EXECUTIVE ORDERS

EXECUTIVE ORDER EWE 93-37

WHEREAS: Executive Order No. EWE 93-36 directed the Secretary of the Louisiana Department of Transportation and Development to issue a special harvest season permit to the operators of vehicles loaded with sugarcane; and

WHEREAS: it is necessary to amend Executive Order No. EWE 93-36 to change the effective date;

NOW, THEREFORE, I, EDWIN W. EDWARDS, Governor of the State of Louisiana, by virtue of the authority vested in me by the Constitution and laws of the State of Louisiana, do hereby amend Section 2 of Executive Order No. EWE 93-36 by changing the effective date to October 1, 1993.

IN WITNESS WHEREOF, I have hereunto set my hand officially and caused to be affixed the Great Seal of the State of Louisiana, at the Capitol, in the City of Baton Rouge, Louisiana, on this 28th day of October, 1993.

Edwin Edwards
Governor

ATTEST BY
THE GOVERNOR
Fox McKeithen
Secretary of State

EXECUTIVE ORDER EWE 93-38

WHEREAS: the Federal Interstate Highway Program was enacted by Congress to provide a twenty-first century infrastructure for the transportation of its citizens and commodities; and

WHEREAS: the Governor believes that the need for a telecommunications superhighway should be studied in order to provide a state-of-the-art infrastructure for the transportation of telecommunications including information services, distance learning, telemedicine, telecommuting and many others which may not have been identified; and

WHEREAS: telecommunications offers solutions in the fields of education, transportation, health care, governmental information services, law enforcement and other areas. Each of these needs should be considered in order to design an infrastructure which can satisfy them; and

WHEREAS: the objective is to develop a plan which provides the flexibility to deploy the necessary technology at a price consumers can afford, state regulators can approve and the private sector can deliver. The ideal solution will attract industry and benefit consumers with state-of-the-art services which are universally available at affordable costs.

NOW, THEREFORE, I, EDWIN W. EDWARDS, Governor of the State of Louisiana, by virtue of the authority vested in me by the Constitution and laws of the State of Louisiana, do hereby establish a special Louisiana Telecommunication Task Force to develop a comprehensive telecommunications plan for the State by July 1, 1994 and to make recommendations to the legislature thereon, and do hereby order and direct as follows:

SECTION 1: The Louisiana Telecommunication Task Force shall be composed of the following membership, along with a member to be appointed by the Louisiana State Senate and a member appointed by the Louisiana House of Representatives. The co-chairmen are the Chairman of the Louisiana Public Service Commission and the Executive Director of the Governor's Office of Rural Development.

1. Mr. Larry Henning, President, Louisiana Telephone Association
2. Mr. Elton King, President, South Central Bell
3. Ms. Kathleen Blanco, Chairman, Louisiana Public Service Commission
4. Mr. Paul Gravel, Managing Director, Louisiana Public Facilities Authority
5. Dr. Fritz McCameron, Dean, Division of Continuing Education, Louisiana State University
6. Mr. Bud Lanier, Director, Office of Telecommunications Management
7. Dr. Robert Cline, Director of the Center for Telecommunications Studies, University of Southwestern Louisiana
8. Dr. Raymond Arveson, Superintendent, Louisiana Department of Education
9. Dr. William Cherry, Chief Executive Officer, Louisiana Health Care Authority
10. Mr. Bill Peacock, AT&T
11. Disablity Representative
12. Mr. Mike Naumann, State Manager, TCI of Louisiana
13. Robert S. Daniels, Dean, Lousiana State University School of Medicine
14. Mr. Tom Jacques, State Librarian
15. Ms. Beth Courtney, Louisiana Public Broadcasting
16. Mr. Allen Doescher, Assistant Commisioner for Technical Services and Communications, Division of Administration
17. Mr. Jim Clinton, President, Louisiana Partnership for Technology and Innovation
18. Mr. Paul Keller, Executive Director, Governor's Office of Rural Development
19. Mr. Mike Niggli, Senior Vice President of Marketing, Entergy Corporation
20. Mr. Dan Borne, President, Louisina Chemical Industry Council
21. Mr. Kevin Reilly, Secretary, Louisiana Department of Economic Development
22. Albert I. Donovan, Jr., Executive Counsel to the Governor
23. Carolyn Sanders, UNO
24. Sally Clausen, Governor's Education Advisor
25. Dr. Gordon Mueller, Director of Extension, Research and Technology Park, University of Ne

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26. Mike Tifft, Director of The City Council Utilities Regulatory Office, City of New Orleans and Deputy City Attorney.

