

# 511 Case Studies

## Kentucky

November 2000

### *Introduction*

On July 21, 2000, the Federal Communications Commission assigned the 511 abbreviated dialing code on a national basis for the provision of transportation information. Further, the FCC ruling has left it to state and local transportation agencies, telecommunications carriers and regulators to determine the appropriate courses of action to make these services available.

The U.S. Department of Transportation's Intelligent Transportation Systems (ITS) Joint Program Office is sponsoring an effort to document the progress of early implementers of 511 services for the benefit of the entire transportation community. It is anticipated that five such case studies will be documented.

This initial case study focuses on the Commonwealth of Kentucky and its implementation of statewide 511 services. As is evident in reading this document, the implementation is a work in progress. The intention is to concisely provide a current "snapshot" of the progress being made in Kentucky. It is anticipated as events warrant and interest of the community demand, this case study will be updated.

The principal point of contact for the Kentucky deployment is Leon Walden of the Kentucky Transportation Cabinet ([lwalden@mail.kytc.state.ky.us](mailto:lwalden@mail.kytc.state.ky.us) or 502/564-4556). This principal author of this case study is Rick Schuman of PBS&J ([rickschuman@pbsj.com](mailto:rickschuman@pbsj.com) or 407/647-7275).

Multiple documents and web sites have been referenced in this case study. To the extent possible, links are provided to these documents and sites.

This document contains five sections:

- History/Perspective – Pre-511
- Institutional Background in Kentucky
- Plans/Vision
- Ongoing Activities
- Lessons Learned

## *History/Perspective – Pre-511*

Table 1 provides a listing of the principal transportation-related telephone services currently being provided in the Commonwealth of Kentucky.

<b>Phone #</b>	<b>Managed By</b>	<b>Service / Information Available</b>	<b>Area Covered</b>
606-253-4636	LexTran	Routes & Scheduling	Lexington - Fayette County, KY
606-233-POOL	Lexington Bluegrass Mobility Office	Inquiries concerning transportation providers & ride-matching	Metro Lexington, KY
502-585-1234	Transit Authority of River City (TARC)	Fares, Schedules, Bus Stops, Service, General Information, Stop N Go Transfers, Park N TARC Lots Accessible	Louisville
502-561-5217	Transit Authority of River City (TARC)	General Information & Paratransit Trip Scheduling	Louisville
211 or (513) 333-333	KY Transportation Cabinet & Ohio DOT	Traffic conditions, construction & transit (ARTIMIS TATS)	Cincinnati / N. Kentucky
800-4KY-ROAD	KY Transportation Cabinet	Weather & construction information	Kentucky
(606)258-3611 or Cellular *311	Traffic Information Network	Traffic Information	Lexington
270-687-4444	City of Owensboro	Schedule and Route Information	Owensboro
859-331-8265 (also accessible via 211 in local area)	Transit Authority of Northern Kentucky (TANK)	Route and Fare Information	N. Kentucky
859-767-3702 or 211	Jetport	Airport Transportation	N. Kentucky

Table 1 – Current Transportation Phone Services in Kentucky

Two of these systems are most relevant in terms of near-term plans for 511 conversion:

1. ARTIMIS TATS – In conjunction with the multiple partners including the Ohio Department of Transportation, the Advanced Regional Traffic Interactive Management and Information System (ARTIMIS) Traffic Advisory Telephone Service (TATS) in the Cincinnati/Northern Kentucky metropolitan area provides real-time, route specific multi-modal traveler information.
2. Kentucky Road Report – The Commonwealth operates a statewide system that provides daily updates, Monday-Friday, focused on providing construction, weather and major event-related information. The telephone system is one of many delivery mechanisms for this information.

These systems have evolved independently to date. The planned establishment of 511 access will bring these together.

### ARTIMIS TATS

ARTIMIS ([www.artimis.org](http://www.artimis.org)) is a regional traffic management system provided by the Kentucky Transportation Cabinet (KYTC), Ohio Department of Transportation (ODOT), Federal Highway Administration (FHWA), Ohio-Kentucky-Indiana (OKI) Regional Council of Governments, and

the City of Cincinnati. ARTIMIS has two major functions, specifically, Advanced Traffic Management Systems (ATMS) and Advanced Traveler Information Systems (ATIS). ARTIMIS serves the Cincinnati/Northern Kentucky urbanized area and a large volume of through traffic. In June 1995, ARTIMIS began a telephone information service, Traffic Advisory Telephone Service (TATS) as part of the ATIS function. The ARTIMIS TATS, with the exception of the 211 Dialing Code, is provided by the ARTIMIS Contractor, TRW Inc., and its Sub-Contractor, SmartRoute Systems.

The ARTIMIS TATS began with the phone number 333-3333. Outside the local calling area, travelers would dial 513/333-3333 to reach the service.

For traffic information, callers select a specific route or route segment from the system's main menu to receive a current report on conditions. The routes covered by ARTIMIS TATS are shown in figure 1. Regular users often choose to use shortcut codes that can be entered any time during a call to indicate the route desired for information. These shortcuts are listed in Table 2. Also included in the system is construction, transit, airport limousine and rideshare information.



