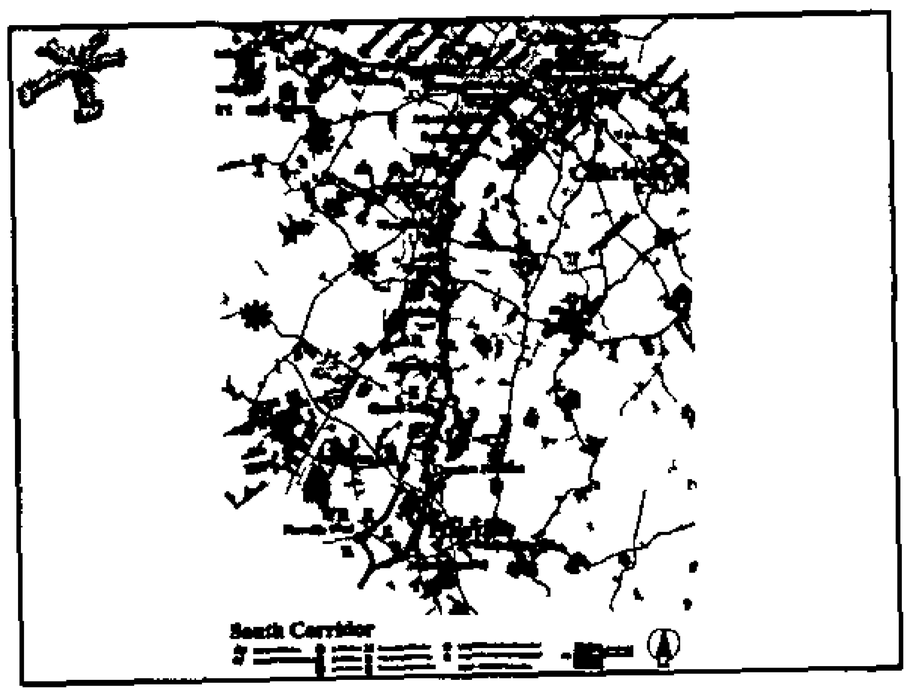


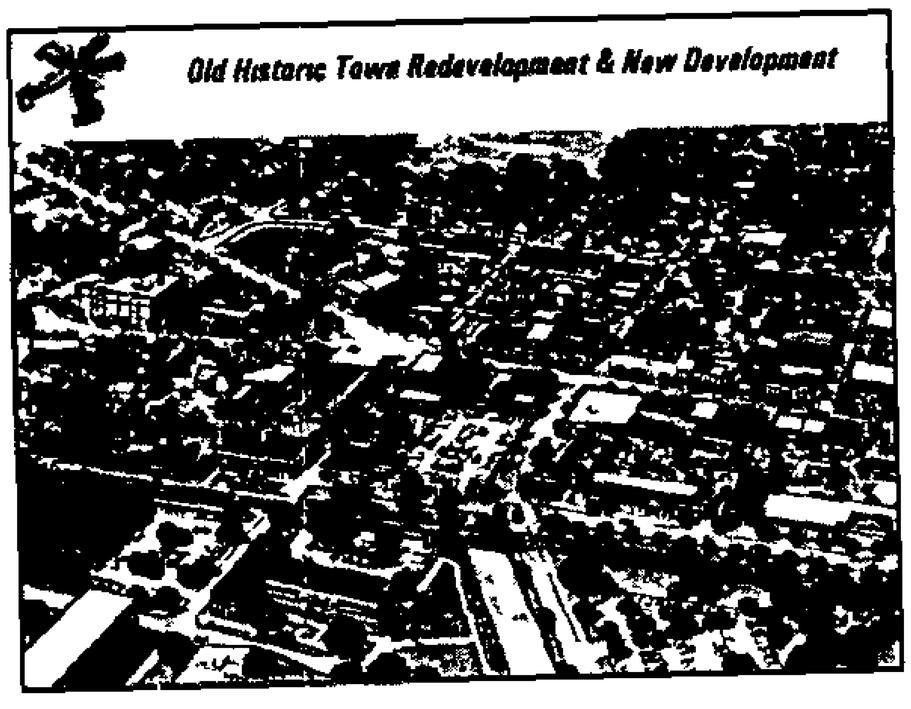




South Corridor - Land Use

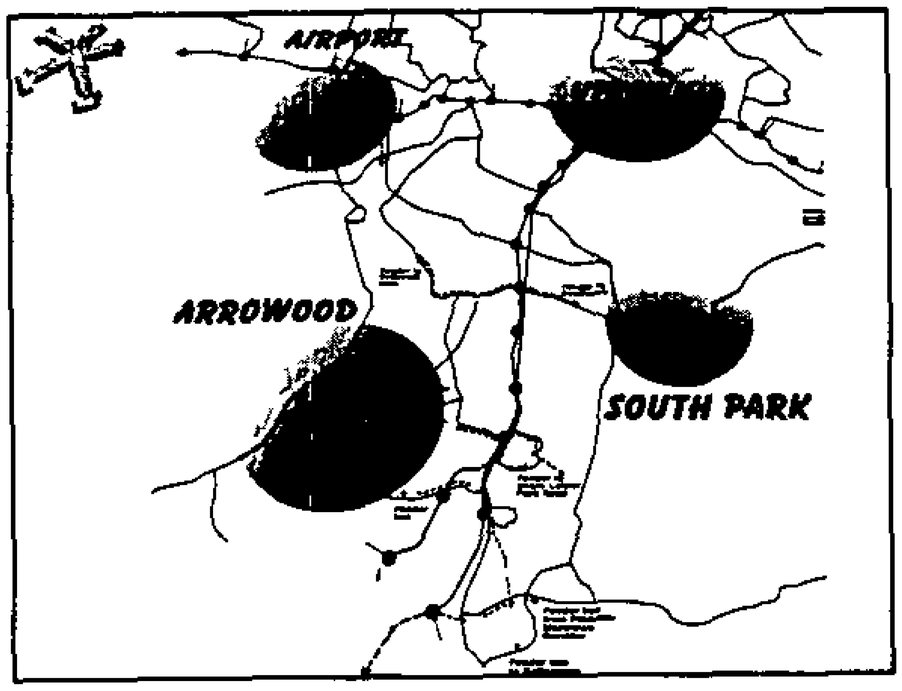
- Priority corridor for redevelopment
- Extend revitalization southward from South End
- Redevelopment is likely to remain incremental & random
- Target larger sites for offices or multi-family





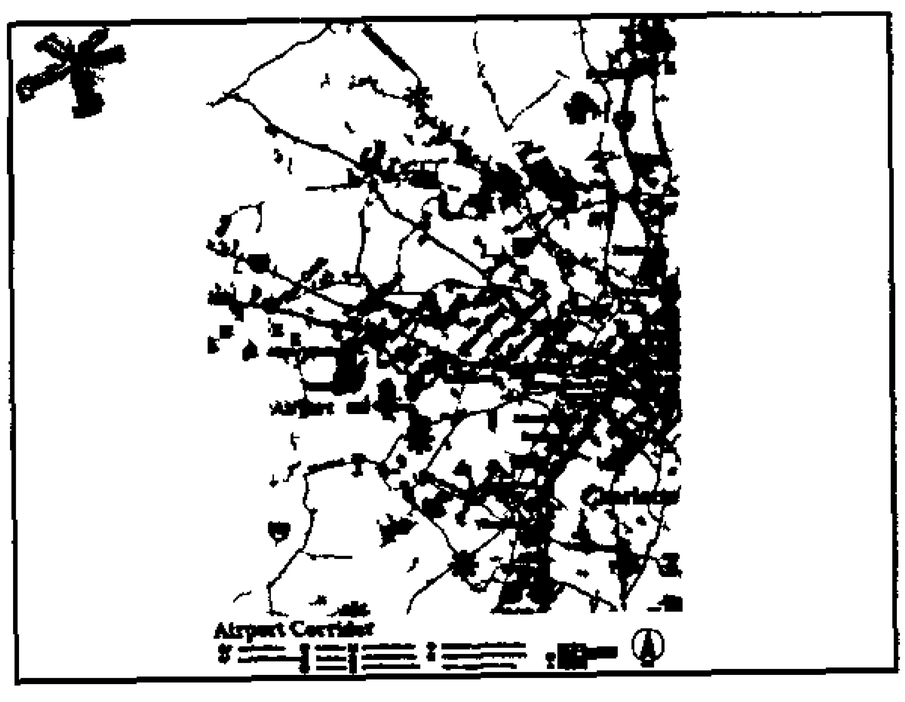
South Corridor - Transit

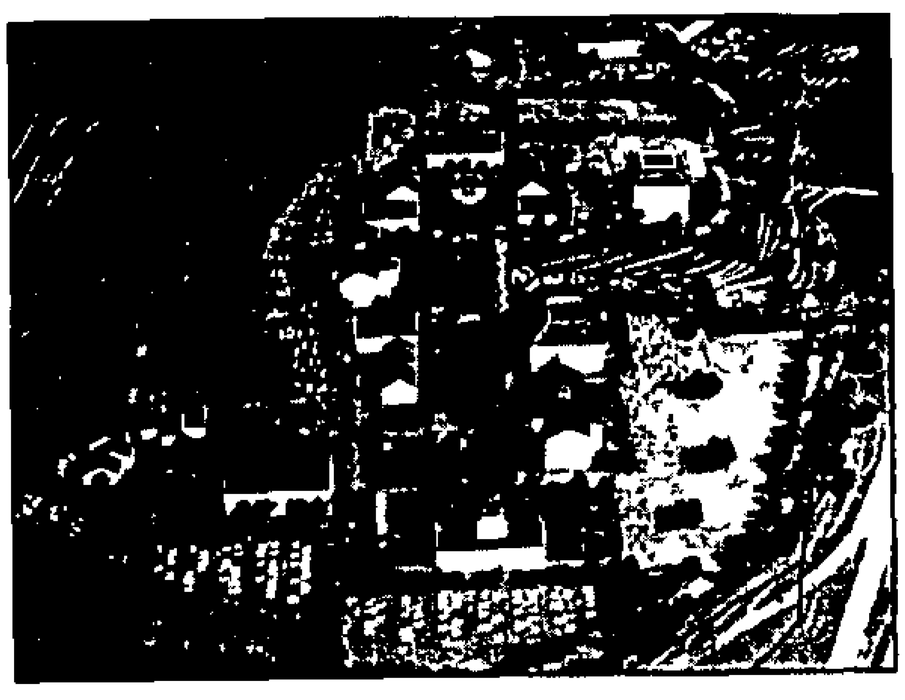
- Rail
- Compatible with Vintage Trolley
- More compatible with urban design objectives
- Cost-effectiveness within national thresholds
- Strong community preference for rail



Airport Corridor - Land Use

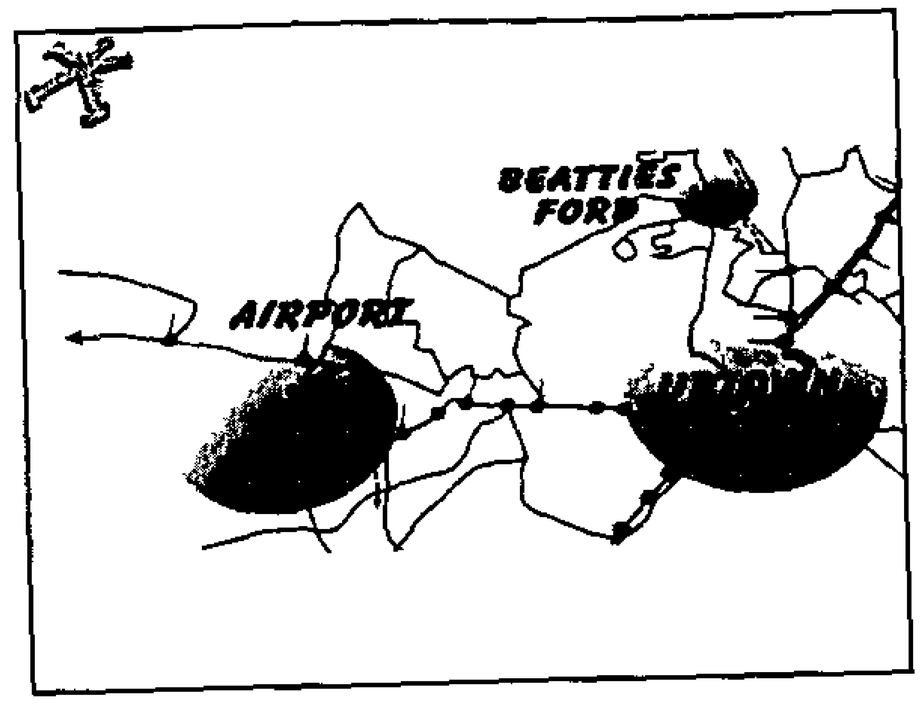
- Air traffic restricts residential
- Transit can facilitate Wilkinson redevelopment
- Nurture start-up enterprises around airport
- Reserve employment areas west of I-485
- Coordinate airport-related businesses & activities with BRT stations