SECTION 2: The joint committee is authorized to accept any money from any source, public or private, to be expended in implementing its duties under this resolution.

SECTION 3: The joint committee shall not hire any state employee, but shall utilize the clerical and legal staff already employed by the state.

SECTION 4: To develop a comprehensive telecommunications plan for the state, the Task Force should identify all of the diverse needs of the state and its citizens, analyze existing facilities and systems, and design an ultimate infrastructure. In order to identify needs, a broad array of telecommunications users and providers should be surveyed. Regulators, educators, transportation officials, health care providers, prison commissions, local exchange telephone companies, interchange carriers, computer companies, broadcasters, cable companies, electric power associations and many others shall be invited to participate in the identification of long and short term needs.

SECTION 5: Existing facilities and systems includes cooper cables, coaxial cables, fiber optic cables, microwave radio systems, AM and FM radio transmission facilities, satellite systems, cellular and mobile systems. While all these facilities are available to meet specific needs, there needs to be an integrated approach to provide efficient, cost effective use of the total telecommunications infrastructure.

SECTION 6: The Task Force shall recommend the financial resources to be used to implement the plan over the appropriate timetable. The task force shall review laws relating to the telecommunications industry and shall make recommendations to remove any barriers which would prevent or delay implementation of the plan.

SECTION 7: The provisions of this Executive Order are effective upon signature and shall remain in effect until amended, modified, or rescinded by operation of law.

IN WITNESS WHEREOF, I have hereunto set my hand officially and caused to be affixed the Great Seal of the State of Louisiana, at the Capitol, in the City of Baton Rouge, Louisiana, on this 10th day of November, 1993.

Edwin Edwards
Governor

ATTEST BY
THE GOVERNOR
Fox McKeithen
Secretary of State

EXECUTIVE ORDER EWE 93-39

WHEREAS: Executive Order No. EWE 93-8 created and established the Louisiana Post Secondary Review Commission within the Executive Department, Office of the Governor; and

WHEREAS: it is necessary to amend Executive Order No.EWE 93-8 to add one additional member;

NOW, THEREFORE, I, EDWIN W. EDWARDS, Governor of the State of Louisiana, by virtue of the authority vested in me by the Constitution and laws of the State of Louisiana, do hereby amend Section 7 of Executive Order No. EWE 93-8 as follows:

SECTION 7: I. the Attorney General

IN WITNESS WHEREOF, I have hereunto set my hand officially and caused to be affixed the Great Seal of the State of Louisiana, at the Capitol, in the City of Baton Rouge, Louisiana, on this 15th day of November, 1993.

Edwin Edwards
Governor

ATTEST BY
THE GOVERNOR
Fox McKeithen
Secretary of State

EXECUTIVE ORDER EWE 93-40

WHEREAS: pursuant to the Tax Reform Act of 1986 (the "Act") and Act 51 of the 1986 Louisiana Legislative Session, Executive Order No. EWE 92-47 establishes (i) a method for the allocation of bonds subject to the private activity bond volume limits, including the method of allocation of bonds subject to the private activity bond volume limits for this calendar year 1993 (the "1993 Ceiling"), (ii) the procedure for obtaining an allocation of bonds under the 1993 Ceiling and (iii) a system of central record keeping for such allocations, and

WHEREAS: the Port of Iberia District has requested an allocation from the 1993 Ceiling to be used in connection with the financing of constructing capital improvements to encourage the location of an industrial enterprise (the "Project"); and

WHEREAS: the Governor has determined that the Project serves a crucial need and provides a benefit to the State of Louisiana and the Port of Iberia District; and

WHEREAS: it is the intent of the Governor of the State of Louisiana that this executive order, to the extent inconsistent with the provisions of Executive Order No. EWE 92-47, supercedes and prevails over such provisions with respect to the allocation made herein;

NOW, THEREFORE, BE IT ORDERED BY EDWIN W. EDWARDS, Governor of the State of Louisiana, as follows:

SECTION 1: That the bond issue described in this Section is hereby granted an allocation from the 1993 Ceiling in the amount shown:

WIRELESS COMMITTEE REPORT

SUBMITTED TO

LOUISIANA TELECOMMUNICATION

TASK FORCE

By

Robert L. Burgess, Jr.