Figure 1 – ARTIMIS TATS ROUTE COVERAGE

Code	Route
751*	I-75 between the Butler County Regional Highway and the Norwood Lateral (SR 562)
752*	I-75 between The Norwood Lateral (SR562) and the Ohio River
711*	I-71 between Kings Mills Rd. and the Norwood Lateral (SR 562)
712*	I-71 between the Norwood Lateral (SR 562) and the Ohio River
713*/753*	I-71/75 between Downtown Cincinnati and the I-71/75 split in Boone county
74*	I-74 between I-75 and the Indiana border
471*	I-471 between I-275 and Downtown Cincinnati
562*	Norwood Lateral between I-71 and I-75
126*	Ronald Reagan Highway between I-275 and Montgomery Rd.
501*	US 50 between I-275 in Clermont County and Downtown Cincinnati
502*	US 50 between Downtown Cincinnati and I-275 at Lawrenceburg, IN
	I-275 between the Cincinnati/Northern Kentucky International Airport and the Ronald
2751*	Reagan Highway (SR 126)
2752*	I-275 between the Ronald Reagan Highway (SR 126) and I-75
2753*	I-275 between I-75 and Montgomery Rd.
2754*	I-275 between Montgomery Rd. and I-471
2755*	I-275 between I-471 and the Cincinnati/Northern Kentucky International Airport
1*	Downtown Cincinnati
2*	Downtown Covington/Newport
5*	Beat the Jam Information
53*	ARTIMIS Special Events Information
91*	METRO bus special route information
92*	METRO bus route assistance
93*	TANK bus special route information
94*	TANK bus route assistance
95*	JetPort limousine service
96*	RideShare information

Table 2 – ARTIMIS Route and Information Codes

ARTIMIS uses many devices and sources to provide up-to-date traffic information. Devices include closed circuit video cameras, radar detectors, video imaging detectors, reference markers, and inductive loops. Other sources include freeway service patrols, one aircraft, a network of drivers who serve as probes, police, fire departments, emergency communicators and construction personnel. ARTIMIS personnel are able to provide very comprehensive and accurate ATIS functions. Real-time traffic information is provided by ARTIMIS from 6:00 a.m. to 7:00 p.m., Monday-Friday.

In April 1995, the KYTC submitted a petition to the Kentucky Public Service Commission (KPSC) that an N-1-1three digit abbreviated dialing code be assigned to access the ARTIMIS TATS in the Kentucky portion of the Cincinnati metropolitan area. In May 1995 a formal hearing was held at which time the KYTC, Cincinnati Bell Telephone Company, the local exchange carrier that serves the area and other interested parties provided testimony on the KYTC petition. On June 21,1995, the KPSC assigned 311 to the KYTC for the requested purpose of providing traffic information to the public in the six Kentucky counties in the metropolitan Cincinnati/Northern Kentucky area. In the Official Order, the KPSC stated that the assignment met the standard of improving quality or quantity of service to the citizens of Kentucky. The 311 dialing code in the Kentucky service area was placed into service November 20, 1995.

The time period between the assignment and implementation was needed to put a rate structure for the service in place and allow for software changes in the telecommunications switches. Cincinnati Bell was not originally supportive of the KYTC petition. The KPSC Order required Cincinnati Bell to provide the 311 service. A contract was established between Cincinnati Bell and KYTC, whereby KYTC paid for all charges associated with a landline 311 call. The contract was later modified and currently includes a \$20,000 annual administrative fee and \$0.10 per landline call, with a minimum charge of \$5,000 per month. There are also monthly trunk switching fees. The contract covers the entire Cincinnati Bell calling area in Kentucky and Ohio. In 1999, the most recent complete calendar year, ARTIMIS received 558,229 landline 211 (and 311) calls, and paid Cincinnati Bell \$134,560 for telecommunications services, an average of \$0.241 per call.

Also in April 1995, ODOT filed a request to the Public Utilities Commission of Ohio (PUCO) for an abbreviated dialing code, but, due to a backlog of rate hearings at PUCO, this request was not acted upon until September 4, 1997. The result was a 28 month period, from December 1995 to March 1998, in which 311 was in operation in the Kentucky portion and 333-3333 was in operation in the Ohio portion of the Cincinnati/Northern Kentucky metropolitan area.

In February 1997, the Federal Communications Commission (FCC) issued an Order that reserved 311 for "non-emergency local government usage." Subsequently, KPSC assigned 211 to the KYTC to shift the 311 service. The assignment was for a period that was to end in October 1999. PUCO allocated 211 to ODOT in its initial assignment in September 1997. In March 1998, the local exchange carrier for the entire metropolitan area (Cincinnati Bell) transitioned 311 and 333-3333 to 211 for the entire metropolitan area. Both KPSC and PUCO extended 211 assignment in anticipation of the FCC ruling establishing an N11 code for traveler information services. At present, 211, 311, and 333-3333 can be dialed in the Cincinnati Bell service area to reach ARTIMIS (311 has yet to be re-programmed). Based on an intercept survey in February and March 1999, 74% of callers dialed 211, 15% dialed 333-3333, 10% dialed 311.