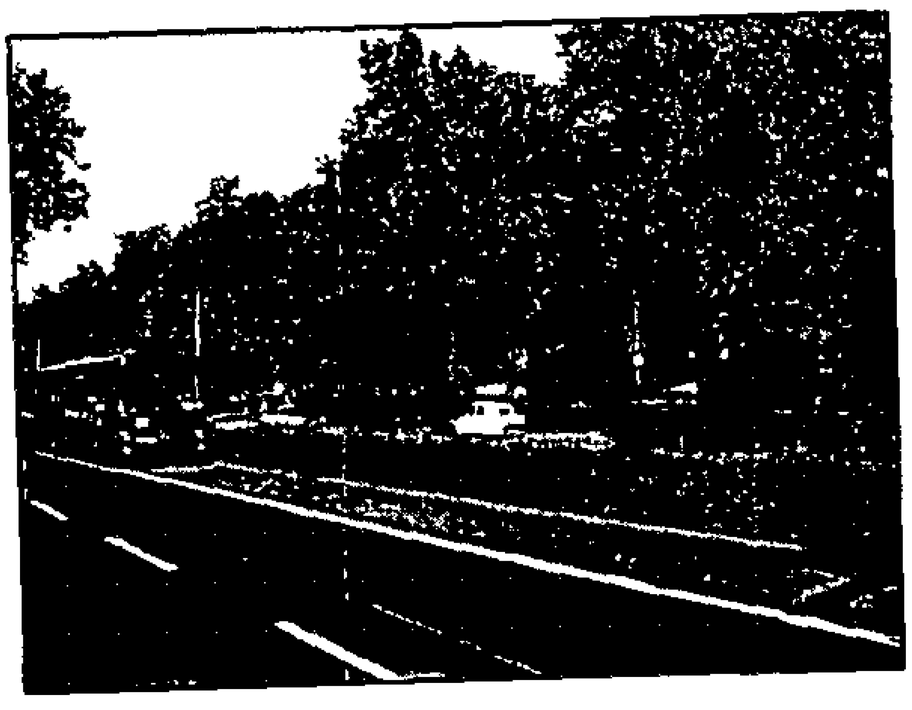




Airport Corridor - Transit

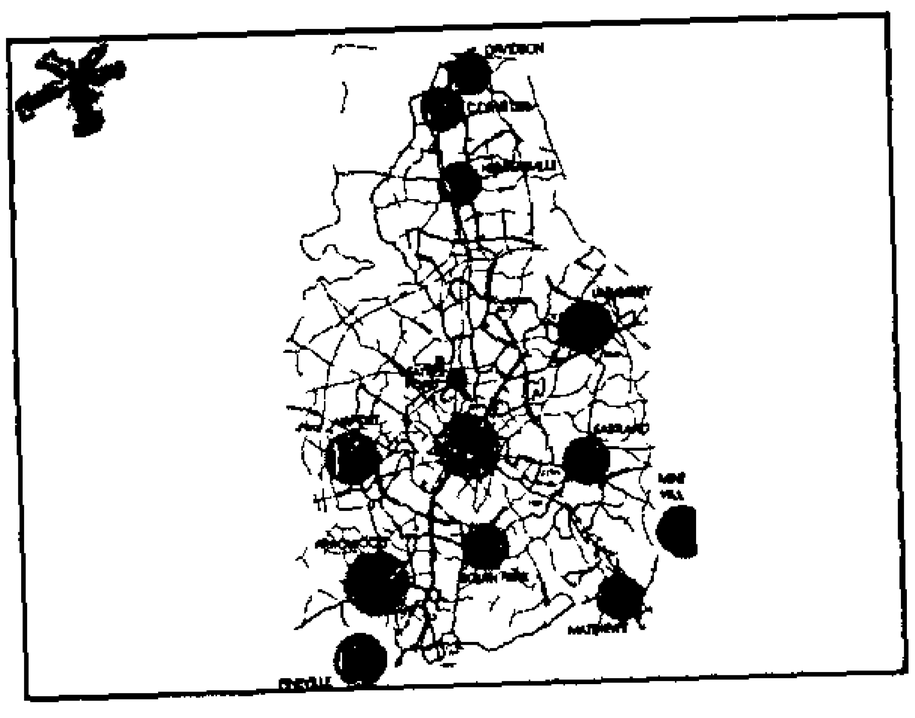
- Bus Rapid Transit
- BRT provides same level of service as rail at lower capital cost
- In longer term rail can replace bus on Wilkinson alignment





To Complete the 2025 Plan

- Transit centers with feeders
- Expanded local & express services
- Increased service hours
- New local service for Towns
- Increased services for elderly, disabled



Key Initial Land Use Actions

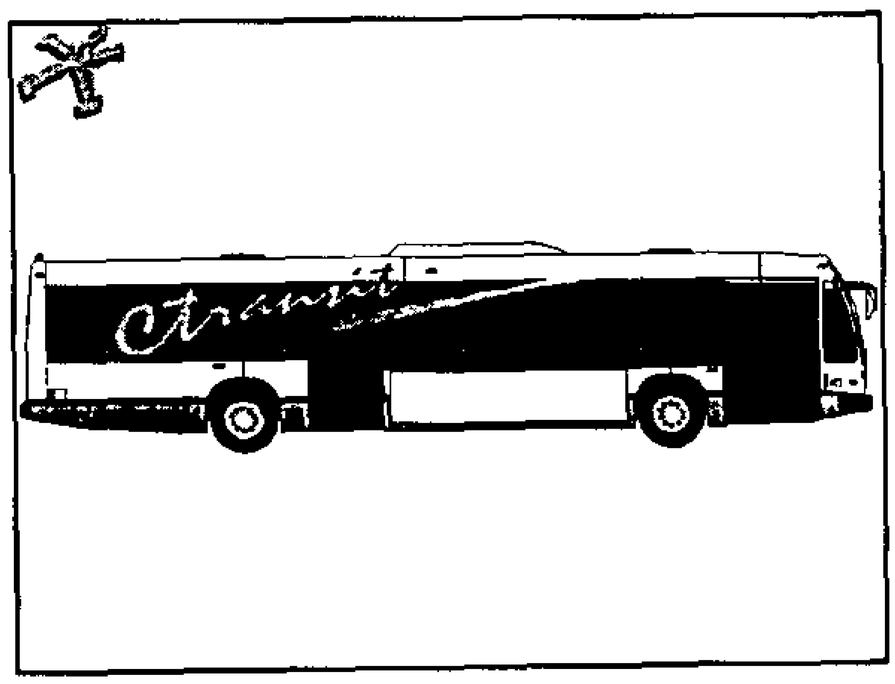
- Revise master plans/ordinances
- Add significant jobs & housing to Center City
- Create incentive packages for station development
- Acquire key parcels around stations
- Initiate development of priority sites

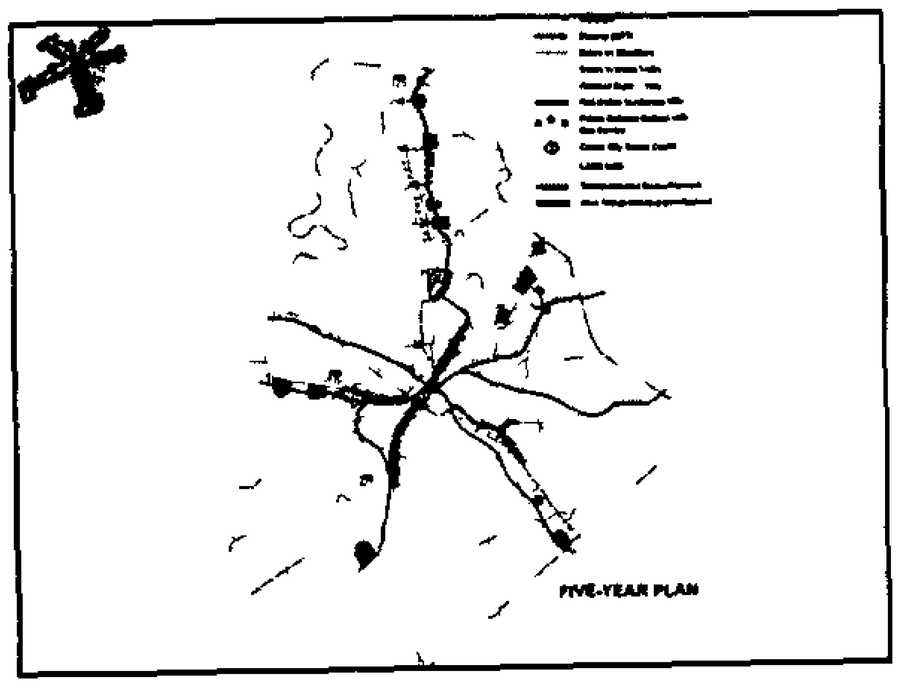
The 0-5 Year Transit Plan

- Express bus service in all corridors
- Vintage Trolley & Stations to South End
- Begin busways in Independence, Airport & University
- I-77 North BRT improvements
- Build bus stations/stops in North

The 0-5 Year Transit Plan

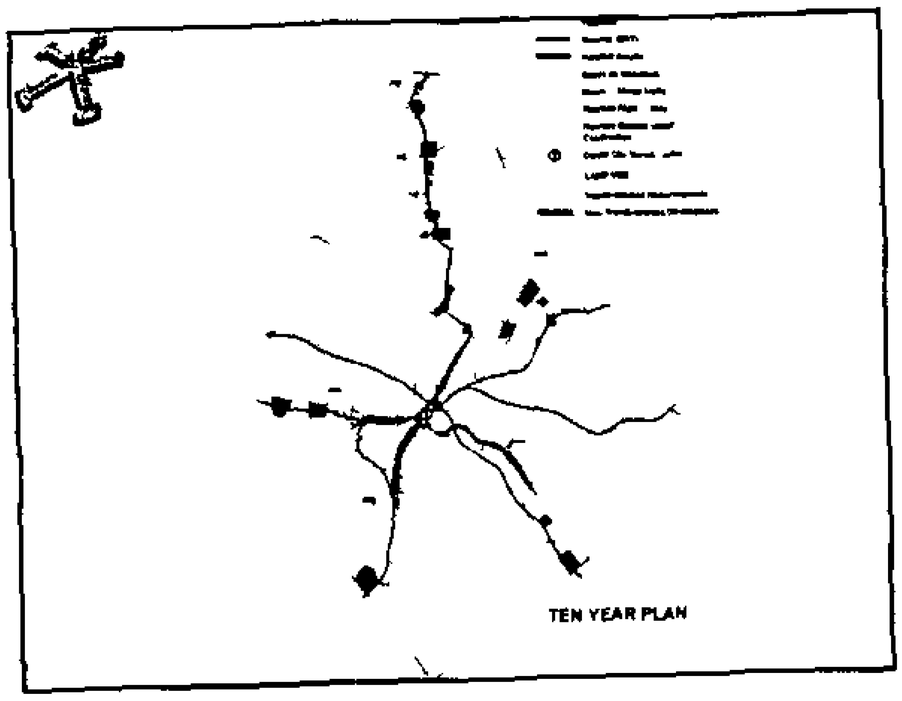
- Transit hubs at economic centers
- Expanded local service
- Increased service hours
- New local service in all Towns
- Increased express routes
- New crosstown routes
- Increased special services





The 6-10 Year Transit Plan

- Begin construction North Corridor rail
- Complete I-77 North BRT improvements
- South Corridor rail operation to Tyvola Road
- Independence busway to Krefeld
- Complete I-85 BRT improvements
- Extend Wilkinson busway



Benefits of the Plan

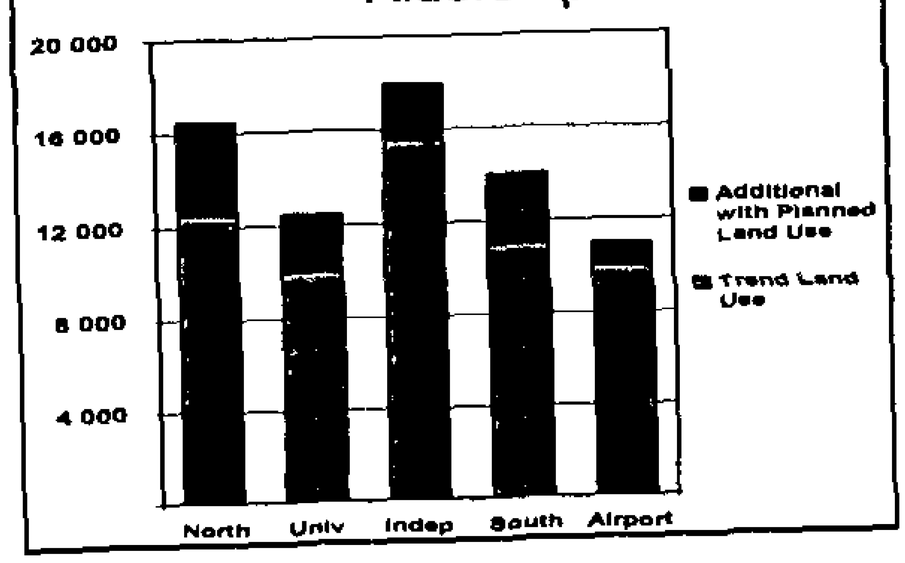
Direct Benefits

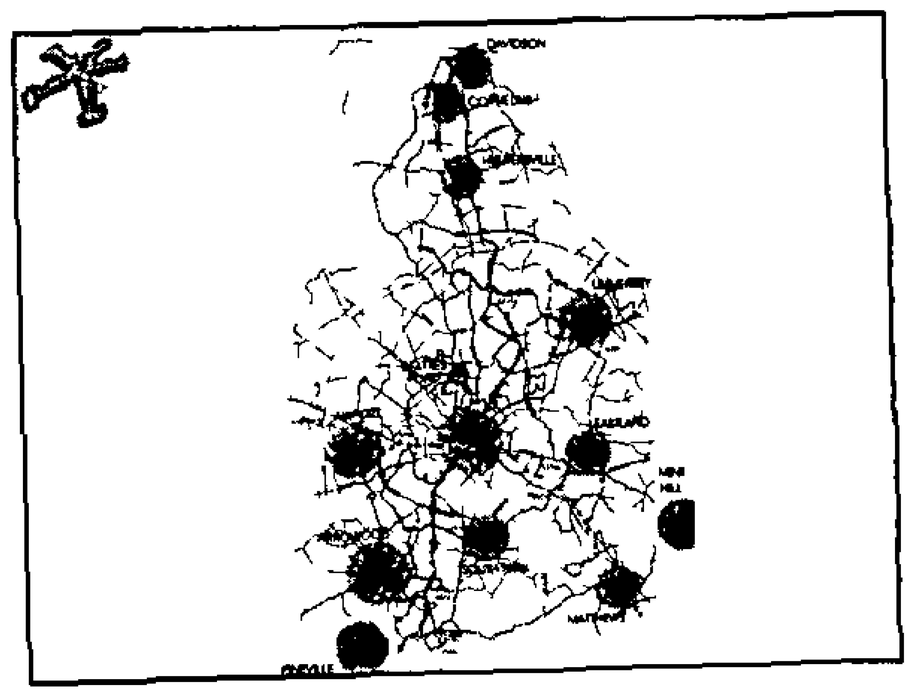
- Travel time savings and congestion relief
- Reduced automobile operating costs
- Reduced accidents
- Improved job access for the poor