April 11, 1994

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ACKNOWLEDGMENT FOR ACTIVE PARTICIPATION

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INTRODUCTION

Wireless is "a broad range of individualized telecommunications services that enable people or devices to communicate independent of location."[1] The existence and usage of robust wireless communications networks are necessary to fulfill the requirements of the National Information Infrastructure (NII) initiatives. Access to the ever expanding menu of high performance information services can not be guaranteed without a mobility option nor a reasonable lower cost alternative to wired telephony. This is especially true for applications that will be used in the more rural and remote areas of the state. Exhibits W-1 and W-2 illustrate potential demand for wireless services.

Unlike other capital intensive infrastructure projects such as the new or replacement construction of roads and bridges the millions of investment dollars spent in Louisiana for wireless services is a result of identified customer needs and the competition for those associated customers. There were no bonds issued nor taxes passed to pay for these projects. Customers who use these services produce the necessary return to the investing companies.

Technology improvements have been integrated into Louisiana's wireless networks at a faster pace then typical wired ones. Customer pressures have been exerted on the carriers to provide new features and services at least as quickly as their competitors. Louisiana's telecommunications users and regulators will not need to mandate that new technologies be developed. Rather, the market forces outside of Louisiana will provide the necessary impetus to manufacturers for continued technological improvement. A wide array of services is developing, each with its own specific functionality, service mix and market advantages. These services have varying price points and differing levels of technical complexity. If the economic climate in Louisiana fosters innovation then wireless carriers will ensure the "latest and greatest" are available. It should be noted that market forces will dictate that population centers will benefit earliest while some of the newest services may never reach the more remote areas of the state.

1. Personal Communications Industry Association. 1994 PCS Market

While competition has fostered innovation, one of its by products is a tendency toward disparate systems. To ensure seamless inoperability and open network architecture common interfaces must be developed. Once again market forces outside of Louisiana will drive the process.

The Universal Service concept should be reexamined within the context of a wireless world. Some discussion will follow in a later section.

The world of wireless requires the efficient management of the radio frequency spectrum, an increasingly critical and valuable resource. Federal regulatory and legislative initiatives currently under consideration will have a significant impact on the future provisioning of wireless services. Some of those initiatives will also be discussed later.

Current Infrastructure

The current array of wireless services available in Louisiana includes, but is not limited to, paging, cellular, 2-way radio, satellite, microwave dedicated data, SMR/ESMR and broadcast. Each service developed with different capital sources, over different time periods, met unique customer needs and exists under different regulatory environments. Louisiana benefited directly through the creation of thousands of new jobs and hundreds of millions of dollars in operating and capital investment. Exhibit W-3 shows the capital investment required to create a network. It does not include the operating capital required however. In many cases these networks have been replaced more than once due to competitive pressures and technology development.

A comparison of the service characteristics of some existing and emerging wireless services follow in Exhibits W-4 and W-5.

Paging

Paging deployment is ubiquitous throughout the state as illustrated in Exhibit W-6. The current product lines available to Louisiana's citizens include tone, voice, display and alphanumeric.

Appendix 1 identifies the common carrier licensees and location within the state.

Specialized Mobile Radio

Current SMR's provide coverage similar to that shown in Exhibit W-6. There are currently no Enhanced SMR systems in Louisiana.

Cellular

Cellular is deployed throughout the state with only minor pockets of uncovered territory. This is illustrated in Exhibit W-7. The operating cellular carriers for each parish are identified in Appendix 2.

CTIA

The following information, provided by the Cellular Telecommunications Industry Association gives a national perspective on current infrastructure which is also pertinent to Louisiana.

Since 1983, the cellular industry has been a driving force in turning the promise of the wireless future into reality. The success of cellular has led to a new era of personal wireless communications in which information - voice, video and data - is brought to people where and when they need it.

As the latest CTIA data survey shows, the cellular telephone industry continues to grow rapidly, invest in the future, and bring many benefits to the American people and economy.

- ***Growth:*** *Today, more than 16 million subscribers use cellular telephones in the United States. Each day, another 13,000 new customers sign up for service. The number of U.S. cellular subscribers currently increases at better than 40 percent a year. At the close of 1993 revenues totaled $10.9 billion annually.*

- ***Investment:*** *Cumulatively, the total capital investment by cellular companies is $13.9 billion as of December, 1993. The number of new cell sites, the basic building blocks of a cellular*

system, increased 12 percent during 1993 and now total 12,805. Each cell site costs $800,000 to $1,000,000.