The differing transitions in Kentucky and Ohio to 211 have enabled statistical assessment of the impact of an abbreviated dialing code on call volumes. Figure 2 illustrates the monthly call volumes, by carrier. A detailed analysis of the 28 month period that 311 was used only in Kentucky estimated a 72% increase in call volume attributed exclusively to landline 311 access. Other factors that have attributed to occasional increased volumes include weather events (snowfalls, floods) or the start of reconstruction.

Wireless phone users may all use 211 to access ARTIMIS. For users of Ameritech Cellular, AirTouch Cellular (now Voicestream), GTE Wireless (now Verizon Wireless), and Cincinnati Bell Wireless (part of AT&T Wireless), airtime charges are waived for calls to ARTIMIS, resulting in a totally free service. For Nextel and Sprint PCS customers, airtime charges are not waived. As Figure 2 illustrates, wireless carriers that do not charge for airtime have significantly greater usage than those that do. The carriers that decided to waive airtime did so after they were presented with information that suggests that those calling in to a service such as ARTIMIS will tend to make 1 or 2 subsequent calls, which will invoke airtime charges.

As figure 2 indicates, prior to 311/211 service, access to ARTIMIS TATS was about 50% landline and 50% wireless. Roughly 1 million calls are received annually, with over 4 million total since ARTIMIS TATS began operation. Since 311 was introduced, the ratio of calls has moved to 60% landline and 40% cellular. This landline penetration stands in sharp contrast to similar systems in the country. These other systems tend to have free cellular access but do not have a three-digit landline access number, and generally have less than 50% of calls via landline.

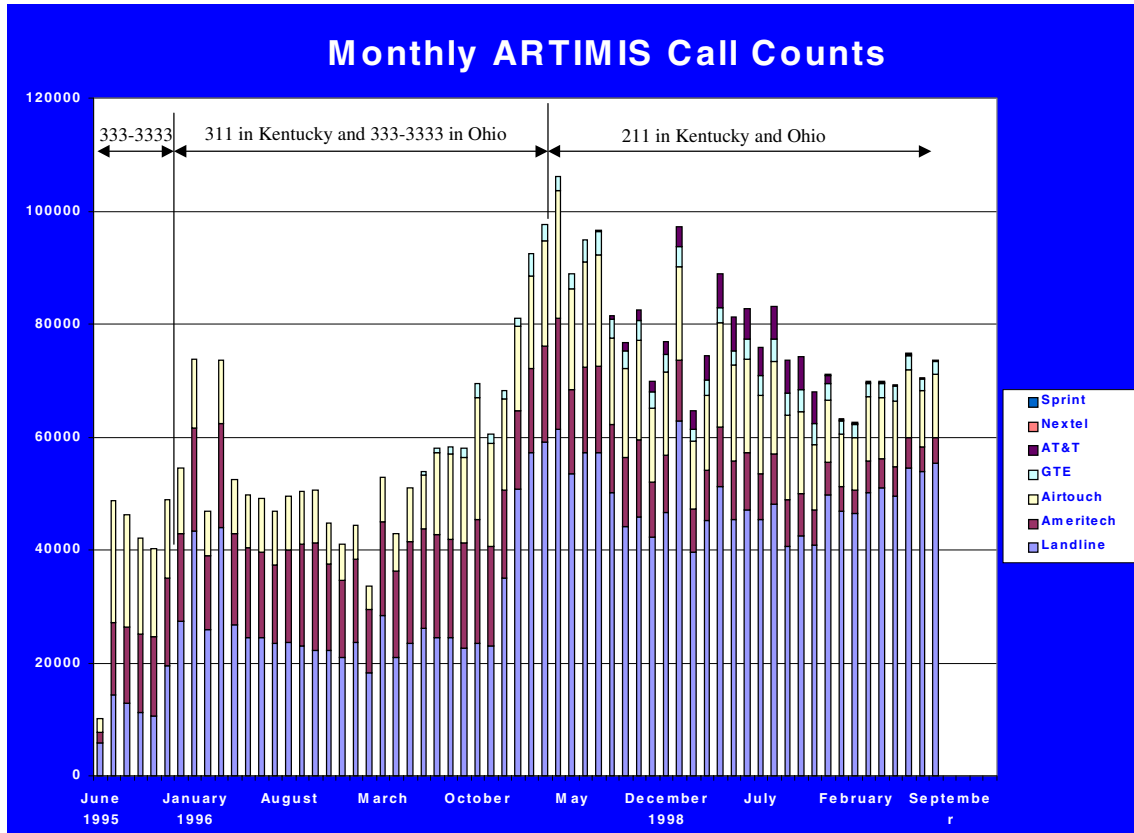


Figure 2 – Monthly ARTIMIS Call Counts

To date, Cincinnati Bell has charged ARTIMIS the minimum use fee each month. Thus, KYTC and ODOT are paying Cincinnati Bell around \$135,000 annually to offer a 3-digit service that is free to landline callers.

The ARTIMIS TATS is currently configured with 96 active incoming phone lines, with the capability of existing equipment to handle 120 lines. There are four nodes, with each node supporting 24 incoming lines. One node into the service supports landline calls, two support wireless carriers (Ameritech Cellular and AirTouch Cellular both have a node), and the fourth node services the other wireless carriers and overflow from the other three nodes. The system is designed to handle peak loading and has never been completely busy. There was one occasion when there were 90 simultaneous calls received.