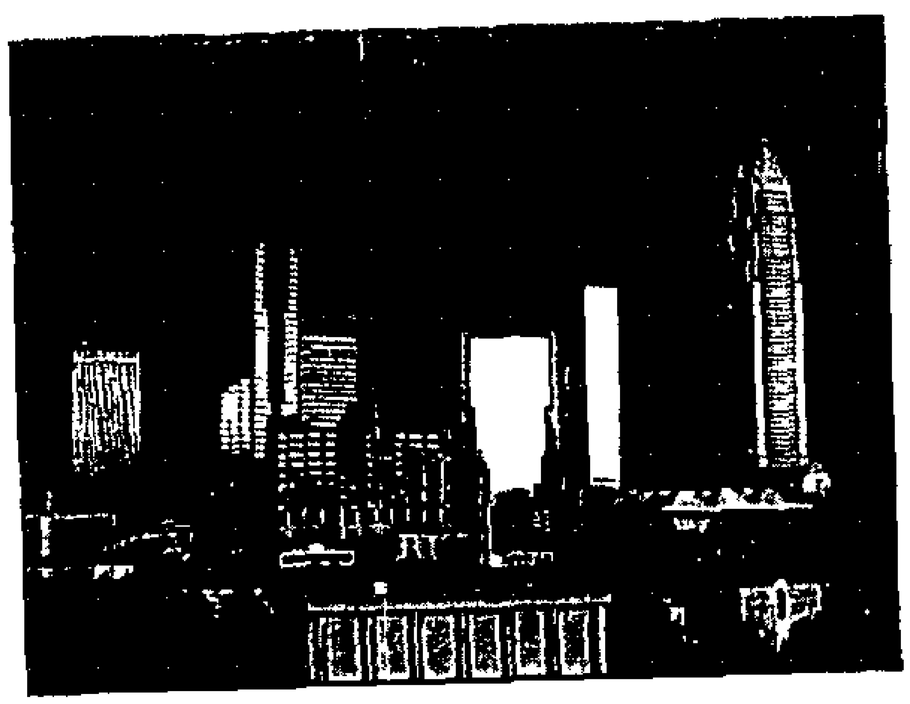
Indirect Benefits

- Reduced air pollution
- Compact urban form = less infrastructure
- Stronger Center City

Projected 2025 Daily Ridership







Corridor Capital Costs

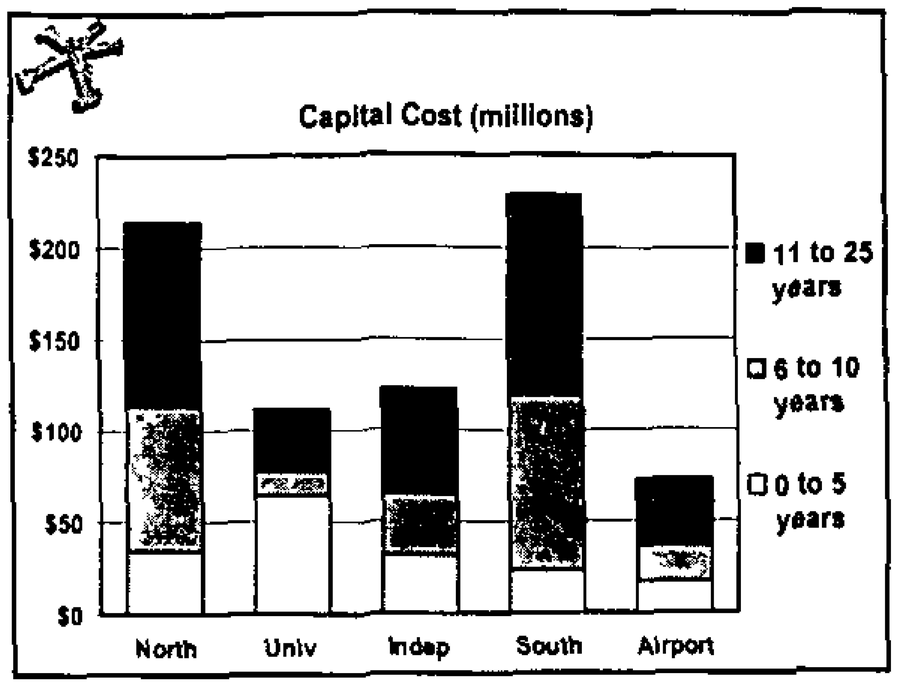
(millions)

	0-5	6-10	11-25	Total
North	34	79	101	$214
University	64	13	34	$111
Independence	32	33	58	$123
South	23	96	110	$229
Airport	17	19	37	$ 73
Total	$170	$240	$340	$750

Transit Plan Costs

($ Millions)

Year	0-5	6-10	11-25	Total
Corridors	170	240	340	$ 750
Other	17	12	45	$ 74
Total Cap	**187**	**252**	**385**	**$ 824**
Net O&M	40	57	150	$ 247
Total	**$ 227**	**$ 309**	**$ 535**	**$ 1,071**
Ann Cost	**$ 45**	**$ 62**	**$ 36**	**$ 43**



Capital Funding

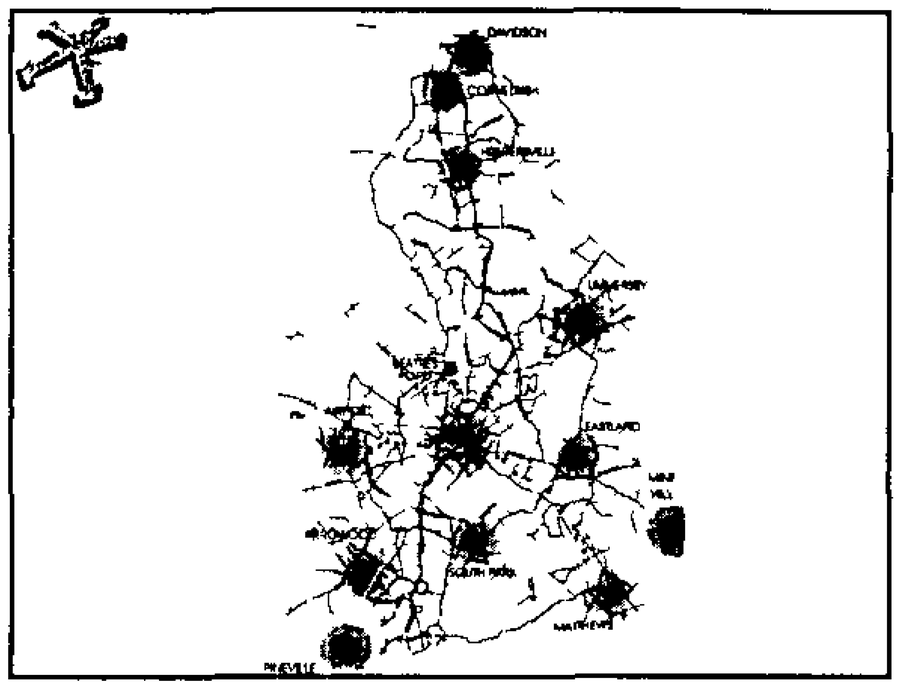
- 25% Local
- 25% State
- 50% Federal

***Not all local funds will be matched

***Potential for Federal BRT demonstration funding

Why Now?

- Will not achieve vision if don't start now
- Incremental investment reduces risk
- Must start land use changes now to focus development in corridors
- Make transit a real alternative now - build ridership


DAVIDSON
LAKE NONA
EASTLAND
SOUTH ORLANDO
MAITLAND
PINEVILLE

2025 Integrated
Transit/Land Use Plan
For Charlotte-Mecklenburg

Presentation to the

Mecklenburg Board of County Commissioners
Charlotte City Council

Town Boards of
Cornelius
Davidson
Huntersville
Matthews
Mint Hill
Pineville

and the

Charlotte-Mecklenburg Board of Education
Transit Planning Advisory Committee

Charlotte-Mecklenburg Government Center
July 14, 1998
12 00 -2 00 PM

2025 Integrated
Transit/Land Use Plan
For Charlotte-Mecklenburg

WELCOME — Tom Bush, Chairman, Board of County Commissioners

OPENING REMARKS — Pat McCrory, Mayor, City of Charlotte

INTRODUCTORY VIDEO

Boyd Cauble, Executive Asst. to the City Manager

THE TRANSIT/LAND USE PLAN

George Alexiou, Parsons-Brinckerhoff
Uri Avin, LDR International

Other Principals:
John Bonsall, McCormick Rankin International
Robert Cervero, University of California
Bill Martin, Barton-Aschman

MAKING THE PLAN WORK:
THE METROPOLITAN TRANSIT COMMISSION

Wanda Towler, Assistant County Manager

THE NEXT STEP — Pat McCrory, Mayor

QUESTIONS AND ANSWERS — Tom Bush, Board Chair

Benefits

By making the Centers and Corridors plan more likely to succeed transit will benefit the entire community not just those who can ride the system These community-wide benefits include

- reducing the total Vehicle Miles Traveled (VMT) in the region by increasing the number of locations accessible by transit
- making traffic management strategies more effective
- helping the region to meet federal air quality requirements
- shortening travel times by using exclusive rights of way not impeded by vehicular traffic
- providing housing and lifestyle choices less dependent on private auto use (largely unavailable now)

Costs

Capital costs to build the rapid transit system total $750 million over 25 years (see table)

Corridor Capital Costs

($ millions 1998 dollars)

	0-5	6-10	11-25	Total
North	34	79	101	**$214****
University	64	13	34	**$ 111**
Independence	32	33	58	**$ 123**
South	23	96	110	**$ 229**
Airport	17	19	37	**$ 73**
Total	**$ 170**	**$ 240**	**$ 340**	**$ 750**

** does not include I 77 shoulder improvement for buses to be funded under I 77 widening project

When capital costs are combined with costs for operations maintenance and other expenditures the total is $1 071 million over 25 years This represents an annual average total cost of less than $50 million (see table)

Transit Plan Costs

($ millions - 1998 dollars)

Year	0-5	6-10	11-25	Total
Corridors	170	240	340	**$ 750**
Other	17	12	45	**$ 74**
Total Cap	**187**	**252**	**385**	**$ 824**
Net O&M	40	57	150	**$ 247**
Total	**$ 227**	**$ 309**	**$ 535**	**$ 1,071**
Ann. Cost	**$ 45**	**$ 62**	**$ 36**	**$ 43**

Funding for this plan would come from a combination of local state and federal funding, though not all elements will be funded by all sources Mecklenburg County has received legislative approval to call for a referendum for a half-cent sales tax dedicated to transit Voter approval of such a referendum would serve as one source of local funding that could be used to help leverage state and federal funding

Phased Implementation

This plan recognizes that not all components of the plan can be implemented concurrently Phased implementation allows for necessary land use changes and maximizes the potential ridership for this improved transit system This phasing involves initiatives that can and should be implemented within the next five years, followed by those steps that should be undertaken from years 6 to 10 Finally, the plan provides those plan elements that would be implemented from years 11 to 25

Governance

The managers of the City of Charlotte Mecklenburg County and six towns have developed a plan to govern the proposed rapid transit system and the allocation of a proposed countywide half-cent sales tax to fund transit The creation of a Metropolitan Transit Commission (MTC) would provide for coordinated transit operations on a countywide

basis assuring the towns are well represented The elected bodies retain responsibility of approving long-range transit plans and the capital and operating programs

Conclusion

The Charlotte-Mecklenburg community must make appropriate land use and transit decisions now and must implement these choices consistently over the next two decades and beyond If not the dispersal of jobs and households into areas outside the corridors will continue and Charlotte-Mecklenburg will confront the same difficulties as other cities struggling to sustain their economic growth in competition with other jurisdictions unburdened by congestion Also public transit is a vital part of the transportation investments needed to support the Centers and Corridors vision

This report prepared for the Charlotte City Council the Mecklenburg Board of County Commissioners and the Transit Planning Advisory Committee by

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TABLE OF CONTENTS

EXECUTIVE SUMMARY i

TABLE OF CONTENTS iv

INTRODUCTION 1

THE PLAN 5

Alternatives and Evaluation 5
Overview of Land Use Recommendations 9
Overview of Transit Recommendations 12
Transit Technologies for Charlotte-Mecklenburg 14
North Corridor 17
University Corridor 21
Independence Corridor 24
South Corridor 27
Airport Corridor 30
Other Transit Improvements 33
Phased Implementation 35
Total Plan Costs 36
Funding 36
Further Considerations 37

GOVERNANCE 38

PLAN DEVELOPMENT 40

Technical Process 40
Public Involvement 41

CONCLUSION 44

FORCES THAT INDUCE SPRAWL IN THE CHARLOTTE-MECKLENBURG REGION

1 abundant developable land in all directions, no physical or political barriers to expansive growth

2 strong, growing regional economy

3 extensive radial and circumferential highway system no part of region is inaccessible

4 completion of the I 485 outer belt sections is a strong inducement to local land use change

5 sewer and water service is constantly expanding

6 adjoining counties are aggressively pursuing job growth

7 regional economy has much 'back office' work that can be located outside urban core closer to where labor pool (often women with families) lives

8 relatively easy development climate

the most important employment and mixed-use centers such as SouthPark and Ballantyne are located in these wedges This trend weakens the Centers and Corridors vision that makes the corridors the primary context for developments of regional significance The wedges do not differ sharply enough from that of the corridors to guarantee that development within the corridors will occur at concentrations that transit can serve more effectively

Each of the corridors has its own distinctive characteristics and its own set of opportunities and constraints with regard to coordinating land use and transit While the Centers and Corridors vision is simple in its concept, attaining it requires considerable effort

Mobility Over Time

Charlotte-Mecklenburg's future depends on its ability to nurture the economic vitality that has fueled the increases in population and jobs As development continues to expand within Charlotte-Mecklenburg it is crucial that the existing economic centers do not stagnate or decay

Any breakdown in the regional road system that hinders accessibility to and from Charlotte and other Mecklenburg County centers would spell trouble for the local economy

Modern telecommunications and networking allows many functions that support the center city to locate almost anywhere in the region As in other cities a worsening of traffic congestion could spur employers to seek locations in other nearby jurisdictions or entirely out of the region An economy centering more and more on banking and finance and its related support services increases the potential for extensive low-density sprawl Lack of an adequate transit system to link the region's economic centers with its labor force could isolate many Charlotte-Mecklenburg residents from potential employment opportunities

Travel Demand and Congestion

Traffic congestion has increased and is projected to continue to grow According to a 1997 study by the Texas Transportation Institute an index of roadway congestion ranks Charlotte s rate of congestion growth as 4th (nearly the worst) among the largest 50 US metropolitan areas (TTI, 1997)

Also incidents and delays monitored on interstates in Mecklenburg County indicate that on average, during morning peak travel periods, 25 accidents (or breakdowns) occur During evening peak periods 50 accidents occur Rapid transit provides a reliable alternative to tie-ups caused by incident-related delays

Mobility within Charlotte-Mecklenburg s five transportation corridors today ranks from fair to

WHO BENEFITS FROM RAPID TRANSIT?