- ***Jobs:*** *- At the close of 1993, there were 1,529 cellular systems, employing 39,775 people, active in all 734 markets across the United States. Another 100,000 jobs are indirectly attributed to the cellular industry.*

- ***Benefits:*** *A majority of American cellular users believe their phones make them more successful in business and enhance their personal lives by reducing stress, improving relationships and ensuring personal safety, according to a recent Gallup poll. Cellular costs also continue dropping. The average bill for subscribers has dropped from $96.83 in December 1987 to $61.48 in December, 1993. One study shows that 60 percent of cellular customers pay less than $30 a month, and 80 percent pay less than $52.19.*

Cellular a Part of Personal Lives

When cellular service began 10 years ago, the primary customers were business users. Today, 54 percent of all calls are business related, and 46 percent revolve around users' personal lives.

Clearly, the growing consumer market demonstrates that people are excited by the affordability, personal convenience, safety and work productivity that cellular service provides.

Cellular is now much more than a phone in a car. People use their cellular phones on the farm, on the beach and in the woods. In fact, some people consider cellular phones to be required camping equipment, because it serves as a lifeline in remote areas. Cellular phones are also used on America's highways to report drunk drivers, automobile accidents, safety hazards, disabled vehicles and medical emergencies. Every month, 660,000 calls are made to 911 and other emergency numbers.

The list below is only an illustrative list of the upcoming wireless marketplace - many more services and uses are likely to be unveiled in the future. Future wireless applications have unlimited potential, and will include service offerings not yet imagined.

- ***Basic Exchange Telecommunications Radio Service (BETRs)*** *- radio-based local exchange services provided by common carriers in rural areas where the costs of traditional wired services are very high.*

- ***Broadband Video*** *- examples include the recently approved Suite 12 "CellularVision" (28 GHz Local Multipoint Distribution Service) proposal which would include multipoint video program distribution, videoconferencing, telecommuting, telemedicine and educational telecommunications services.*

- ***Cellular*** *- a radio-based service, operating on a "cellular" principle, in which geographic service areas are divided into "cells," permitting frequency reuse to maximize spectrum utilization in providing service to vehicular, transportable and portable units.*

- ***Cordless Adjuncts*** *to local exchange networks - one example is Ericsson's Freeset, which is capable of voice and data transmission with wireless PBXs.*

- ***Mobile Satellite Services*** *based on Low Earth Orbit satellites (LEOs), including Motorola's Iridium project, Orbital Sciences Corp.'s Orbcomm, Inmarsat's Project 21, Loral-Qualcomm's Globalstar, Ellipsat, and Leo One Panamericana of Mexico City.*

- ***Paging*** *- traditionally paging has been a one-way, low cost, message service. Beyond traditional paging services, advanced paging services involving two-way messaging, acknowledgment features, and message storage capabilities. Advanced paging services have been proposed by Mtel, PageNet, Dial Page, Page America, Arch Communications, and ProNet, and include Motorola's Electronic Mail Broadcast to a Roaming Computer (EMBARAC). Over 10 million people already use traditional paging services.*

- ***Personal Communications Services*** *(PCS) - PCS has been described as a "family of services" encompassing everything from pay phone-like CT2 Telepoint services, through cellular-like voice service, to high-speed broadband data applications. Demonstration projects have been underway for over two years, conducted by cable, cellular, and telephone companies. Other companies, such as Apple Computer, and other computer and*

communications products companies are poised to enter the PCS marketplace through licensed and unlicensed applications. One demonstration project is that of CableVision Systems Corp. of Woodbury, NY, which is trailing a mobile cable-based Personal Communications Network using Motorola's Silverlink handsets and Neighborhood Hardware Corridors (in which coaxial cables are strung with remote antenna drivers and microcell extenders in order to provide a seamless coverage area).

- ***Specialized Mobile Radio (SMR)*** *- this two-way non-interconnected service has traditionally been associated with dispatch, and fleet service operations. A next generating successor to this service is "Enhanced Specialized Mobile Radio" (ESMR) which has been described as "cellular-like," encompassing interconnected voice service, as well as paging and dispatch functions, and will compete directly with cellular and other wireless services. Providers of both traditional SMR and the new ESMR services include Dial Page, Geotek, NEXTEL, and OneComm (formerly CenCall).*

- ***Traditional Radio Services*** *- traditional radio services encompass radio-based services serving specific niche markets, such as the Local Government Radio Services, Special Emergency Radio Services, the Industrial Radio Services, and Land Transportation Radio Services. Users of these services have traditionally been entities engaging in communications essential to the internal or official activities of the licensees. some classes of licensees are permitted to provide service to other entities or individuals who are themselves eligible for licensing.*

- ***Wide Area Paging*** *- wide area paging provides regional or national paging capability. Once such provider is SkyTel Corp., which offers a national SkyPager service and a SkyQuote stock and financial information delivery service. Over 2.6 million people already use wide area paging services.*

- ***Wireless Cable*** *- involves the distribution of video entertainment programming by alternative multichannel video providers using frequencies in the 2, 6, 18 and above 21.2 GHz bands (in the Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, Cable Television Relay Service, and Private Operational-*

Fixed Microwave Service). Companies providing wireless cable includes ACS, Cable Technology, and Peoples Choice TV Partners.