## Kentucky Road Report

Since the mid-1990s, the Kentucky Transportation Cabinet has operated a system called “The Kentucky Road Report.” Originally operated to provide information on construction and weather-related information on a single type-written page via fax to requestors, the Road Report has become much more sophisticated both in terms of the detail of information and the methods of dissemination.

The Road Report is updated daily. By 9 a.m., Monday-Friday, a responsible individual in each of the 12 KYTC Districts manually inputs information into the Road Report computer program. These reports are forwarded to KYTC Headquarters Division of Operations which compiles the District input into a complete statewide report, which is completed by 9:30 a.m. The report is then disseminated multiple ways:

- Internet – A text report appears on the KYTC web site (see: [http://www.kytc.state.ky.us/Traffic\\_Center/home.htm](http://www.kytc.state.ky.us/Traffic_Center/home.htm)). Also a map depicting the information graphically is available on the web site.
- Fax – a fax back system is available to request paper copies of the text report (motor carrier dispatchers are frequent users, with roughly 50-60 requests a day)
- Rest Area Monitors – The report is broadcast via satellite to each rest area in the state and several rest areas in adjoining States where the information is displayed on a monitor.
- Telephone – 1-800-4KY-ROAD provides interactive voice response access to the road report. The fused report is provided to the private company, Automated Telecom Inc., which operates and maintains the interactive voice response system under contract to KYTC.

The Road Report provides weather and construction-related information that deviates from normal travel conditions. It covers all interstates, parkways and selected other routes, some of which are always addressed, others that are added to the report if major problems arise. Routes are presently described by county and referenced by mile markers (for example I-65 is divided into 10 segments, one each in the 10 counties it passes through). An individual in each of the 12 districts is responsible for updating information on the Road Report. The responsibility is not a full-time job, and some districts assign an operations person in the fall/winter and a construction person in the spring/summer, as events of note are usually weather related in the fall/winter and construction-related in the spring/summer. The individuals are instructed not to put information into the Report that will impact travel less than 4 hours. The Road Report will update more than once a day in abnormal conditions, such as major unplanned event.

In normal conditions the Road Report IVR receives about 150-200 calls/day. The IVR can support 22 incoming phone lines. In the Fall/Winter, all lines are operational. In Spring/Summer roughly half the lines are used since demand is reduced. In snow events and other emergencies, the service can receive as many as 12,000 calls in an hour, with about 12% getting through. The service is advertised in the major TV markets of Louisville and Lexington prior to winter each year and is advertised at Rest Areas year-round.

## ***Institutional Background in Kentucky***

This section describes the transportation and telecommunications institutional structures in Kentucky.

### Transportation

The Kentucky Transportation Cabinet (KYTC) exercises its jurisdiction in the areas of highways, bikeways, public transportation, waterways, railways, aeronautics, and motor vehicle regulation. KYTC manages, operates and maintains all state roads in Kentucky. Kentucky has over 73,000 miles of roads and streets; of that, the KYTC maintains more than 27,000 miles. These roads carry 85 percent of all traffic. KYTC also maintains 762 miles of interstates that carry an average of 55,000 vehicles per day - 11.5 billion miles per year, a 54 percent increase over the last decade. 9,500 vehicles daily travel parkways maintained by KYTC. In addition, KYTC provides oversight for Kentucky's 160 licensed airports and heliports, 18 truck weigh stations, eight welcome centers and 13,600 bridges.

The Commonwealth of Kentucky operates on a Biennial budget cycle. The current budget cycle runs from July 1, 2000 to June 30, 2002.

City and County agencies are responsible for managing, operating and maintaining the remaining 46,000 miles of roads in Kentucky. There are 120 counties in Kentucky.

According to the American Public Transit Association's Web site, 8 transit properties operate in Kentucky:

- Community Action Regional Transit – Bowling Green
- Transit Authority of Northern Kentucky (TANK) – Fort Wright
- Transit Authority of Lexington (LEXTRAN)
- Transit Authority of River City – Louisville
- Rural Transit Enterprises Coordinated (Community Transit) – Mount Vernon
- Green River Intra-County Transit System (GRITS) – Owensboro
- Owensboro Transit System – Owensboro
- River City Trolley – Owensboro

### Telecommunications

Three different telecommunications infrastructures need to be considered when contemplating 511 services. All of these institutional elements are regulated by the Kentucky Public Service Commission.