By making the Centers and Corridors plan more likely to succeed transit will benefit the entire community, not just those who can ride the system These community-wide benefits include

- reducing the total Vehicle Miles Traveled (VMT) in the region by increasing the number of locations accessible by transit
- making traffic management strategies more effective
- helping the region to meet Federal air quality requirements
- shortening travel times by using exclusive rights-of-way not impeded by vehicular traffic
- providing housing and lifestyle choices less dependent on private auto use (largely unavailable now)

Rapid transit running within its own right of-way is a reliable efficient transportation alternative to the expected road congestion Rapid transit will give Charlotte-Mecklenburg an important tool to implement its Centers and Corridors vision in an orderly and confident manner

Successful transit systems serve a land use patterns that contain numerous common "origins and destinations ' Fulfilling the Centers and Corridors vision will give Charlotte Mecklenburg a development pattern that places a maximum number of potential riders within convenient access to the system

Closely coordinating land use decisions with transit policies increases substantially the chances of successful implementation of the Centers and Corridors vision The land use plan presented with the transit options preserves existing residential and employment areas while giving existing and future residents new opportunities to live in transit-oriented developments at densities similar to some of the older areas of the city These choices will be important to the future economic well-being of Charlotte Mecklenburg The community will continue to attract economic development based on high paying jobs while respecting the need to protect existing communities

Most of Charlotte-Mecklenburg especially its residential neighborhoods, is at relatively low-density often very suburban in its intensity and development pattern Outside of Center City even the employment districts have grown in a dispersed pattern, usually at low employment/acre intensities Making transit succeed in such a context is virtually impossible

One way to succeed is to adopt land use policies that will direct development into the corridors served by transit Employment especially office and service jobs should be more concentrated in key locations to create the common destinations for transit riders Creating higher density residential developments near potential transit stops will also likely increase ridership It is also necessary to coordinate land use policies for the corridors with those for I-485

The experiences of other cities constitute useful guidance for defining possibilities and provide examples of appropriate land use transit relationships Nevertheless, only if the specific needs and opportunities for Charlotte-Mecklenburg are met will transit be successful

THE PLAN

The transit/land use plan presented here will meet the specific future needs of Charlotte-Mecklenburg for the year 2025 and beyond It was developed through an intensive six month planning effort that entailed both technical analysis and public involvement (see "Plan Development" for overall study process) An important feature of this work is the coordinated planning of transit service and corridor land use to achieve maximum benefits in guiding and serving existing and future land development with transit investments This 2025 regional transit plan includes land use changes that maximize the potential ridership for the transit system, and a phased implementation program

The land use and transit analysis concentrated on five corridors within Charlotte Mecklenburg Each contains one or more rail right of-way an interstate or other freeway type arterial and at least one other major thoroughfare The framework of the plan includes rapid transit in each corridor with a specific transit alignment and technology, and station locations that best serve the land use in that corridor Each station is categorized as one of six possible development opportunities (see "Overview of Land Use Recommendations" for details)

The land use and transit recommendations of this 2025 plan are set in the context of continued improvement of the entire existing public transportation system and continued improvement of the regional highway system Improvements include lateral connections between the corridors and to key development hubs within Charlotte-Mecklenburg outside the corridors (e g South Park or areas near I-485) The rapid transit alignment and service proposed for each corridor also can be extended into adjacent jurisdictions in the future

Alternatives and Evaluation

The proposed plans that have emerged from this study are conceptual, representing the most promising and reasonable routes for the particular technologies Various route options were considered analyzed, and presented to the public at the corridor meetings The recommended alternative for each corridor was chosen from the most reasonable rail and BRT alternative (see 'Plan Development' for how the two alternatives for each corridor were developed and chosen) The recommended alternatives must be refined and tested in future studies

Descriptions of the plan features for each corridor include the recommended as well as alternative technologies and alignments that were considered In evaluating these alternatives key characteristics and measures both quantitative and qualitative were used to compare the alternatives The key statistics are summarized in the following charts and should be referenced when reviewing the alternatives and reasons for selecting the preferred alternative as described for each corridor The following statistics are shown

- The number of jobs within half a mile of transit stations for the trend and plan (mixed use) growth scenarios
- The number of housing units within half a mile of transit stations for the two scenarios
- The capital cost for each rapid transit alternative
- The capital cost per mile of alignment
- The number of riders projected to use the rapid transit system in each corridor

An overall evaluation table that compares alternatives within and across corridors is also shown to aid in understanding the selection of the preferred alternative No weighting is applied to the ranking of the indicators in the overall evaluation table It is important to realize that rapid transit is a long-term multi-generational investment and that a purely 'by the numbers" approach, even over a 25-year span shortchanges the big picture issues at hand such as the long-term economic vitality of the City County and Region

Overview of Land Use Recommendations

Current land use patterns within Charlotte Mecklenburg contain elements that both support and work against transit Factors supporting transit possibilities include the strong position of the Center City and the concentration of employment along many sections of the corridors The demand for higher density housing appears to be healthy but the supply is limited Some older areas of the community such as the South Boulevard area near Center City are attracting significant developer commitment (and investment) for infill and revitalization projects

Demographic trends also underpin a successful transit system As the population ages, there will be more demand for housing serving the specific needs of "empty nest" and retired households The housing types geared to this segment of the population can be built at densities conducive to support transit Such housing also can be fit easily into mixed use developments that make excellent transit stop locations More should be done to encourage such developments and guide them into the corridors rather than the wedges

Currently the number of areas in Charlotte-Mecklenburg suitable as "origins' for the proposed transit system is less than desirable One solution is a development pattern that fosters higher density residential growth at key locations within the corridors Strategic changes in the rezoning approval process and other incentives are recommended to encourage such locations

The Center City will remain the most significant "destination" Center City employment will increase 54% by 2025 from 58,800 to 90 300 jobs It therefore will continue to serve as the leading employment center in the region will attract thousands of commuters from all parts of the region and will account for some of the longest trips There is much room for expanding the Center City s economic base and increasing its housing stock Guiding growth to create transit supporting developments within the corridors should not distract from planning for a thriving and much expanded center city

Other ways to create a more transit friendly land pattern include

- Revise district plans, general development guidelines, and zoning district designations to make densities and land uses within the wedges and the corridors more consistent with the Centers and Corridors vision
- Develop a comprehensive land use plan for I 485 to control further siphoning of development (especially office development) from the corridors until they are adequately intensified for transit
- Within the corridors create new zoning districts for transit supporting multi-family and employment development on sites highly accessible to transit service To secure appropriately designed transit oriented developments such zoning would provide incentives and awards such as streamlined approval processes or parking reduction provisions
- Create similar incentives (including tax breaks) for redevelopment projects that incorporate transit facilities or provide other definable transit supporting features

It is crucial to make all reasonable efforts to adjust land use policies within the corridors to increase potential ridership Increased ridership creates operating revenue and lowers the per rider capital costs of the system

Following are specific land use policy changes that are recommended to foster a more successful transit system

Regulatory Modifications and Policy Tools

A variety of planning tools can be used to assist the City County and Towns implement the proposed Transit Plan The section 'Planning Tools' lists these tools and groups them under three categories modifications to land use requirements and regulations public sector initiatives and financing options and incentives

These tools provide the means to carry out the following broad policy changes that this transit/land use plan seeks

- Amend the 2015 Plan to specify transit station areas requiring special land use treatments to benefit from the consistency requirement referenced above
- Amend the District Plan General Development Policies to support the location of multi family housing within transit station areas and corridors The current policy encourages a dispersed pattern
- Create a Transit District (TD) and rezone proposed station areas and other significant corridor locations to the district The TD would likely have a range (e g , TD1, TD2 and TD3) to specify different levels of appropriate use intensities The typical application would be within a half-mile of station areas but TD zoning might also be justified for other important growth areas within the corridors (e g , office parks) served by an efficient feeder bus line
- By designating TDs on adopted zoning maps these areas would automatically provide for a significant range of uses, both residential and non-residential within these districts This would amount to providing locations for uses and intensities that today often require a lengthy and complicated rezoning process Such simplification of the development ground rules should prove a very significant incentive to transit supporting development in station areas TD is not a traditional district TDs in many ways are similar to the new Mixed Use Development District (MUDD) except that the TD would have a more distinct employment or residential emphasis

Station Area Land Use Recommendations

It is crucial to use development opportunities at transit station locations to their best advantage The location of such developments makes it easier for their residents or employees to choose transit rather than autos The transit system shown on the 2025 plan locates 97 potential transit station sites and assigns many of them a specific land use role Assigning each station a designation stems from examination of the existing land use context, the availability of developable land and the market attractiveness of each site for the various land use options that may be available

Station Types

A. Existing Development: These stations are simply shelters at designated stops in areas largely developed and within walking distance of residents or employees Parking will not be provided and no new development beyond some limited infill would occur near these sites In employment areas many of these stations are likely to be peak hour stations, with service perhaps limited to specified hours

B. Redevelopment These stations would provide existing communities access to the transit system and become a focus for neighborhood revitalization sparking further reinvestment in the local area Because they can be busy sites station areas may be good locations for stores or services currently not found in a neighborhood In areas with a percentage of extensive but increasingly low wage employment a Neighborhood Redevelopment Center at the station may be a key ingredient in transforming such areas into new residential communities

C. New Residential Development: These stations would serve new or expanding residential developments These areas usually would not have associated non-residential uses beyond village center-scale stores and services Some modest park-and-ride areas may be included but the bulk of ridership would likely be neighborhood residents A good proportion of station related development would be for multi-family housing

D. New Employment: These station areas typically have much vacant land with access to both the transit system and the road network and with good visibility making them prime potential employment sites Wherever the market allows, these sites should become primarily office centers, the employment use most effectively served by transit

PLANNING TOOLS

A. Candidate Regulatory Modifications for Transit Related Land Use

- Create a Transit District (TD) with the following features and incentives

  1. A wide range of permitted land uses (like the new MUDD zone) of appropriate intensity (e g up to 22 du/ac or 1 0 FAR)
  2. Administratively approved site plans
  3. Explicit and strong design quality standards
  4. Accessory apartments as of right allowed
  5. Revised parking standards less required specific maximums
  6. Reduced setbacks allowed (as in Mixed Use Development District)
  7. Transit friendly design standards applied to development (e g front door proximity to station provision of shelters)
  8. Density bonus for cluster development (as revised) with increased open space
  9. MF does not have to be within 400 feet of parking space or public road
  10. Reduced pedestrian friendly road standards
  11. Reduced transitional setbacks (to more appropriate dimensions)
  12. Sidewalks pedestrian connections and bike friendly design

- Require transit friendly design standards in all existing BP I 1 I 2 districts that still have substantial buildout capacity and are linked to transit feeder systems

- Review size of office uses permitted as of right in the I and B zones in favor of unlimited offices in the TD zone

B. Public Sector Initiatives, Incentives and Policies

- Revise current policies that disperse multi family (MF) development and direct it toward TD areas

- Target public improvements and facilities (infrastructure landscaping (schools post offices public buildings civic uses libraries churches etc to TDs)

- Assist with land assembly in TDs (and/or use density bonuses to achieve this effect)

- Streamline the permit process in TDs

- Provide in kind services for TD areas (e g market research marketing assistance increased police and other public services)

- Reduce or delay development fees for infill development in TDs

C. Financing Options and Incentives

- Make homes in TDs automatically eligible for energy efficient mortgages

- Establish employee incentives (e g cash payments in lieu of parking at work)

- Support development of daycares at transit stops (e g targeted low interest loans etc)

- Pursue creation of Municipal Service Districts (MSDs) in TDs

- Pursue Public/Private development partnerships in TDs

- Pursue Joint Development opportunities at stations

- Pursue state legislation to establish Tax Increment Financing

E. Mixed-Use Development (MXD): These are primarily "greenfield" sites whose location and size make its development market potential much greater than the station sites described above These MXDs can either be predominantly residential or predominantly office depending on location and market attractiveness Office developments do not require as much open space as residential neighborhoods and can concentrate development in mid rise buildings that would have limited residential appeal

F. Park-and-Ride Stations: Although every effort must be made to maximize the number of residents with easy pedestrian access to stations park-and-ride stations must be part of the overall system to serve potential riders who cannot walk or take feeder buses to the transit line The main role of such sites within the overall transit system is to intercept commuters who otherwise would continue past I-485 and add to traffic congestion These stations likely will not have much new development associated with them Park-and-ride facilities may be appropriate for small sites (e g , 2 to 5 acres) that are less attractive to office or residential developers or can be at sites to be held in reserve for later development Stations at or close to the end of the line are the most likely candidates for large park-and ride lots that can intercept motorists from outside Charlotte-Mecklenburg

The designations on the 2025 plan are only preliminary Changing circumstances (e g rezoning or ' premature development of surrounding properties as non transit supporting, low density development) would require reassessment of these sites as candidate stations Nevertheless, these designations show how transit can fit into a variety of contexts and serve existing as well as future development

Station Area Site Development Practices

New stations can be the catalysts and focal points for transit-supporting development at a variety of intensities Site development practices at these locations must differ from practices used for typical low-density developments

Developable land within 1/4 mile of these stations offers opportunity for convenient pedestrian access Development plans for this 1/4 mile area should maximize the number of people- whether employees or residents that can benefit from such access Areas up to 1/2 mile away are less convenient but also will benefit from proximity to transit stations Here too higher than usual densities are warranted

Proposed transit station locations in the less developed parts of Charlotte-Mecklenburg may include numerous large parcels totaling hundreds of acres To increase the efficiency of the transit system in these 'greenfield' areas clustering of housing or employment close to the stations should become conventional practice with less intense development located further away For areas beyond the 1/2 mile radius access will more likely be by feeder buses or short auto trips Within large transit supporting developments areas beyond 1/2 mile from a station also may be suitable for dedication as public open space made possible by tighter clustering around the station itself