- ***Wireless Cities*** *- the long-predicted wireless city is not a reality, with GTE migrating the city of Quitaque, Texas, to a new Ultraphone ditital wireless telephone system supplied by InterDigital Communications Corporation. This entirely wireless system is capable of providing voice, fax, and data transmission. Similar wireless city systems are planned for deployment in early 1993 by companies such as the Haviland Telephone Company of Kansas.*

- ***Wireless/Mobile Data/Wireless Computing*** *- mobile data systems and networks have been proposed or developed by Motorola, AT&T, General Magic, Sony, Apple, News Electronic Data, Ericsson. Currently operating digital packet offerings include the IBM/Motorola Advanced Radio Data Information Service (ARDIS) and RAM Mobile Data's two-way digital networks. Such networks have also been proposed or established by Cellular Data Inc. and Westinghouse Electric Systems and Bell Atlantic Mobile (jointly), Mtel's Nationwide Wireless Network (NWN), and QUALCOMM. EO Inc. (in partnership with AT&T, Matsushita, and Marubeni) is also offering a Personal Communicator combining wireless telephone, fax and computing, using stylus input for entry. The data can be stored for future reference, transferred to desktop machine or faxed.*

- ***Wireless Electronic Mail*** *- examples include Motorola's EMBARC, Ericsson's Viking Express, and RadioMail Corporation's messaging service, which can link with pagers, and Personal Digital Assistants equipped with radio modems.*

- ***Wireless Facsimile*** *- examples include RadioMail Corporation's proposed wireless fax adjunct to its E-Mail offering.*

- ***Wireless PBS/Centrax*** *- examples include Motorola's Silverlink and Northern Telecom's Companion. Ameritech is currently trailing wireless centrex systems. Qualcomm equipment is also being deployed by Local Area Telecommunications, Inc., in the New York and New Jersey offices of Bear Stearns & Co.*

- ***Wireless Tracking/Direction Finding*** *- Automatic Vehicle Monitoring systems are used to locate and track vehicles using*

non-voice methods, relaying information to and from vehicles. The FCC proposed expanding the service to encompass location of all objects, and transmitting and receiving status and instructional messages, and has adopted an order governing the renamed Location and Monitoring Service.

Broadcast

Typical commercial broadcast (non CATV) is not addressed. However, Louisiana Public Broadcast infrastructure has been identified due to its focus on education. Appendix 3 lists the existing downlinks associated with the Satellite Educational Resource Consortium. The variety of courses taught via this distance learning application is impressive. However, the number of links is inadequate; contrast Louisiana's 90 downlinks to 1,800 in Georgia.

Emerging Technology

Normally, customer demand drives the development of new features and services. In telecommunications, technology is moving so rapidly that customers have little time to define their needs. Two manufacturers, Northern Telecom and Hughes Network Systems, share a common vision for the family of services that will be known as Personal Communications Services (PCS). As Exhibits W-8 and W-9 portray PCS will encompass individual, business and residential targeted services. These manufacturers envision that the center of PCS will be an open networked switch. In Hughes' case (Exhibit W-10) it is an existing vehicle which can serve disparate radio systems, basically being frequency agile. Northern sees a similar device or devices herein described as the "Cloud". Exhibit W-11 illustrates what services the "Cloud" might provide. These services will be tiered by feature, functionality and pricing structure. (Exhibits W-12 and W-13).

Mobile System Elements

Any mobile oriented system has certain common elements:

Switching - Mobile switch provides access to multiple services and the PSTN (if applicable). Should be multi-functional and able to support disparate radio systems.

Most systems will require a wired "anchor," i.e., central office and supporting SS7 type network.

Services - Multiple "boxes," mini switches or radio systems which provide different functions and features.

Interconnect - The pipeline to the PSTN or other backbone networks such as Internet or "bypass." Typical methods are 1A, 2A and 2B.