#### *Landline*

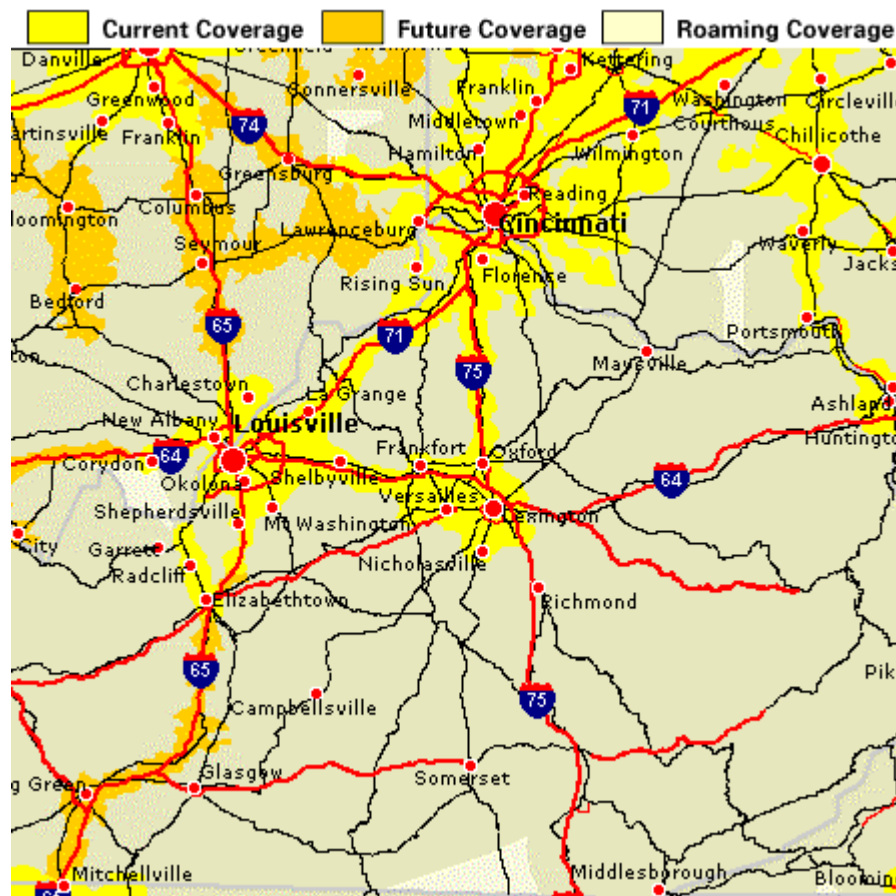
There are 20 Incumbent Local Exchange Carriers (ILECs) that operate in the Commonwealth (see Appendix A). While Competitive Local Exchange Carriers (CLECs) operate in Kentucky, they carry a very small portion of traffic at present, and most of the CLECs resell ILEC capacity.



Thus the ILECs are the principal organizations involved in landline 511 services. All landline calls are routed through Central Offices (COs). Collectively, the CLECs operate over 404 COs in Kentucky. BellSouth operates 190 COs, Verizon (which used to be GTE South in Kentucky) operates 101 COs and Cincinnati Bell operates 10 COs. The rest are spread across 17 smaller ILECs throughout the Commonwealth.

*Wireless*

Throughout the Commonwealth, there are seven licenses to operate wireless phone services. In urban markets such as Louisville and Lexington, it is likely that all seven licenses are operating. In nonurban areas, it is possible that not all of seven licenses are yet in operation. No centralized source exists that readily compares wireless carriers coverage in the Commonwealth (often, carriers show their advertised coverage on their corporate web site). However, several of the nation’s major carriers offer wireless service in at least portions of Kentucky, including AT&T, Verizon, BellSouth Mobility, Nextel and Sprint PCS. Several smaller carriers provide services in the Commonwealth, including Cincinnati Bell Wireless. As the following example of Sprint PCS coverage illustrates, wireless coverage is not ubiquitous. The coverage pattern is typical.



Wireless calls are routed through the nearest wireless tower, often called a base station, then through a wireline network operated by the wireless carrier that interconnects with the telephone

system. Charges apply for the amount of airtime used during a call, regardless of whether the caller originated or received the call. Roaming agreements are usually in place so a customer of a wireless carrier outside the region can make or receive calls while in the region. Often, additional charges apply when “roaming.”

### *Payphones*

There are over 300 coin-operated phone vendors in the Commonwealth. Routing of 511 calls made via payphones must be addressed by these coin operators, who in many cases are not the ILECs.

### *Kentucky Public Service Commission (KPSC)*

The Kentucky Public Service Commission (<http://www.psc.state.ky.us/>) is a three member administrative body with quasi-legislative and quasi-judicial duties and powers involving regulation of nearly 600 conventional utilities, plus approximately 300 coin-operated phone vendors. The Commission's mission is to ensure that every utility receives fair, just and reasonable rates for the services rendered and that their services are adequate, efficient and reasonable. The Commission has exclusive jurisdiction over the regulation of rates and service of all utilities in the state except those utilities subject to the control of cities or political subdivisions. The Public Service Commission consists of three members appointed by the Governor to 4-year staggered terms, with one commissioner appointed to act as Chairman and another as Vice Chairman. The Commission appoints an Executive Director who is responsible for the daily operation of the Commission. The Executive Director is not a Commission member.