While some parking may be needed at many of the stations, parking should not pre-empt space that can be leveraged to increase pedestrian access or provide sites for station related developments (e g such as shops dry cleaners and other small scale personal services that can capture trade from station users) Many larger station-oriented developments may also include such services as daycare for children of commuters or employees a situation that would further reduce the need for auto use

Overview of Transit Recommendations

The recommendations for rapid transit in each of the corridors are summarized below

- Bus Rapid Transit (BRT) is the best approach to serve needs through 2025 in the **Independence, Airport, and University** corridors Proposed alignments and service concepts have been identified that incorporate both exclusive busways and freeway shoulders to facilitate bus travel in

these corridors

- Rail technology can meet the year 2025 needs of the **North and South** corridors, but only if appropriate land use policies are put in place In the **South** corridor a detailed Major Investment Study (MIS) is now underway to evaluate in greater detail rail and bus options The proposed rail system in the **North** corridor also is complemented by some BRT improvements

A range of other transit improvements also are needed and are proposed to improve mobility between the corridors

North Corridor

Rail service is feasible in the North Corridor by 2025 if supporting land uses are implemented and agreement to share the existing railroad track can be obtained Rail service will also be complemented by BRT on I 77 Short and medium term improvements are recommended to attract appropriate development in key station areas

General Corridor Characteristics

- This is the longest of five corridors extending over 20 miles entirely within Charlotte Mecklenburg
- Upper/northern half of the corridor sparsely developed but under great development pressure
- Pending land use changes include new employment centers west of I-77 in Huntersville and a one million square foot mall near W T Harris Boulevard and I-77
- This corridor has the greatest potential to use transit to structure future growth patterns on a large scale
- Towns committed to transit as vital support for more efficient development patterns and community conservation goals

Land Use Actions

North of future I-485 along the NC 115/Norfolk Southern rights-of way, the North Corridor has numerous greenfield opportunities for significant residential and employment development South of future I-485 there are several opportunities to develop major employment hubs South of I-85 the aging employment areas on either side of North Graham Street comprise a sizable redevelopment opportunity

For rail to be a feasible transit option Charlotte and the three independent towns—Huntersville Cornelius and Davidson—must take full advantage of these land use opportunities especially those close to the proposed stations With rail, there are fewer stations than would occur with a bus option Consequently no development opportunities can be squandered These communities must implement zoning that will secure the intensities of development at the stations that create the ridership levels needed to justify the investment in rail

The following specific land use actions along the rail alignment will help generate these ridership levels

- In Cornelius, implement a mixed use development program to create a revitalized town center near the new station with a large multi-family component west of the railroad
- In Huntersville, use the stations at Caldwell Station Magla Mills, Verhoeff and Hambright to create concentrated transit-oriented developments, residential and employment at Caldwell Station and Magla Mills, residential at Verhoeff and primarily employment at Hambright
- Between future I-485 and the Derita area take advantage of the combination of rail service and numerous road connections to develop new employment sites west of NC 115 and to redevelop aging employment sites between Sunset Road and WT Harris Boulevard
- Spark interest in the redevelopment zone around the station at Craighead with public sector station area improvements zoning and financial incentives to attract new office development to replace the aging warehouse/distribution/ industrial with relatively low employment levels The easy access of this area to I-85 and transit is an asset that could be exploited by the revitalization program
- Although express bus service along I-77 is part of this transit plan, areas near the express bus stops should not be rezoned for office employment or multi-family Such rezoning will disperse rather than concentrate such development over the next few decades This would diminish the potential ridership for rail that concentrating growth along the rail line will secure

Key Rapid Transit Improvements

Rail

- Upgrade the existing Norfolk Southern (NS) railroad including replacement of most of the single track railroad ties and some ballast
- Construction of some siding track to enable trains traveling in opposite directions to pass
- Crossing protection at all at-grade public crossings
- Closing of all the numerous private crossings of the track, requiring construction of some minor new roads paralleling the track to maintain access to private properties
- At the south end a "transitway" (a combined exclusive railway/roadway that could be shared by trains and buses) from the City Center Transportation Center on Trade Street utilizing the old North Carolina Railroad (NCRR) corridor to 13th Street (the section between 2nd Street and 13th Street has recently been purchased by the City from the NCRR) then paralleling CSX track between the NCRR and North Graham Street to the join the O' Line where it crosses Statesville Avenue

BRT

- Low-cost widening and strengthening the outside shoulders on I 77 between just north of I-85 (Cindy Lane) and Catawba Avenue for use by buses in the peak hours when congestion is worst
- Improvements at key interchanges on I-77 where bus stations are proposed (e g , ramp widenings and signal modifications to give buses priority over traffic)
- Minor improvements on Statesville Avenue between the Center City and I 85 to facilitate bus movement
- Joint use of the transitway from the Charlotte Transportation Center to North Graham Street The transitway would provide a ready access into the heart of City Center for all bus routes from the north including the North and University Corridors

More extensive BRT improvements could be considered if subsequent studies prove that rail is not feasible

Key Transit Plan Features

- Corridor length – 22 9 miles
- Total number of rail stations – 14
- Number of rail stations served by feeder buses (including Center City) – 12
- Number of rail stations with park and ride facilities – 4
- One way trip time – 41 5 minutes
- Rail service frequency – 15 minutes in peak periods 30 minutes at other times
- Capital cost in 1998 dollars
  - Rail $165 million
  - BRT $49 million

Other Rail Options Considered

Alternatives were considered for accessing the Center City These included staying on the west side of the Center City to the proposed Amtrak intermodal transportation center at West Trade Street rather than entering the downtown along the NCRR corridor However this would require a transfer for most passengers to reach many destinations in the Center City but the capital cost would be reduced

A second alternative considered was to use the NS spur at Atando Avenue to access the NCRR corridor at the north end of the main railroad yard in the vicinity of North Tryon Street and 30th Street However this would require a very costly railroad bridge or possibly a tunnel to cross the yards

The BRT-Only Alternative

An alternative that used BRT only was considered BRT alone cannot operate efficiently or as cost-effectively on the adjacent

NC 115 or the railroad right-of-way However BRT on I 77 offers superior opportunities for high-speed bus service to serve development west of I-85 (and begin early implementation of improved transit service in the corridor)

Note that choosing rail over BRT along NC 115 reduces the number of possible stations This reduces the number of areas that can have higher intensity development within ½ mile of a station Consequently a more even distribution of development along the NC 115 corridor that is possible with BRT has to give way to a series of intensely developed areas around the rail station with more typical low density development in the areas away from the stations

Why Rail?

The corridor has unique advantages that make rail service feasible however the feasibility of rail is contingent upon a commitment to implement land use plans that focus higher levels of development than currently anticipated into the proposed station areas

- The North Corridor has the greatest potential to realize the Centers and Corridors vision This is because it is so undeveloped and because the three towns policies support transit oriented development patterns The greatest opportunity to shape future land use is along the rail corridor, paralleling NC 115, rather than the BRT option along I-77 where many of the interchanges are already committed to non-transit-oriented development The corridor's development potential also extends well beyond 2025

- The cost of implementing rail service in this corridor both total and per mile is significantly lower than any other corridor The potential for DMUs to share an upgraded track with freight trains (subject to negotiations with NS) is a unique opportunity that greatly reduces costs At approximately $7 2 million a mile, compared to a minimum of $17 million per mile for rail in the other corridors, it is actually lower on a per mile basis in some cases than busway options in other corridors Capital costs per rider are within the cost range typically funded by the Federal government

- Increasing numbers of residents in fast-growing Iredell County are traveling into Mecklenburg, on an increasingly congested I-77 The relief that the programmed widening of I-77 will bring will be short lived and congestion will return After the South and Independence Corridors, the North will have the next highest levels of congestion in 2025

- At public meetings in this corridor residents also stressed a very strong preference for rail over bus

Why BRT as well?

Rail improvements in this corridor are a long-term proposition The feasibility of rail also is contingent upon a commitment to land use changes beyond those currently planned for the corridor Therefore, short- and medium term BRT improvements are proposed Early transit improvements are needed to attract appropriate development in key future station areas These locations initially should be served with frequent bus service and improvement made to provide buses with a travel time advantage compared to highway travel for trips to and from Charlotte

Phased Implementation

First 5 Years

- Develop high quality bus stations at key development areas that are proposed to be served by rail in the future, served by express and semi-express buses

- Widen and strengthen shoulders on I-77 between just north of I-85 (Cindy Lane) and Hambright Road

- Implement minor improvements proposed for Statesville Road between City Center and I-85

- Joint use of the transitway from the Charlotte Transportation Center to North Graham Street

6-10 Years

- Begin upgrading and construction of rail facilities (service to start soon after 10-year period)
- Continue widening and strengthening the outside shoulders on I 77 between Hambright Road and Catawba Avenue

11 25 Years

- Complete the construction of rail facilities

Corridor Issues and Next Steps

The feasibility of rail transit in the North Corridor will depend on a number of factors, including

- Directing more of the growth currently forecasted for the northern part of the county into the corridor and specifically into station areas
- Beginning now to discuss use of the rail line with Norfolk Southern The issues to resolve require much negotiation Availability of the line and railroad right-of way is contingent upon agreement of NS and upon the outcome of current negotiations for renewing a lease for the North Carolina Railroad (NCRR) mainline between Charlotte and Raleigh

University Corridor

Bus Rapid Transit (BRT) is proposed to serve the University Corridor in 2025

General Corridor Characteristics

- Leapfrog development has created a dispersed pattern of major development centers such as UNCC, IBM University Research Park
- Although there are some "edge city" qualities, much of this development is at relatively low suburban intensities
- Several key locations could be suitable for higher intensity transit related employment and mixed use
- Areas closer to Center City need coordinated reinvestment revitalization

Land Use Actions

Much of the University Corridor is developed as typical low-density suburban employment campuses Overall densities within University Research Park are only 10 to 20 employees per acre Such a pattern is not conducive to transit since it disperses the potential ridership evenly across a large area rather than concentrate much of it in a small area within convenient walking distance to a station For transit to succeed in the University Corridor it is imperative that those opportunity sites that are readily accessible to proposed transit stations be developed with much higher employee per acre ratios

Office employment at up to 65 employees per acre is the predominantly recommended nonresidential land use for this corridor This density results in two to three story buildings served by surface parking, not mid-rise or high-rise buildings Transit can support taller buildings, and this type of development should occur in this area whenever possible

Because UNCC is a prime feature of this corridor, the areas near the campus that are prime residential development sites may support a housing market that can be slightly higher density (15 dwelling units per acre) than elsewhere in Charlotte Mecklenburg Because of its dispersed suburban characteristics, the University Corridor would benefit from an extensive feeder and shuttle bus system to serve the many developable sites and existing employment sites that are beyond convenient pedestrian access to the proposed stations

The following specific land use actions could increase ridership levels for the recommended BRT system

- Because it shares a right-of way alignment with the North rail line between Center City and I 85 the University Corridor shares the same redevelopment area as the North The revitalization initiatives for the Craighead Road station area would therefore also affect the BRT ridership
- Because the BRT alignment along Graham includes a bus only station at Atando, a similar if less ambitious revitalization program should be promoted at this BRT station, which will not benefit from the rail service
- The large vacant parcels near the future new City Boulevard (south of the Sugar Creek Road exit) and I 85 interchange are among the best parcels for development located in the corridor If pedestrians could cross I-85 from the park and ride station at IBM Drive, this site would effectively have two transit stops and a park and-ride facility making it one of the most accessible sites in the corridor Consequently employment development at densities up to 65 employees per acre is possible and desirable Because a new road will split this site higher intensity offices seem most suitable for the section east of the new road next to an existing employment center
- The two large areas on either side of Mallard Creek Church Road south of I-85 are suited for intensive mixed use development (MXD) with an emphasis on office development as the employment component of the MXD These employment areas should be developed at densities averaging

50 employees per acre, not the suburban densities of the University Research Park north of I-85 The housing component of these MXDs would average 12 dwelling units per acre, a density that fits with much of the nearby University-oriented housing market

- There are several large tracts east of UNCC along the future relocated Mallard Creek Church Road and south of University City Boulevard that can be the nucleus of a residential transit-oriented center Because of its proximity to the University, development densities of up to 15 units per acre may be successful

- Although not on the BRT line several large parcels along US 29 east of I-485 should be developed for multi family or moderate density single-family housing Direct feeder buses can tie these areas into the transit system to the west If BRT service were to reach into Cabarrus County in the future these sites could be part of the ridership for the extended services These sites should not have zoning that allows office development Office growth in the next decades should concentrate near the transit stations and not scattered further throughout this corridor

- Wherever possible new development occurring in the existing University Research Park and IBM area should develop at higher densities than currently allowed

Key Transit Plan Features

- Corridor length – 13 2 miles
- Total number of stations – 15
- Number of stations served by feeder buses (including Center City) – 8
- Number of stations with express service to Center City (no transfer required) – 5
- Number of stations with major park and-ride facilities – 2
- One-way, all stop trip time – 27 minutes
- Service frequency – 5 minutes in peak periods 10 minutes at other times
- Capital cost in 1998 dollars - $111 million

Key BRT Improvements

The BRT alignment and key associated improvements listed below take advantage of the I-85 corridor for the most direct access to the UNCC University Research Park area

- Share the transitway from the Charlotte Transportation Center to North Graham Street described under the North Corridor

- A busway on North Graham Street to I-85

- Low-cost widening and strengthening of the outside shoulders on I-85 (in conjunction with the use of existing lanes) to Mallard Creek Church Road for use by buses in the peak hours when congestion is worst

- An exclusive bus connection (flyover) to IBM Drive in the University Research Park just south of W T Harris Boulevard West to provide service to the employment centers in this area Buses could also exit at W T Harris Boulevard

- From I 85 buses operating on Mallard Creek Church Road (in mixed traffic with signal priority at key intersections) to UNCC and a terminal park-and ride lot at the intersection of NC 49 and I-485 Service also would be provided to University Place and the University Memorial Hospital

Other BRT Options Considered

BRT routes also were considered along NC 49, US 29 and the IBM spur Under the recommended plan regular bus service would also be provided along NC 49 and US 29 The IBM spur also should be acquired for potential future transit use (potentially bus or rail)