Interface - The most critical interface is the air interface between the switch and radio subsystem control. This interface should encompass a common standard (i.e.; "A" interface developed for GSM in Europe) which results in an open network architecture.

Other interfaces and standards will be required for any product implementation in the mobile environment.

Some typical ones are:

Intersystem signaling	=	eg. IS-41
Data	=	eg. CDPD
Network	=	Internet, WACS, x.25, ATM, Frame Relay, LAN, WAN
Video	=	MPEG II, Digicipher
Emergency	=	911
Digital	=	CDMA, TDMA, E-TDMA, Omni-Point
Transport Protocol	=	SS7
End Office	=	AIN.1, AIN 2

Subscriber Equipment

Should be or have:
Low Cost

Toll Quality Voice and Data
Frequency Agile/Multiband Operation
Smart and Compatible

Deployment

Some states have already contemplated infrastructure requirements. Since it is much easier to borrow a good idea than invent one, the author has liberally used the following section (with editing for Louisiana) from the "Final Report of the Minnesota Telefutures Study Group (MTSG) To The Minnesota Public Utilities Commission."

Broadband Infrastructure Deployment Scenarios

Overview:

The Wireless Committee anticipates that the deployment of a broadband infrastructure in Louisiana could take place over a number of years in a variety of ways. For purposes of providing the Commission with policy guidance, the committee has conceptually identified three scenarios for evaluation. These include the:

a. Build It and They Will Come Scenario

b. Market Demand/Deployment Scenario

c. Industry/Public Joint Action Scenario

Each of these scenarios is explained more fully below. After the scenarios are described, the committee provides a listing and discussion of the pros and cons, from a policy perspective. This discussion is followed by policy recommendations.

Before discussing each scenario, it would be helpful to recall the definition of broadband used in this report. A broadband infrastructure would include switched transmission at 45 Mb/s and greater. This would enable the delivery of communications, information, and full motion video. It would require the replacement/enhancement of the overwhelming majority of distribution plant, interoffice facilities, and switching capabilities in the State.

Finally, it should be repeated that broadband infrastructure and services are already being deployed in Louisiana where customer demand and willingness to pay have materialized. This has occurred largely in the government, education, medical and large business sectors of the economy. Local exchange carriers and other providers have deployed the infrastructure, on demand, to provide interactive video services (distance learning, video conference), LAN interconnection services (transport LAN service, frame relay) and high speed private line data services. Additionally, telephone companies are trailing broadband infrastructure technologies and services (i.e.; U S WEST COMPASS trial), and U S WEST has publicly announced its intention to deploy a broadband infrastructure beginning in 1994. these efforts are over and above the modernization efforts that will result in attainment of the committee's short term and intermediate goals associated with digitally supported switching, single party, touchtone, digital interoffice facilities and SS7.

1. Scenarios for Broadband Deployment

a. Build It and They Will Come Scenario

This scenario envisions the construction of a broadband network without regard to present demand and without a cost/benefit analysis. It presumes that with a network in place, the demand for services will materialize in the future. An example of this type of scenario would be the enactment of a legislative mandate to deploy fiber to every premise in Louisiana and to support this ubiquitious fiber distribution network with the ubiquitious deployment of ATM broadband switching. A legislative mandate of this type could specify a date certain for completion (e.g. 1998). The pros and cons, from a policy perspective, are as follows:

Pros:

1. ***Accelerated Deployment** - The Build It and They Will Come Scenario would accomplish the deployment of the broadband infrastructure to every premise in Louisiana faster than any other scenario. Consequently, if advanced services are available, their benefits will be brought to every Louisianian at the earliest possible date.*

2. ***Ubiquity*** *- This scenario would mandate that all residential and business premises in the State be connected to the broadband network. Such a mandate would eliminate the possibility of information "haves" and "have nots" by requiring that all segments of the population and all geographical locations in the State be connected to the network at the same time.*

3. ***Accelerated Introduction of New Services*** *- With a ubiquitious broadband network in place, information service providers would have a stronger incentive to develop broadband services (i.e. information services, remote medical services, remote government services, home shopping, etc.).*

4. ***Accelerated External Benefits*** *- External economic and environmental benefits that result from an advanced telecommunications network would be accelerated. Such benefits may include economic growth, decreased information costs, and a reduction in environmental externalities through telecommuting, among others.*

Cons:

1. ***Cost Uncertainty*** *- The costs of deploying a useful ubiquitious broadband infrastructure in Louisiana (e.g., fiber in the loop, broadband switching, and CPE) are highly speculative, ranging from $11 billion to $69 billion.*

2. ***Public Funding*** *- Costs of constructing the network may exceed provider ability to recover investment because of inadequate subscriber demand and willingness to pay or an unavailability of services to generate revenue. If customer demand or advanced services do not materialize, revenue shortfalls may require price supports in the form of increased taxes or other public funding.*

3. ***Obsolete Technology*** *- Broadband technologies and standards are still evolving. Premature ubiquitous deployment of a particular technology may leave the State's infrastructure obsolete and vulnerable to "leapfrog" technology advancements (e.g. optical*

switching) and result in unrecovered and stranded investment.