The Commission processes approximately 700 cases a year, of which approximately 40% are rate cases. Once an issue is placed before the Commission, hearings are conducted to obtain input from all parties involved. These hearings are governed by the rules of the Public Service Commission and may be undertaken by any one or more Commissioners, or a hearing examiner designated by the Commission. The Commission may issue subpoenas, take depositions of witnesses, administer oaths and examine witnesses as part of the hearing procedure. Upon conclusion of hearings, all information is evaluated and an order is issued reflecting the Commission's decision. If a decision is challenged, a rehearing may be scheduled, where the party seeking to set aside any ruling by the Commission has the burden of proof to show that the rule is unreasonable or unlawful; otherwise, the Commission order is final and binding unless overturned in a civil court of law.

The Commission has developed an extensive set of regulations concerning services and safety aspects of a utility's operations. The Commission is charged with the responsibility to monitor and ensure adherence to service and safety regulations in the following areas:

1. Gas service and safety to homes and businesses.
2. Gas transmission pipeline service and safety.
3. Gas well location determinations.
4. Electric service and safety.
5. Telephone service.
6. Water service and safety.
7. Sewage service and safety.

Included in its oversight of telephone service, the KPSC maintains jurisdiction over N11 dialing codes. KPSC has indicated three areas of concern related to N11 dialing codes: number allocation, pricing and telecommunications switching network access/architecture. KPSC has indicated a willingness to assist KYTC in any of these areas as needed.

## *Plans/Vision*

When completed, the Commonwealth envisions four metropolitan/regional 511 services overlaid on a statewide system. Plans call for services such as those offered in Northern Kentucky to be available in the Louisville and Lexington metropolitan areas and the Cumberland Gap region of Southeast Kentucky. Each of those systems would offer connectivity to the Statewide Road Report that would be the default system in all other areas of the state. It is also envisioned that callers to the Road Report could be routed to any of the four metropolitan/regional areas at their option.

The caller's location will be the determinant as to which system they are routed to. For landline callers, this determination will be made based on the location of the central office location of their local exchange carrier. For wireless callers, it is hoped that the determination will be made based on the location of the cellular base station that is being used to connect with the caller.

The KYTC plans to continue supporting the costs associated with providing these services, such that the services can be continued to be offered free of charge to callers. KYTC has not yet determined the anticipated operating costs of the completed system envisioned.



## *Ongoing Activities*

Two principal activities are presently being pursued by KYTC: 511 assignment and the conversion process.

### 511 Assignment

On September 5, 2000, the Kentucky Transportation Cabinet petitioned the Kentucky Public Service Commission seeking assignment of 511 on a statewide basis to KYTC. KYTC cited as rationale that it was the only transportation agency in the Commonwealth of Kentucky that can fulfill the multiple mandates contained in the FCC's July 21, 2000 Order assigning 511 for traveler information services. According to KYTC, in the Order, the FCC determined that transportation agencies have the discretion to:

- a. Determine the deployment schedule of 511
- b. Determine the type of transportation information to be provided using 511
- c. Ensure that state and local transportation agencies cooperatively implement 511
- d. Provide transportation information that is appropriate to the National scope of the designation and the scarcity of N11 resources
- e. Ensure that transportation information transcends municipal boundaries and is retrievable in a single call.

On October 30, 2000, the KPSC concurred with the contentions of the KYTC in its petition and assigned the 511 dialing code to the KYTC on a permanent, statewide basis. KPSC also urged KYTC to convert its use of 211 in Northern Kentucky to 511 as expeditiously as possible.

### Conversion Process

The process of converting existing systems to 511 is occurring in many steps. Landline service and wireless service conversions are on different paths:

#### *Landline*

Convert Cincinnati Bell Telephone Company (CBT) Service Area – CBT will in the coming days and weeks reprogram their central offices switches to convert 211 to 511 as the abbreviated method in which landline callers in both the Kentucky and Ohio portions of the Cincinnati/Northern Kentucky metropolitan areas reach ARTIMIS TATS. Further, a menu item will be added to the ARTIMIS TATS to enable callers to be automatically connected for free to the Kentucky Road Report. This connection will be transparent to the caller and require a call from the ARTIMIS TATS to the 1-800-4KY-ROAD number. The costs associated with this connection will be covered by the KYTC at least through the current budget cycle, running through June 2002. Funds are available for both the CBT conversion to 511 and the menu addition. It is anticipated that at least for the near-term, the existing contractual arrangement governing CBT's costs described earlier that supports 211 services will remain in effect for 511 services.

BellSouth and Verizon Service Areas – KYTC proposes to make Kentucky Road Report 800-4KY-ROAD service accessible via the 511 abbreviated dialing code via landlines in the areas of the state where BellSouth and Verizon (formerly GTE South) operate as the Incumbent Local Exchange Carrier. KYTC believes it has the funding necessary to support offering the 511 service free of charge to callers at least in the “near-term”. “Near-term” is at least through the current budget cycle that ends June 2002 and more likely, unless a significant shift in policy of the state legislature occurs, at least the next 5 years. Implementing in the BellSouth and Verizon calling areas enables KYTC to provide landline access to traveler information in nearly all the Commonwealth’s Interstate and Parkway corridors (when included with the CBT service area). To establish 511 services, BellSouth and Verizon either need to enter into contracts with KYTC or file and have a tariff approved by the Kentucky Public Service Commission governing the rates to be charged for the service. It is anticipated that the necessary financial agreements will be in place such that service will be available before the end of calendar year 2000.