The Rail Alternative

Several potential rail alignments were developed and evaluated including the North Carolina Railroad (NCRR) line to UNCC and a combination of the NCRR and NC 49 The representative alignment selected used the Norfolk Southern (NS) "O ' Line to Derita the IBM rail spur right of way between Derita and IBM Drive in University Research Park, and new alignment to UNCC and I 485 While rail

transit is not considered to be as effective as BRT in serving the corridor within the 2025 timeframe, both the NCRR line (one of the options considered) should be protected as it provides the opportunity to provide regional commuter service into Concord/Kannapolis The IBM spur should also be acquired for potential future transit use, particularly if rail service is implemented in the North Corridor (which would pass through Derita)

Choosing rail over BRT would have made some intensification possible east of Derita and perhaps aided the recommended future intensification of sections of the IBM and University Research Park employment centers

Neither the preferred bus or rail alignment has any potential impact on redevelopment needs along North Tryon Street If the rail alternative to Center City had used the Atando Avenue spur some areas along North Tryon close to Center City may have benefited

Finally by not considering service along the existing NCRR, potential development and redevelopment sites near Old Concord Road will not benefit directly from rapid transit

Why BRT

BRT is the most cost-effective transit option to support development opportunities in the University Corridor

- As with the North Corridor the land use potential in the University Corridor is also significant beyond 2025 particularly along the BRT alignment While there are many jobs in this corridor, the land use pattern is already very dispersed and at low densities (a trend that, to a large degree, will continue even if some development is concentrated at future station areas) Concentrated employment centers such as First Union that now exist are not located along a roughly linear route that is necessary for effective rail service It is more amenable to bus service, which unlike rail, can easily move through a wide corridor to pick up riders
- The potential increase for both jobs and housing is greatest along the bus alignment
- Projected bus ridership for BRT is higher than for rail, while rail ridership is the lowest of all corridors Conversely, cost per rider for rail in this corridor is the highest

Phased Implementation

First 5 Years

- Joint use of the transitway from the Charlotte Transportation Center to North Graham Street
- Develop a section of the busway on North Graham Street
- Implement shoulder widening and strengthening on I-85 to W T Harris Boulevard
- Construct the bus only connection from I-85 to IBM Drive

6 10 Years

- Develop additional busway on North Graham Street
- Implement shoulder widening and strengthening on I-85 from Harris Boulevard to Mallard Creek Church Road

11-25 Years

- Complete the busway on North Graham Street

Corridor Issues and Next Steps

The feasibility of rail transit in the North Corridor will depend on a number of factors, including

- Directing more of the growth currently forecasted for the northern part of the county into the corridor and specifically into station areas
- Beginning now to discuss use of the rail line with Norfolk Southern The issues to resolve require much negotiation Availability of the line and railroad right-of-way is contingent upon agreement of NS and upon the outcome of current negotiations for renewing a lease for the mainline between Charlotte and Raleigh

Independence Corridor

Bus Rapid Transit is the preferred transit option for the Independence Corridor in 2025

General Corridor Characteristics

- Continuous intensively developed strip commercial environment along most of Independence Boulevard
- Numerous residential neighborhoods abut the strip commercial developments
- Planned and funded reconstruction of Independence Boulevard makes possible quick implementation of transit
- Greatest opportunities for transit-oriented development are in the Town of Matthews

Land Use Actions

As one of the developed corridors most opportunities for station related new development are limited primarily to the outer reaches of the Independence Corridor The aging shopping centers at the north end of the corridor offer some redevelopment opportunities, but most of this strip commercial area has parcels with shallow depths

Specific land use actions needed to support transit in this corridor include

- Using sites near I-485 with park and ride as well as transit access to support a substantial employment node
- Create a moderate density residentially centered station at the Crestdale community bringing more housing choices to Matthews in accord with that community s planning policies
- Use transit in Matthews town center to attract new business and employers some of which would be served by related feeder lines
- Add non retail employment at the Sardis Road North Station
- Add multi family housing on remnant vacant sites or redevelopment sites along this corridor from the Krefeld station northward
- An exception to the narrowness of the strip commercial along Independence Boulevard is in the middle of the corridor near the Independence Square station The city should initiate zoning and incentives to redevelop these sites as MXDs

Key BRT Improvements

- Shared use of a transitway on the NCRR right-of-way from the Charlotte Transportation Center to 2nd Street (which also would be used by transit vehicles in the South and Airport Corridors)
- Leave the transitway at 2nd Street and on street (mixed traffic) operations on 2nd Street McDowell Street and Stonewall Street to reach Old Independence Boulevard at Midtown Square
- Create bus-only curb lanes on Independence Boulevard (near CPCC) to Independence Boulevard (US 74)
- Develop a two-lane busway in Independence Boulevard to Krefeld Drive (near Crownpoint) The busway facility would utilize, and in some parts replace, the High Occupancy Vehicle (HOV) lane that is currently under construction
- At Krefeld Drive the busway would leave Independence Boulevard and follow new alignment behind Crown Point to enter the CSX right-of-way where it crosses Sardis Road The busway would continue in the CSX right-of-way to I-485

Key Transit Plan Features

- Corridor length – 13 3 miles
- Total number of stations – 22
- Number of stations served by feeder buses (including Center City) – 4
- Number of stations with express service to Center City (no transfer required) – 5
- Number of stations with major park and-ride facilities – 2
- One way, all stop trip time – 33 minutes
- Service frequency – 5 minutes in peak periods 10 minutes at other times
- Capital cost in 1998 dollars - $123 million

Other BRT Options Considered

The options of staying on Independence Boulevard to I 485 or moving over to Monroe Road via Conference Drive and then into the CSX railroad ROW also were considered Under the recommended plan, regular bus service would continue along Independence Boulevard to I-485 and also be provided along Monroe Road A service spur also would be provided to Eastland Mall

Continuing the BRT on Independence Boulevard past Krefeld Drive would have resulted in less transit-oriented employment and residential opportunities in the Matthews area Areas along Independence Boulevard that would gain service are largely strip commercial shopping centers, less desirable than office employment as a transit oriented land use

The Rail Alternative

Several potential rail alignments were developed and evaluated including using the CSX ROW from Matthews to the north end of Center City (and from there the proposed NCRR transitway to the Transportation Center) This alternative would have served some additional existing employment along Monroe Road, but would eliminate the redevelopment opportunities along Independence Boulevard It also would have greater adverse impacts on existing residential neighborhoods than the Independence Boulevard alternative

The representative alignment selected follows the identical alignment proposed for the BRT plan This would provide a very similar level of service to a busway but at a much higher cost

To the extent practical the busway should be designed to allow a possible conversion to rail after 2025 The CSX rail corridor also should be protected for possible longer term rail transit use

Why BRT?

The partially constructed and planned extension of the HOV lane in Independence Boulevard offers a unique and cost-effective opportunity to implement BRT in this corridor to meet transit needs through 2025

- Whether for bus or rail transit (which would follow identical alignments) the Independence Corridor has high potential for rapid transit It has high levels of both jobs and housing

- Independence Boulevard was recently reconstructed from the Brookshire Freeway to Eastway Drive with a barrier separated HOV facility Programmed improvements from Eastway Drive to Albemarle Road include a continuation of the HOV facility The width of the HOV lane allows for two-lane, two-way bus operations These improvements are already committed and funded greatly reducing the cost of busway in this corridor

- The projected ridership is higher for BRT than for rail, and the capital cost per rider is much less than for rail

- The proposed alignment is "technology-neutral" (i e , the initial busway alignment can be converted to rail if ridership demand warrants after 2025) Development that occurs around busway stations will be appropriately located to be served just as effectively by rail

Phased Implementation

First 5 Years

- Create bus-only curb lanes on Old Independence Boulevard to Independence Boulevard
- Develop a two-lane busway in Independence Boulevard to Norland Drive

6-10 Years

- Continue the busway in Independence Boulevard to Krefeld Drive

11 25 Years

- Complete the busway from Krefeld Drive to I-485

Corridor Issues and Next Steps

This corridor provides an opportunity to test community acceptance of bus rapid transit A decision on whether to continue the HOV lane or switch to busway must be made soon

South Corridor

Rail Transit is the preferred transit option for the South Corridor

General Corridor Characteristics

- Old low-density strip commercial and employment uses represent predominant pattern of development along South Boulevard
- South End area is attracting new reinvestment
- Transit could serve numerous residential neighborhoods to the east and extensive new employment areas west of South Boulevard
- Main transit-oriented development opportunities for new development are in Pineville
- Express feeders could tie transit in the corridor to major development centers in SouthPark and Ballantyne

Land Use Actions

The areas adjacent to the rail alignment in the South Corridor are almost entirely developed Consequently there are few opportunities to create new employment or residential station-oriented developments

More than half the length of this alignment (Center City to Arrowood station) passes through potential redevelopment sites Many of these sites are small old strip commercial properties fronting on South Boulevard Others are small employment properties extending from South Boulevard to South Tryon Street and beyond in the upper northern third of the corridor Because such a mixture of small properties makes land assembly difficult redevelopment will likely remain incremental and somewhat randomly timed, even around the new station areas

The upper section of the corridor—Morehead to Atherton Mill—has recently benefited from an influx of redevelopment interest and investment, a trend that needs to extend farther to the south using zoning and other incentives
Among those few opportunities to secure relatively large sites for transit oriented development are

- A 14 acre undeveloped site is available between South Tryon Street and the rail tracks north of Clanton Road The city should seek to have this site developed for office employment in a way that could encourage investment in other nearby properties between the Clanton and the Remount stations
- Multi-family housing is the preferred use for a site west of South Boulevard near the Archdale station Such development would complement other multi-family housing nearby to help create ridership in addition to potential commuters to the employment centers to the west
- Another multi-family site could be developed south of Westinghouse Boulevard near I-485 Similar to sites near the Archdale station, such residential development could generate some off-peak ridership However, this site also might be the only reasonable chance to establish a sizable park-and ride lot for South Corridor transit Such a lot could have direct access from I 485 and the rail alignment could shift farther west of South Boulevard Because such a park-and-ride lot could capture I-77 and I-485 commuters as well as area residents, this site should be reserved for park-and-ride if the alternative alignment is selected
- There are few development sites in Pineville close to the proposed alignment Here too, shifting the alignment to the west could locate a station at NC 51 west of the town center that could serve both employment and multi-family housing

Key Rail Improvements

The description (and cost estimate) for the rail system in this corridor assumes the construction of a two-track light rail system from the Center

City to the Town of Pineville Key improvements that will be required include

- The replacement of the existing track from the Center City to Tyvola Road with two new tracks for the rail system The rail service would have exclusive use of the railroad ROW that is no longer used for freight operations In addition the rail service would share the tracks with the Vintage Trolley that will operate from Tremont Avenue to the Center City
- From Tyvola Road south to Pineville the rail system would share the ROW with the existing Norfolk Southern freight operations This requires relocating the existing freight operations on a newly constructed track west of the existing track and constructing a new track east of the existing track This provides for one track for freight operations and two tracks for LRT
- Crossing protection at all public crossings
- Constructing grade-separation crossings at Tyvola Road and Woodlawn Road
- Construction of a new bridge over I-485 parallel to the existing railroad bridge

Key Transit Plan Features

- Corridor length – 10 3 miles
- Total number of stations – 17
- Number of stations served by feeder buses (including Center City) – 4
- Number of stations with major park-and-ride facilities – 3
- One way all stop trip time – 24 minutes
- Service frequency – 15 minutes in peak periods 30 minutes at other times
- Capital cost in 1998 dollars $226 million

Other Rail Options Considered

In addition to the recommended rail system using the existing railroad ROW, an option was considered that uses the railroad ROW from the Center City to Tyvola Road and then shifts to the South Boulevard ROW from Tyvola Road to Pineville, with the purpose of avoiding the shared operations with the existing freight service south of Tyvola Road This should be considered in future studies In addition DMU options that reflect the same two alignment options as the LRT option also can be considered

The alternative to shift the rail service alignment south of the Sharon Lakes station to the west side of Pineville would create significant residential and employment development opportunities in much of the large undeveloped area west of Sugar Creek on either side of NC 51

The BRT Alternative

BRT alternatives also were considered One alternative would have used the existing railroad ROW from the Center City to Pineville (the same as the recommended rail alternative) This is a viable option (and must be analyzed in the recently initiated Major Investment Study) but does not provide the same land use benefits as rail

Another BRT option used a combination of the railroad right-of-way and I 77 The BRT alternative to leave the railroad right of way at Tyvola Road and move to I-77 would provide more direct service to the employment areas either side of I 77 but at the expense of taking service away from the extensive residential areas just east of South boulevard This alternative also would eliminate transit oriented development possibilities in Pineville Any alignment using I-77 does not support the development opportunities for the corridor

Why Rail?

This corridor has characteristics and advantages that make both rail, particularly light rail transit and busway systems feasible Based on the analysis conducted during this study and the input from the public rail transit service is recommended in this corridor

- Of all the corridors, South Corridor has the highest number of jobs close to stations

Land use redevelopment opportunities are somewhat limited along the corridor and are confined to specific locations rather than being widespread therefore their development at high intensities is more critical and is more consistent with rail service rather than with a bus mode

- The projected ridership for the rail system is strong
- The existing redevelopment of the South End area of the corridor is oriented around the existing railroad corridor and the rail system is the most compatible with the urban design characteristics of this area Buses would most likely need to be grade separated at major intersections because of their highly frequency at peak hour, however trains, which run less frequently, would likely not need grade separation at major intersections Keeping transit at grade is very important for neighborhood access, urban design, and reducing the "barrier" effect of transit
- The railroad rights-of-way is available from the Center City to Tyvola Road and subject to negotiations and can be shared with the existing freight operations from Tyvola Road south to Pineville
- While both the busway and rail alternatives are compatible with the Vintage Trolley that will be operating in the corridor rail transit -- particularly LRT -- offers both the most operationally efficient and cost-effective alternative Both the LRT and Vintage Trolley can operate on the same tracks and share stations
- The rail system in this corridor has the lowest capital cost rail per rider of any of the five corridors Capital costs per rider are also within the range of rail projects that typically receive federal funding
- This corridor is projected to suffer the worst congestion of the five by 2025
- There is strong community support for a rail system as identified during the public meetings conducted during this study

Phased Implementation

First 5 Years

- Run express bus service on I 77 (without improvements)

6 10 Years

- Construct the rail improvements and begin rail service to Tyvola Road

11-25 Years

- Complete the rail service to Pineville

Corridor Issues and Next Steps

While rail transit appears to best satisfy the objectives for the South Corridor, the final transit technology decision for that corridor must be deferred until the detailed Major Investment Study (MIS) that was recently initiated has produced a consensus on a locally preferred modal alternative It is anticipated that federal funding will be necessary and sought for major rapid transit investments in the South and other corridors Federal regulations require an MIS to produce a consensus on a locally preferred modal alternative and alignment, and establish final design concepts and costs At that time all reasonable technologies and alignments must be evaluated regardless of the findings and recommendations of prior studies Therefore all the options both rail and BRT identified as part of this study and possible additional ones must be revisited in an MIS

Airport Corridor

Within the 2025 timeframe BRT is preferred to rail

General Corridor Characteristics

- Major opportunity to link Center City and the Airport
- Proximity to the Center City limits potential for edge city development opportunities
- Wilkinson Boulevard revitalization needs are extensive
- Area west of the airport and future I-485 could become important transit oriented employment center

Land Use Actions.