4. ***Barriers to Entry*** *- Exclusive franchises, the paradigm of traditional regulation, would probably be continued to allow broadband providers to recover their investments. Exclusive franchises and public funding may raise barriers to entry for alternative providers, such as cable companies, who may be able to offer new and existing services at a lower cost.*

5. ***Increased Regulation*** *- Mandated deployment of a ubiquitous broadband network would require increased regulation (regulatory oversight, schedules, compliance filings, rate treatment).*

6. ***Significant End User Investments Required*** *- CPE is not currently available to mass market subscribers on an economic basis (high definition television, video equipment). This drawback is extremely significant. It means that even if the most advanced broadband infrastructure is deployed, it will not be utilized if compatible, economic and user friendly CPE is not purchased by subscribers. It is impossible to know how rapidly manufacturers will produce this CPE and whether market demand will be significant enough to lower production costs and retail prices.*

7. ***Lack of Customer Demand*** *- Broadband services/software for mass market applications are in their infancy. Experience with videotext information services and ISDN has not provided proof of mass market appeal. To this point, mass market demand for these services, though they are not even broadband (they can be delivered over copper using narrowband and wideband technologies), has not materialized.*

8. ***Regulatory Environment*** *- The telecommunications regulatory environment is dynamic. The FCC is moving to accelerate local competition with varying degrees of success, and many state regulatory policy issues involving a competitive environment are unresolved (provider of last resort, average versus deaveraged*

pricing, etc.). This dynamic environment adds to the uncertainty of the ability to recover the infrastructure investments.

b. Market Demand/Deployment Scenario

Under this scenario, the basic assumption is that the network can be deployed most efficiently if the decisions to build respond to market demand rather than mandating ubiquitous deployment by a date certain. The pros and cons of this scenario, from a policy perspective are as follows:

Pros:

1. ***Market Demand*** *- Investments will be made where providers anticipate and/or observe market demand and willingness to pay. This willingness to pay will ensure that the network is not over built and under utilized. It will also help to ensure that providers will be able to recover their investment. As a result, the timing of the development of mass market broadband services/software is more likely to be synchronized with mass market deployment of infrastructure.*

2. ***Cost Recovery*** *- Costs will be recovered by revenues from the new advanced services, insuring that captive monopoly telephone customers will not bear the risks associated with the deployment of a broadband infrastructure.*

3. ***Public Funding*** *- Because the network would not be deployed unless demand were present, public funding would not be necessary under this scenario.*

4. ***Efficient Technology Deployment*** *- Since this scenario assumes a more gradual implementation on a statewide basis based on market demand, there would be less risk of subscribers and providers (and the State) being vulnerable to technology "leap frog". For example, if the market anticipated a change in technology, the demand for the old technology would evaporate and the*

broadband network would not be deployed using that technology.

5. ***Cost Effective Technology*** *- As has been observed in many diverse areas, the cost of technology diminishes over time as production costs decline and demand increases. Under this scenario, providers would be purchasing broadband infrastructure components from vendors at economic points on the technology cost curve.*

6. ***End User CPE Investments*** *- This scenario minimizes the risk of user friendly CPE not being available to customers at a reasonable price because providers will include the cost of CPE and the price of service in developing demand forecasts before the network is deployed.*

7. ***Regulatory Environment*** *- This scenario provides State regulators with time to resolve the policy issues associated with the possible emergence of a competitive environment for basic telecommunications services. This scenario would also preserve the dynamic regulatory environment.*

8. ***Market Entry*** *- This scenario will allow ease of entry by competitive providers for the future deployment of competition. Alternate providers of basic telephone and telecommunications services will emerge to compete with incumbent telephone companies. These new entrants will include cable television companies, personal communications services (PCS) companies, competitive access providers (CAPs), and other LECs.*

Cons:

1. ***Deployment May Be Delayed*** *- This deployment scenario is likely to be more gradual than the Build It and They will Come Scenario. The committee's estimate is that ubiquitous deployment would not be completed until 2015.*

2. ***Non-Ubiquity*** *- This scenario may lead to a condition of information "haves" and "have nots" as the broadband*

network is deployed in selective markets where demand and customer base are perceived to be significant enough to support the cost of the network. As a result, individual residential and small business subscribers with demands for broadband services and applications may be frustrated if they reside in an area where mass market demand and competition have not materialized. Large business or governmental subscribers will probably enjoy access through dedicated facilities.

c. Industry/Public Joint Action Scenario

A third deployment scenario would be an agreement on the part of the industry and policymakers to deploy, by a date certain, a broadband infrastructure ubiquitously to public and social institutions (schools, libraries, hospitals, government offices, and universities) with residual deployment to residence and business subscribers based on the Market Demand/Deployment Scenario. The Industry/Public Joint Action Scenario assumes that the market would fail to adequately provide broadband services to some segments of society and that public policy is necessary to insure that the public welfare is maximized.

Pros:

1. ***Targeted Accelerated Deployment*** *- This scenario has almost all of the pros associated with the second scenario, because broadband deployment to non-public/social institutions is based on current demand. Mandated deployment by a specific date would be limited to the public/social institution sector of the State.*

2. ***Demand Stimulus*** *- This deployment scenario would provide exposure of broadband services to a great number of citizens who may not gain access to broadband services under the market demand scenario as quickly as they would under this scenario. Targeted deployment and the construction of a backbone network to public/social institutions may help stimulate demand by residence and small business subscribers, and provide a springboard for competitive deployment.*

3. ***Market Entry*** *- Targeted deployment would allow open competitive entry to the residual market by competitive providers.*

4. ***Social Benefits*** *- This scenario would increase social welfare by providing advanced facilities and services in the areas of medicine, education and government services throughout the State.*

Cons:

1. ***Usefulness*** *- Policymakers may misjudge the usefulness of this deployment to the public and social institutions, which would result in an inappropriate allocation of resources.*

2. ***Funding*** *- Funding, pricing and recovery issues would need to be resolved by providers, regulators and legislators.*

Recommendations:

Based on the above analysis, the committee does not recommend the Build It and They Will Come Scenario. The costs of this type of scenario, as outlined above, would far outweigh the societal benefits or the ability of providers to recover their investment.

If economic efficiency and governmental and budgetary constraints are given the greatest weight, then the second scenario, the Market Demand/Deployment Scenario, is recommended. Furthermore, this scenario recognizes the fact that broadband infrastructure and services are already being deployed and provided in Louisiana where market demand has materialized. Although ubiquitous availability of advanced services would not be accomplished until approximately 2015, this is not out of line with the goals of other countries, such as Japan and Germany, which are considered proactive.

If policymakers feel the societal and economic benefits justify the advancement of broadband deployment sooner than would be accomplished by the second scenario, then the committee recommends that a version of the Industry/Public

Joint Action Scenario be considered. This would require that a detailed and comprehensive study be undertaken to fully evaluate how the broadband network infrastructure components of distribution, interoffice, and ATM/packet switching could be deployed in a manner that would ensure ubiquitous deployment of interactive voice, data, imaging, video, multi-media and information services to these public/social institutions throughout the State. The study would need to incorporate an extensive inventory of current services/infrastructure (since many of these entities may already have some form of broadband service). Additionally, the study would need to complete an extensive needs analysis for these institutions to determine what information needs exist. Furthermore, the study would need to incorporate a vision of how the infrastructure would be utilized to benefit Louisiana. The study should be completed by a group composed of representatives from industry providers and representatives of the affected institutions.

Finally, the committee recommends that a broadband/broadband-like services tracking mechanism be instituted so that policymakers can track the advancement of the infrastructure over time. This would help in assessing the deployment of infrastructure, market demand, and geographic coverage, for example. Because advanced network services may be offered by many different entities, the tracking mechanism must be flexible enough to track such services regardless of the provider.

F. Wireless Infrastructure Deployment

Wireless service can be broadly characterized as a system to provide a subscriber with mobile/portable two-way telecommunications services. This service may or may not be geographically ubiquitous and may or may not be functionally equivalent to the land line service that is the current industry standard.

In the relatively immediate past, wireless usage was limited to short range portable (cordless telephones) and mobile (Improved Mobile Telephone Service or IMTS.) Users were either tethered to the home base unit with cordless portables or were constrained to limited service availability, large hardware and power requirements