Remainder of the Commonwealth – Based upon funds available, KYTC will add selected local exchange carriers to the 511 dialing code network. Priority will be given to the Interstate and Parkway Corridors. KYTC plans to seek funds in the Commonwealth’s next biennial budget to (1) switch all remaining LECs to 511, (2) provide more detailed transportation information via cellular/wireless and landline phones in the Louisville Metropolitan area, and (3) work with the other agencies in the Commonwealth that provide telephone traveler information to make their information accessible via 511.

#### *Wireless*

Northern Kentucky – KYTC will work with the wireless carriers that currently use 211 to access ARTIMIS TATS and encourage their conversion to 511. It is hoped that at least the status quo of waiving airtime charges will continue for four of the six wireless carriers.

Lexington-Fayette Urban County Government (LFUCG) – KYTC will work with LFUCG to transition their existing \*311 cellular/wireless information to the 511 dialing code. It is hoped that a menu item will be added to automatically connect callers to the Kentucky Road Report via 1-800-4KY-ROAD. When, and if, funds become available to add landline 511 call access to LFUCG telephone service, KYTC will work with LFUCG to ensure this is done in the most efficient and effective manner. KYTC hopes that surrounding counties in the Lexington commuting area will be included in the landline service.

Cellular/Wireless Providers – The FCC Order encourages wireless carriers to develop agreements to waive roaming charges for 511 calls. While the current competitive marketplace may achieve this objective for most providers, the KYTC will work with all providers to preclude roaming charges, as well as waiving airtime charges.

Incorporating payphones represent an open issue at present. With over 300 different payphone operators in Kentucky, making contact and reaching rate agreements appears a daunting task and one that is not likely to be pursued until other priority areas are addressed.

## ***Lessons Learned***

The following are some of the key “lessons learned’ by the implementers of 511 in Kentucky. They are not intended to be exhaustive, but rather cover some key items they have learned through their process that might be helpful to others.

*Find and contact your state telephone association.* It appears that most every state has a telephone association that has as its members local exchange carriers. Working with the Kentucky State Telephone Association helped KYTC quickly understand the LEC environment and locate the key people in the LECs. If your state does not have an active telephone association, then you should concentrate your efforts on identifying the large ILECs and in particular the right person in those carriers.

*Make early, informal contact with the public utilities or service commission.* KYTC engaged in early discussions with staff from the Kentucky Public Service Commission. This was helpful in understanding the role of the PSC, the regulatory process and further background on the telecommunications industry in Kentucky. It also afforded the opportunity for KYTC to provide an overview of the vision and services possible through a telephone system.