Air traffic impacts such as noise and height restrictions limit the land use opportunities in much of the Airport Corridor Residential development is therefore somewhat constrained

Proximity to the Center City also diminishes the chance it can attract edge city development unlike some airports located farther from their related central business district have done elsewhere

Nevertheless, there is much vacant and underused land in this corridor that transit can help revitalize

- Wilkinson Boulevard has several transit stops and there is opportunity to tie revitalization possibilities to transit access
- To encourage area wide reinvestment, redevelop Queens Gate as a community-oriented public service, educational and commercial center
- Recruit small startup businesses that can benefit by being close to both the Airport and the Center City
- Coordinate future Airport development including employment, lodging and related facilities such as satellite parking with extension of the transit system
- Reserve through zoning and other land use polices a large regional employment growth center west of the future I-485 Extend transit to tie this center to the Airport and Center City

Key BRT Improvements

- Shared use of a transitway on the NCRR right of way from the Charlotte Transportation Center to 2nd Street (which also would be used by transit vehicles in the South and Independence Corridors)
- Leave the transitway at 2nd Street, and on-street (mixed traffic) operations on 2nd Street, the Brevard and College Street one-way pair, to Carson Boulevard
- A bus lane/busway on Carson Boulevard to the main NS corridor and busway along the south side of the NS Row over I-77 and a flyover over the NS tracks to enter Wilkinson Boulevard at Suttle Avenue
- A busway along Wilkinson Boulevard to Morris Field Drive This requires taking a traffic lane in each direction but traffic forecasts indicate that this is acceptable The busway would be separated from the general purpose lanes by rumble strips and planted medians where feasible
- A busway along Morris Field Drive and Josh Birmingham Parkway to enter the Airport road system to service the terminal
- On-street mixed traffic operations from the Airport to Wilkinson Boulevard and then west to the future I-485 and development immediately west

Key Transit Plan Features

- Corridor length – 11 3 miles
- Total number of stations – 17
- Number of stations served by feeder buses (including Center City) – 2
- Number of stations with major park and ride facilities – 2
- One-way, all-stop trip time – 26 minutes
- Service frequency – 15 minutes in peak periods 30 minutes at other times
- Capital cost in 1998 dollars - $73 million

Other BRT Options Considered

Alternative busway alignments were considered at both ends of the corridor either as initial low cost options or long term possibilities At the Airport end, one option would be to stay on Wilkinson Boulevard all the way to Little Rock Road or use Boyer Street and Old Dowd Road Continuing BRT along Wilkinson Boulevard instead of Morris Field Road and the Parkway would increase direct service to additional redevelopment sites along Wilkinson between Morris Field and Little Rock At the Center City end, buses could initially use the general purpose lanes on I-277 to connect from Wilkinson Boulevard to the Center City

The Rail Alternative

Several potential rail alignments were developed and evaluated including use of the NS ROW with the connection to the Airport terminal via a people-mover included in the Airport's master plan The alternative to use the NS right-of-way instead of Wilkinson Boulevard would have sharply diminished the potential of rapid transit to stimulate redevelopment in this corridor The 45-foot separation required between active freight and LRT tracks also makes this a costly option NS also proposes to install additional tracks in the existing right-of-way

The representative alignment selected follows almost the identical alignment proposed for the BRT plan This would provide a very similar level of service to a busway but at a much higher cost Nevertheless to the extent practical the busway should be designed to allow a possible conversion to rail after 2025

Why BRT?

The BRT is the most cost-effective alternative for this corridor

- The Airport corridor's indicators like the University s clearly suggest that BRT be the transit mode within this Plan s timeframe Both job and housing numbers within the station areas are comparative low he Airport corridor's indicators like the University s clearly suggest that BRT be the transit mode within this Plan s timeframe Both job and housing numbers within the station areas are comparatively low
- The cost per mile for rail construction is the highest of all corridors It is also more than double the cost for BRT
- The projected ridership levels are higher for BRT than for rail Therefore capital costs per rider for BRT are much lower than for rail
- The proposed alignment is technology-neutral i e , the initial busway alignment can convert to rail if station area development and ridership demand warrants after 2025 Longer term significant new employment opportunities west of the airport could provide sufficient ridership to warrant a transition to more intensive transit modes

Phased Implementation

First 5 Years

- Develop a busway along Wilkinson Boulevard from Suttle Avenue to Morris Field Drive

6 10 Years

- Develop a busway along Morris Field Drive and Josh Birmingham Parkway to the Airport

11 25 Years

- Complete the bus improvements from the Airport to I 485 (Tiger Creek)

Corridor Issues and Next Steps

The key issue for the Airport Corridor is to coordinate the improvements on Wilkinson Boulevard to support to the maximum extent possible redevelopment efforts in the area

Other Transit Improvements

The primary focus of the Plan is on the rapid transit corridor facilities However, this is only one element of the total plan To provide improved transit service to all the citizens of Mecklenburg County other transit improvements also will be necessary It is essential that improved transit service be initiated throughout the County including within the corridors as soon as possible Transit use will only increase if service improvements lead ridership growth

To do this a series of improvements to the existing transit system is recommended for implementation in the first five years of the Transit/Land Use Plan (Some of these improvements are outlined in the Charlotte Department of Transportation's Five Year Plan) These include

- extended service hours to allow people to travel earlier and later on the system each day
- new transit hubs at South Park and Eastland malls, the Arrowood area Charlotte Douglas International Airport and the University City and Beatties Ford Road areas These hubs provide neighborhood-based service to area jobs shopping centers and cross town connections
- increased cross-town service linking the corridors and the new transit hubs so as to make it easier to travel from one suburb to another without having to travel through the Center City
- provision of all day, two way all stops service that follows as closely as possible the ultimate rapid transit alignments in each corridor This service aims to address trips destined to the Center City and between the suburbs and new job locations
- increased peak-period express service in each corridor and in the areas between the corridors
- new local service in each of the towns of Huntersville Davidson Cornelius Mint Hill, Matthews and Pineville to facilitate travel within the towns and to act as feeder service to the new corridor all-stops services
- new local service in the currently unserved outer areas in Charlotte
- increased specialized transit service for the disabled and elderly and number of disabled-accessible buses
- expanded vanpool and carpool ride sharing programs particularly in areas outside the corridors
- replacement of aging bus fleet

The Plan also provides additional funding in the 6 to 10-year and 10+ time periods for further service improvements of this type throughout the County which will be in addition to the specific corridor capital improvements In other words this is intended to be a balanced plan which allocates substantial resources into a variety of transit services in addition to the corridors

Roads Strategy

A healthy transportation system gives citizens a variety of ways to travel about the region Charlotte Mecklenburg's approach is to continue building and widening roads where appropriate while at the same time improving and expanding transit, pedestrian, bicycling, and ride-sharing alternatives

The Mecklenburg-Union Metropolitan Planning Organization (MUMPO) plans roads and transit as well as other modes of transportation The MUMPO includes representatives from Mecklenburg and Union Counties all seven municipalities in Mecklenburg County, and Stallings, Indian Trail and Weddington in Union County The MUMPO also includes State representation and is the official pipeline for federal transportation funds Both road and transit plans are part of the comprehensive transportation plan for the area the MUMPO adopts The member governments and the State ratify these plans

Charlotte has invested significant funds in construction of roads over the past twelve years Proceeds from bonds authorized in 1987 1988 and 1996 have totaled nearly $175 million not including bond money used for other projects such as sidewalks

Significant State efforts have included the Interstate roadways in Mecklenburg the outer belt (I-485), Independence Boulevard reconstruction and numerous smaller, but significant road widenings, including Harris Boulevard, Albemarle Road and Westinghouse Boulevard

HOV Lanes

The region s 2015 Transportation Plan includes high occupancy vehicle (HOV) facilities on I 77 to the north and south as well as on US 74 East

HOV lanes are a proven transportation solution with widespread application throughout North America They increase the overall person-trip capacity of a freeway system when compared to general purpose lanes and are part of a roadway strategy that complements the proposed rapid transit plan HOV lanes typically serve long distance commuters travelling to a central business area For this market they provide good service, but do not provide a true rapid transit service since there are limited intermediate stops and usually no reverse direction or off peak service They do not provide therefore, transit service for the majority of commuters and have little or no potential to stimulate or support land use intensification

There may be opportunities where HOV and bus rapid transit may be co located For example, the presence of an HOV lane may provide an opportunity to provide bus priority service in a corridor prior to the construction of a separate busway Similarly HOVs could use a section of busway so long as this does not degrade the level of transit service

The adopted transportation plan for the year 2015 identifies roadway construction and improvement needs totaling more than $1 1 billion Of these needs, roughly $178 million are funded over the next seven years leaving a shortfall of $870 million for the state and $33 million in the balance of the MUMPO The following map shows the projects within Mecklenburg County that have been constructed are under construction or are funded between 1990 and 2005

Charlotte has done an admirable job keeping pace with city road needs The State however has lagged behind in the amount of funding required to keep pace with needs on State system roads A recent review of the top unfunded roadway needs in Mecklenburg County showed that most were on the state system Given that need, the Charlotte City Council approved an $88 million bond referendum for Fall 1998 that will fund 11 projects on State system roads These projects are also shown in the following map

In keeping with the local commitment to make necessary improvements to the area roadway system, the City and State are investigating opportunities for increased funding for road maintenance and other possibilities for additional construction funding Options might include re allocation of currently available funds or exploration of new funding sources

Phased Implementation

An extensive transit system requires many years to become fully operational Careful technical analysis must proceed construction of each line Furthermore, a community never has the funding to build such a system all at once Public commitment to carry out the plan in full must be sustained for many years Early if only modest successes must be readily apparent to secure this long term commitment

This transit/land use plan respects these realities and shows how to phase in both the technical options and the land use development recommendations This phasing will secure initial benefits without exceeding available funding or prematurely installing options before they are feasible and effective

The following maps show how the plan has been divided into short term (0 5 years) mid term (6 10 years), and long-term (11-25 years) initiatives These are summarized in more detail previously in the specific corridor plans

The immediate opportunities for implementing transit improvements throughout the county including the wedges between the corridors are

- Develop transit hubs at economic centers
- Expand hours of operation of existing bus service
- Add local and express bus routes
- Implement local bus service in the Towns
- Expand community services for special populations such as senior citizens and people with disabilities
- Expand carpool and vanpool programs
- Add cross-town service
- Provide feeder bus service to connect the wedges with the corridors

Total Plan Costs

The total 25 year cost in 1998 dollars to build the transit system is $824 million This includes $750 million in capital costs for the five corridors and $74 million for other transit improvements over the 25 year period

Corridor Capital Costs

($ millions 1998 dollars)

	0-5	6-10	11-25	Total
North	34	79	101	**$214****
University	64	13	34	**$ 111**
Independence	32	33	58	**$ 123**
South	23	96	110	**$ 229**
Airport	17	19	37	**$ 73**
Total	**$ 170**	**$ 240**	**$ 340**	**$ 750**

** does not include I 77 shoulder improvement for buses to be funded under I 77 widening project

Capital costs combined with costs for operations maintenance and other expenditures total $1 071 million over 25 years This represents an annual cost of about $43 million

Transit Plan Costs

($ millions - 1998 dollars)

Year	0 5	6-10	11-25	Total
Corridors	170	240	340	**$ 750**
Other	17	12	45	**$ 74**
Total Cap	**187**	**252**	**385**	**$ 824**
Net O&M	40	57	150	**$ 247**
Total	**$ 227**	**$ 309**	**$ 535**	**$ 1,071**
Ann. Cost	**$ 45**	**$ 62**	**$ 36**	**$ 43**

Funding

Funding for this plan would come from a combination of local state and federal funding though not all elements will be funded by all sources Local funding will play a predominant role particularly operations and maintenance of the service However some capital expenditures would be eligible for federal and state matching grants

Based on current legislation and the experience of several recent projects with federal funding, a realistic scenario for eligible federal participation projects would be 25% local, 25% State and 50% Federal funding

In 1997 the North Carolina General Assembly granted Mecklenburg County the authority to levy a one-half percent public transportation sales and use tax If the citizens approve the tax the net proceeds will be distributed among the County and any municipalities that operate a public transportation system

The State of North Carolina has adopted a Transit 2001 Plan that includes support for local rapid transit systems The State also has indicated a willingness to fund up to 25% of the capital cost of such systems (though as yet no funding has been appropriated)
If accepted by Congress it is reasonable to expect that federal funds could account for 50% of the total capital cost of an eligible project However federal funding is limited and realistically only a portion of the capital projects included in the 2025 Plan can be expected to attract federal matching funds

To be considered for federal funding requires completing a federally mandated Major Investment Study (MIS) to select a Locally Preferred Alternative (LPA) for a corridor This process has been initiated for the South corridor which has already received Federal funding for the study That study in addition to selecting the LPA (which must consider all reasonable alternatives regardless of the recommendations in this report) must address feasibility criteria specified by the Federal Transit Administration (FTA)

These are referred to as "New Start" criteria, and a favorable rating on these, in comparison to other competing projects seeking federal funding throughout the country, can lead to the project

being recommended a New Start by the FTA to Congress for discretionary funding Criteria include

- level of mobility improvement provided by the project
- environmental benefits (specifically air quality and energy conservation)
- transit operating efficiency
- cost effectiveness
- extent to which land use policies are supportive of rapid transit, and
- local financial commitment

Further Considerations

The transit/land use plan also recommends the community take actions that will keep open rail transit options in the post-2025 period

Governmental agencies, in cooperation with the railroad companies, should protect existing railroad rights-of-way, ensuring no encroachments occur Although the plan foresees possible rail transit in only two of the five corridors by the year 2025, rail in other corridors may be a possibility beyond 2025

In corridors where the BRT plan relies on the use of freeway shoulders, better facilities may be necessary or desirable after 2025 In that respect, all rail corridors in the region should be viewed as valuable and irreplaceable resources for future transportation needs In the longer term, the rail corridors also offer excellent opportunities for regional commuter service into the adjoining counties

GOVERNANCE

Metropolitan Transit Commission

In 1997, the N C General Assembly approved a bill allowing Mecklenburg County voters to increase the sales tax a half-cent dedicated to improving transportation If voters approve the increase, it would add roughly $50 million annually to Charlotte-Mecklenburg's resources for designing and developing busways, passenger rail and other transit alternatives

If the half-cent sales tax for transit is approved by voters, an organization would be established to manage that revenue and oversee transit operations The recommendation from City, County, and Town managers is to form a Metropolitan Transit Commission (MTC) Under this proposal, an eight-member body would plan and oversee future transit service countywide These are the key elements of that recommendation

Guiding Principles

- Provide for coordinated transit operations on a countywide basis
- Assure that Town interests are represented
- Retain for the elected bodies the responsibility of approving long-range transit plans and the capital and operating programs that support these plans
- Ensure that public involvement is a component
- Be flexible and expandable so jurisdictions outside Mecklenburg County could become part of the system

Responsibilities of the MTC

- Develop and periodically update a long-range transit plan for Mecklenburg County
- Prepare biennial transit operating programs and five-year capital programs for all transit services in the County
- Conduct a public involvement program during the development of the long-range transit plan, biennial transit operating program, and five-year transit capital program
- MTC would not own assets or receive federal grants, these powers would reside with the County and Municipalities

Composition of the MTC

- Eight members (one from each participating Municipality and the County) would comprise the MTC This number would expand if additional jurisdictions become part of the transit system in the future
- Members would be senior staff or citizens with the appointments made by the respective elected bodies
- Chair and Vice-Chair would be selected biennially by the members of the MTC

Staffing

- Technical and management staff support of the MTC would be provided by the City of Charlotte with a Town representative from the MTC and the County Manager assisting the City Manager in the selection and evaluation of the person serving as the staff director
- A transit technical committee of senior staff from the County, each Municipality, NCDOT's Transit Division, the Charlotte-Mecklenburg Planning Commission, and contracted private transit operators would work with the MTC and its staff on transit planning and programming
- A citizens' advisory group, appointed by the governing boards of the participating jurisdictions, would assist in the public involvement program and provide continuing citizen input to the MTC

Transit Operations

- Transit services in accordance with the long-range transit plan and operating and capital programs would be provided through one or more private contractors and/or other governmental entities
- Jurisdictions could choose to staff and operate their own transit service that is coordinated with other service in the County

Allocation of Financial Resources and Approval by Participating Jurisdictions

- The long range transit plan and the biennial and five-year transit operating and capital programs would reflect proposed transit service investments in the Towns that equal or exceed the sales tax revenue shares for those communities, unless a community expressed a desire for less service Jurisdictions also could pledge funds other than sales tax revenues in support of more service
- The long-range transit plan and biennial and five-year capital and operating programs would be submitted to the governing bodies of the County and Municipalities for review and approval Any jurisdiction providing their own funds (either their direct allocation of the sales tax revenue or other funds) in support of the transit plan and programs would make their own budgetary decisions related to their funds
- Approval by the Charlotte City Council and the Mecklenburg Board of County Commissioners would be required before the long-range transit plan and transit operating and capital programs could be implemented A mechanism would be established to resolve differences between the two bodies that could block plan and program adoption, should they occur
- Any governing body could request the MTC to re-examine and consider revisions to elements of the plan or programs within a prescribed review and approval period
- Failure by one or more Town boards to approve the long-range transit plan and biennial and five-year capital and operating programs could result in the elimination of some or all of those transit services in the plan and programs that were targeted for those jurisdictions If such Towns were entitled to a direct allocation of sales tax revenues on a per capita basis, they could use those sales tax revenues to provide transit service different from that proposed in the plan

Miscellaneous

- This organizational structure would not require new enabling legislation It would be created by interlocal agreement among all participating local governments
- Physical assets, such as transit vehicles and rights of-way, would be owned by County, Municipal, and possibly State governments
- Applications for federal grants would be made by County or Municipal governments, with grant funds committed to improvements in the long-range transit plan and capital and operating programs
- Transit operations would be organized in a manner that satisfies federal labor protection requirements

PLAN DEVELOPMENT

The *2025 Transit/Land Use Plan* was developed over an intensive six months of analysis, field work, discussions, meetings and review A typical plan of this magnitude often stretches over a longer period This process followed the same steps, but concentrated the same total work hours into a shorter schedule so that a plan could be presented to the elected officials and the community to decide whether to place a referendum on the ballot for a half-cent sales tax to support transit This window of opportunity to call for a referendum, provided by the state legislature, drove the concerted effort to develop this plan

Technical Process

Key Steps

The plan's development followed all the basic steps essential to determining the feasibility and nature of Charlotte-Mecklenburg's potential transit future

1. **Conduct field work in all corridors**
   The staff and consultants toured each of the five corridors to identify existing development, sites already committed for development ("pipeline" development), and sites with potential for development or re-development Furthermore, they identified railroad tracks, rights-of-way, and highways that have the potential to accommodate rapid transit routes ("alignments")

   Initially the corridors were defined broadly to include at least one-half mile on each side of the railroad and major highways that form the transportation backbone of the corridor Staff from the Charlotte Department of Transportation, Mecklenburg County Engineering and Building Standards Department, and planners from the other municipalities within the county and in adjoining counties accompanied the consultants on these field visits

2. **Determine how much future growth could be shifted into the corridors.**
   Land use maps and data were analyzed to determine how much new development or growth could be accommodated in the corridors and in the "wedges" between the corridors

3. **Develop a "growth trend" scenario.**
   A forecast of where future households and jobs would be located in the county was developed Such an allocation indicates how close or how far the actual growth trends are in conformance with the Centers and Corridors vision, and which areas would have higher potential transit ridership The scenario was based on county population and employment projections for 2025 and assumed the current dispersed development pattern would continue

4. **Determine which rapid transit technologies are the most appropriate for the needs in Charlotte-Mecklenburg.**
   There are more forms of transit than the three modes included in this plan Based on the initial field visits and other factors such as potential ridership, the consultants eliminated other modes, such as commuter rail, from further consideration

5. **Identify sites with significant development or redevelopment opportunities.**
   Based on an analysis of land use in the corridors and wedges, all large parcels of land (25 or more acres) in each corridor were reviewed to determine which were prime candidates for future transit-oriented development

6. **Identify potential alignments for the candidate technologies in each corridor.**
   The consultants reviewed land use objectives and opportunities, operating and physical requirements of the technologies, field work, maps, aerial photography, prior studies, input from local planners and engineers, and input from the corridor

meetings to select the most promising transit alignments in each corridor

7. **Introduce the community to the process through a community-wide kick-off, and involve them in corridor-specific public meetings.**
   Following a March kick-off meeting, public work sessions were held during April in each of the five corridors to begin educating the public to transit and land use concepts and terminology, and to describe the Centers and Corridors vision Citizen breakout sessions provided participants with hands-on opportunities to view corridor maps, familiarize themselves with the corridors, and provide input on issues of concern in the development of transit and land use options

8. **Present potential alignments and development/redevelopment opportunities for discussion in each corridor.**
   Meetings in each of the five corridors during May featured presentations of the potential alignments and land use changes, as well as the technicalities of the various transit modes Public comments resulted in refinements of alignments, potential station locations, and associated land uses

9. **Identify a single, representative rail and bus transit alignment for each corridor.**
   The consultants narrowed down all possibilities to one rail and one busway alignment These selections incorporated the potential of the various options to shape future growth, the relative ease and comparative cost of implementing each rapid transit option, potential environmental and social impacts ("fatal flaws"), and input from the May corridor meetings This process entailed additional field visits and intensive teamwork to narrow down the options Based on the analysis undertaken to date, the representative alignments are the most reasonable and most cost-effective

10. **Develop preliminary coordinated land use and transit plans for the two potential alignments in each corridor.**
    Presenting these alternatives was the focus of the June corridor meetings The information presented at each corridor meeting included the alignments and station locations specific to each corridor, the type and amount of development that could occur at each station area, land use policies and incentives, indicative capital costs, and other transit service characteristics

11. **Select the preferred plan for each corridor, based on a more detailed evaluation of the two alternative plans (bus and rail) in each corridor.**
    This evaluation included several phases

    - fine-tuning the rapid transit alignments and service parameters, station locations, and land use concepts
    - calculating the number of households and jobs that could be located in the station areas and corridors by 2025 for the transit-oriented and trend development scenarios
    - projecting the 2025 ridership on, or utilization of, the two candidate transit technologies systems in each corridor
    - finalizing the capital and annual operating and maintenance costs
    - projecting future conditions on the major radial highway facilities in each corridor

Public Involvement

The Process

Involving citizens in developing this transit/land use plan was an integral and essential component to the overall planning process From citizens involved in the corridor and public meetings as well as those who provided input through the variety of other methods developed to engage the public, the consultant team came to understand better the transit/land use needs and wishes of the community Many of the specific details of this 2025 plan respond directly to comments and suggestions from members of the community

To support the transit planning process, an extensive and intensive public involvement and education process was developed, which included the following components

- three public meetings, two of which were televised live, providing opportunities for people to call in questions and comments These meetings were taped for multiple rebroadcasts
- 15 corridor group meetings which gave citizens hands on opportunities to participate with the consultants in creating the plan - from locating alignments and stations to selecting preferred transit technologies and identifying areas for potential development/redevelopment Attendance exceeded 200 people per month
- advertisements in local newspapers and radio stations and on Charlotte Transit buses promoting corridor group meetings and public meetings
- bi-weekly fax/e-mail newsletters - one for elected officials, one for citizens
- 12-page newspaper insert summarizing the plan
- direct mail to more than 4,000 people who signed up to be on the mailing list
- speaker's bureau presentations to civic and neighborhood groups throughout the County
- Government Channel programming featuring call-in shows and educational videos
- City/County services bill inserts
- road signage (similar to zoning notices) highlighting dates and times of corridor group meetings
- information available at the City/County web site
- information hotline (City/County Customer Service and Information Center)
- e-mail opportunities for citizens to send comments and questions and receive prompt response from the appropriate source
- media relations activities - assisting reporters with information and story ideas, participating in television programs and radio talk shows focusing on the transit planning process These activities resulted in extensive and detailed media coverage throughout the entire process

Given the amount of work and coordination required, considerable staff and consultant resources were dedicated to developing and implementing this public involvement/ education campaign Staff from Charlotte's Corporate Communications, Mecklenburg County's Public Service and Information Department, Charlotte-Mecklenburg Planning Commission and Charlotte Department of Transportation worked together with a local consultant with expertise in constituencies and land use and a local consultant who served as a liaison with minority communities

Additionally, specially trained facilitators were hired to assist in conducting corridor group meetings

Transit Planning Advisory Committee (T-PAC)

The Charlotte City Council, Mecklenburg Board of County Commissioners, Mecklenburg County School Board and the towns of Matthews, Mint Hill, Pineville, Cornelius, Huntersville and Davidson appointed a total of 21 citizens to serve on the Transit Planning Advisory Committee (T-PAC) The charge to this committee included

- evaluating the opportunities for public involvement
- determining whether the plan developed provides sufficient basis for citizens to vote on a half-cent sales tax funding source
- making a collective go/no go decision on whether to recommend holding a Fall 1998 referendum

In addition to attending the corridor and public meetings, T-PAC met 11 times between March and August to hear reports from the consultants, discuss technical aspects of the developing plan and review input received from citizens

Transit Planning Advisory Committee

Johnsie Beck, Co Chair
Jim Palermo, Co-Chair
Nelson Benzing
Daren Bitter
Bob Collins
Shellie Marie Davis
David Hartgen
Ike Heard Jr
Rick Hood
Steve Horton
Scott Lawrence
Mark Loflin
Ken Loucks
Bill Mowry
Thomas Mussoni
James Ross
Ruth Samuelson
Edwin Smith
Frank Tilley
Ed Weisiger Jr
Joyce White

The Importance of Public Input in the Transit/Land Use Planning Process

It was apparent from the more than 250 people attending the kick-off meeting in March that there was substantial community interest in transit/land use planning People representing a good cross-section of the community and from communities adjacent to Mecklenburg County actively participated in discussions and planning exercises Their level of participation commitment to tackling the issues and surprisingly sophisticated knowledge of transit issues made planning for active involvement doubly important

Corridor Group Meetings

Three sets of corridor group meetings (April May and June) were held in each of the five corridors These meetings constituted the core' of public involvement During each meeting, different aspects of the emerging plan were presented and discussed Participants used large maps of the corridors to provide comments on alignments station locations and other aspects of the plan

Citizen input provided the basis for several changes to the consultants' original vision for transit and land use development For example, in the Independence Corridor consultants initially envisioned a connection at Conference Drive between the HOV/busway on Independence and the existing rail corridor just parallel to Monroe Road Citizens explained that the Conference Drive area is already too congested and offered Krefeld Road as an alternative As a result, Krefeld Road became the connection point in the final plan

Citizens filled out comment sheets following each meeting, which provided useful information and evaluations Data gathered at the first meetings prompted immediate changes including moving meeting locations extending meeting times and expanding the question & answer sessions

Citizen comments covered a wide range of opinions including

- "Transit is a must let's find a good solution to it for all of us
- "I am disappointed at the focus on increasing population density and not on improving transit options in the near future We cannot wait 10 years for population density to increase to take the pressure off roads '
- "I mainly came tonight for information I got what I came for Let's keep looking at every issue "
- 'This [process] is democracy at its best!'
- I fear this will be another filed for information' study
- "We need to move forward while choices still exist