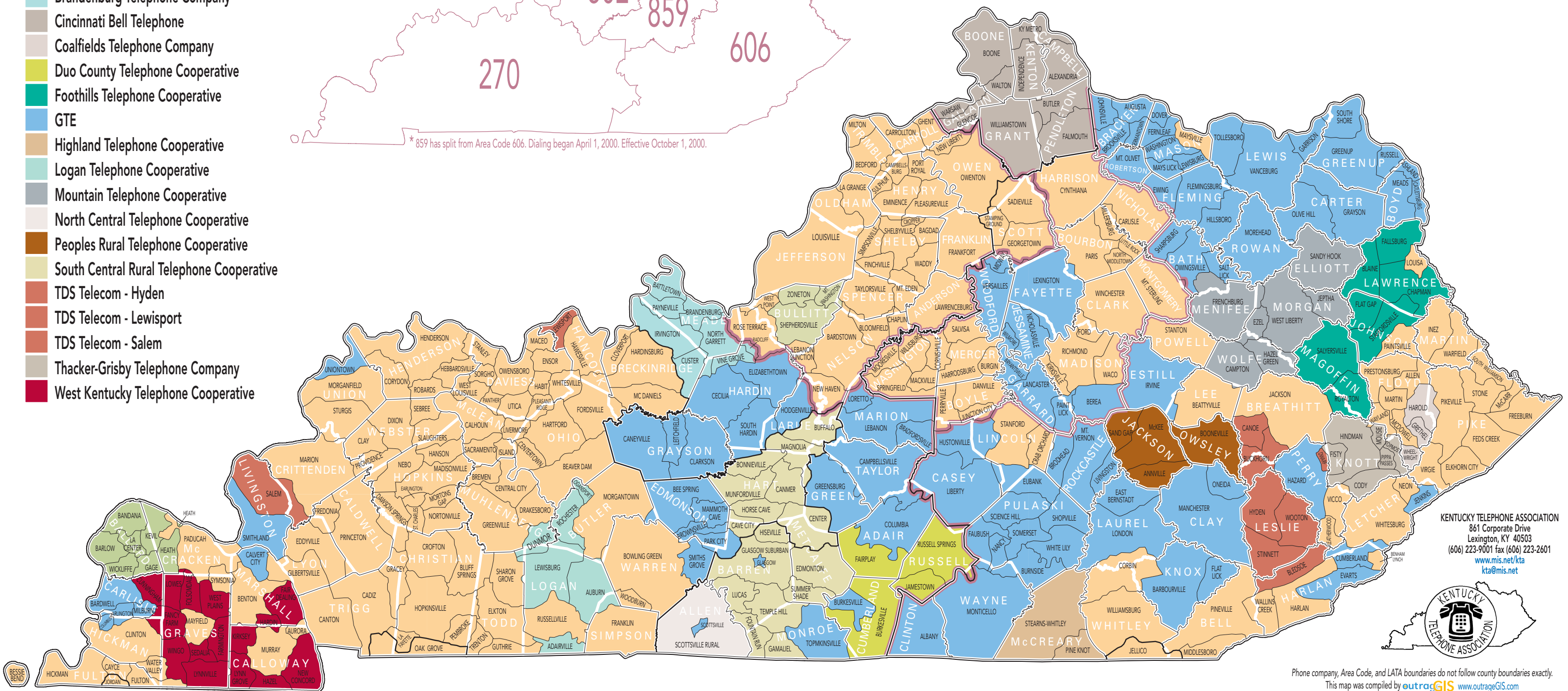
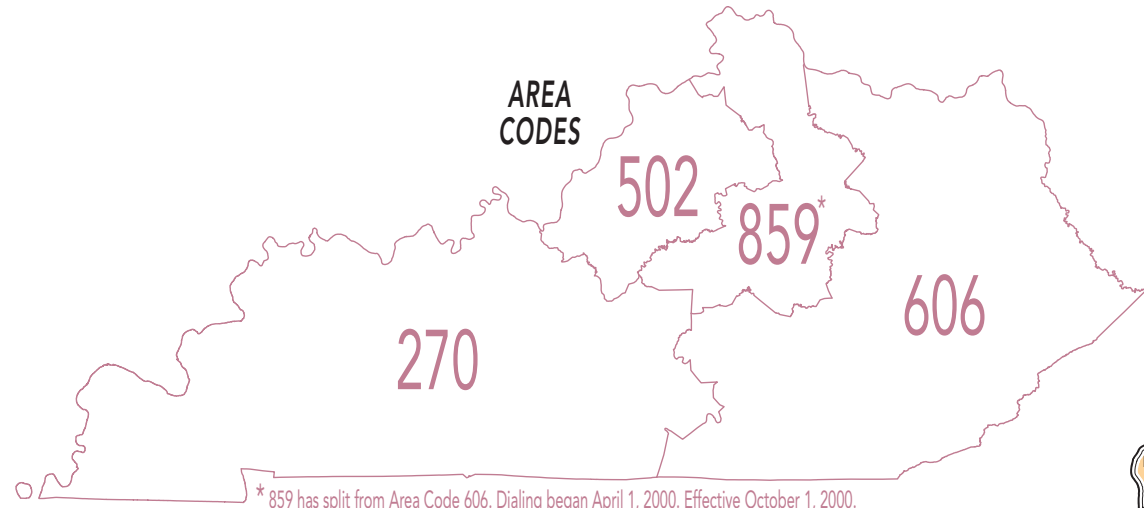
*Most of the cost of the system is to gather and format the information provided, not the cost of calls.* It is estimated that through September 2000, \$7.15 million has been expended by the ARTIMIS partners to provide a quality traveler information system. Of that amount, roughly \$750,000 is directly related to supporting the telephone service (communications charges, equipment, etc.) while \$6.4 million has been expended to obtain the information provided on the phone system. In other words, the cost of the phone system itself is far from the only cost factor to deliver quality information.

*Consider human factors when designing the telephone system.* This applies to both users of the service as well as those providing data that is used to generate reports. Feedback from operators of The Kentucky Road Report indicate that significant efforts have been made to establish clear, concise and consistent reports of conditions. The data entry system has pre-formatted messages and those that enter the data are encouraged to use them to the maximum extent possible. While those doing the data entry are trying to be helpful in describing a situation, too much free form text input can result in confused users. Pre-formatted messages and a simple data entry system is used to minimize the difficulty of operator input. This has been key to ensuring that each district continues to provide the complete, timely and accurate information desired.

# KENTUCKY

April, 2000

- ALTEL Communications
- Ballard Telephone Cooperative
- BellSouth Telecommunications
- Brandenburg Telephone Company
- Cincinnati Bell Telephone
- Coalfields Telephone Company
- Duo County Telephone Cooperative
- Foothills Telephone Cooperative
- GTE
- Highland Telephone Cooperative
- Logan Telephone Cooperative
- Mountain Telephone Cooperative
- North Central Telephone Cooperative
- Peoples Rural Telephone Cooperative
- South Central Rural Telephone Cooperative
- TDS Telecom - Hyden
- TDS Telecom - Lewisport
- TDS Telecom - Salem
- Thacker-Grisby Telephone Company
- West Kentucky Telephone Cooperative



KENTUCKY TELEPHONE ASSOCIATION  
 861 Corporate Drive  
 Lexington, KY 40503  
 (606) 223-9001 fax (606) 223-2601  
[www.mis.net/cta](http://www.mis.net/cta)  
[cta@mis.net](mailto:cta@mis.net)



Phone company, Area Code, and LATA boundaries do not follow county boundaries exactly.  
 This map was compiled by [outragGIS](http://www.outrageGIS.com) with GIS data provided by the Kentucky Public Service Commission.