

# **“TELECOM 101” (Publication: 2010)**

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## **A Briefing for Missouri Policy Makers**

*Presented by the*

**Legislative Affairs Committee of the  
Missouri Telecommunications Industry Association**





# The Basics

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**Objective:** To provide Missouri legislators with a working knowledge of the basic structure and function of the 21<sup>st</sup> Century telecommunications industry in the context of state and national public policy issues.

## ***That's important because...***

- ✓ The telecommunications industry is foundational to the “Information Economy” --- both wireline and wireless networks underpin Missouri’s information and communications technology ecosystem
- ✓ Today’s economy is driven by, and dependent on, the movement of massive amounts of data traffic, video and business applications across a broadband connection
- ✓ And let’s not forget voice --- our original “app”
- ✓ From voice and video monopolies to widespread competition --- state public policy has to keep pace with technology and the marketplace



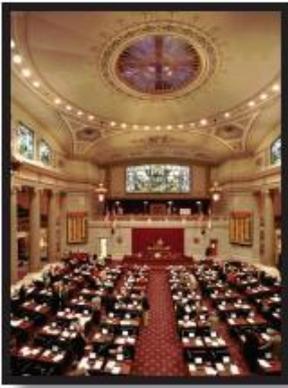


# The Basics

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- ✓ Who we are --- a trade association representing both traditional wireline telecom carriers (your local telephone company) as well as wireless carriers, long distance providers, broadband ‘middle-mile’ network providers and others
- ✓ An “umbrella” group ---- our positions don’t always converge, but we can always be a resource to legislators seeking to understand telecom issues in the context of today’s competitive marketplace – and a forum to work out consensus





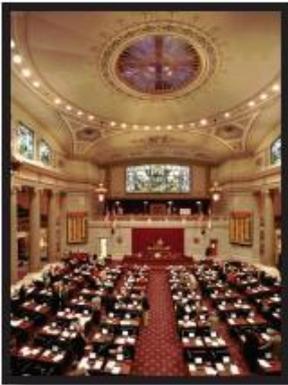
# The Basics

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## *The Basic Players & Terminology ----*

- ✓ ILEC --- “Incumbent” Local Exchange Carrier ---- your traditional local telephone company – in operation before the 1996 Telecom Act (federal legislation that opened up the voice market to other competitors)
- ✓ CLEC – “Competitive” Local Exchange Carrier --- an alternative carrier that can be either “facilities-based” (has own network) or a re-seller of other carriers’ services
- ✓ IXC ---- an Inter-Exchange Carrier --- a “long distance” provider of voice service from one part of the state (or country) to another





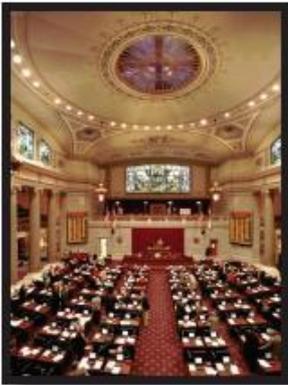
# The Basics

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## *The Basic Players & Terminology ----*

- ✓ Wireless/Cellular Carrier -- provides voice, video, Internet, data over a wireless platform -- BlackBerry, Droid, Iphone --
- ✓ Broadband ---- a high-speed connection to the Internet provided over fiber or copper (with some upgrade) or over a wireless platform – WIFI – “hotspot”
- ✓ VoIP ---- Voice over Internet Protocol --- a voice connection carried over an IP network --- often the delivery method for a cable carrier providing voice service





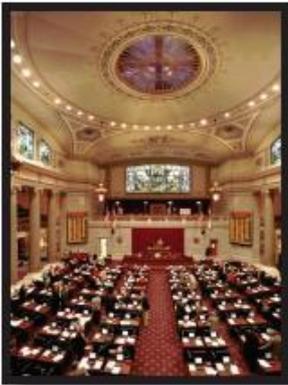
# The Basics

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## *The Regulatory Landscape ----*

- ✓ Congress and State Legislatures create the statutory framework in which telecommunications providers operate
- ✓ These legislative bodies delegate regulatory oversight, in varying degrees, to the Federal Communications Commission and state utility commissions
- ✓ The Missouri Public Service Commission --- 5 commissioners appointed by the Governor (with the approval of the Senate) --- each serve 6 year terms – Governor selects chairman -- Commission is funded 100 % by assessment on regulated carriers and other utilities





# The Basics

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## *The Regulatory Landscape ----*

- ✓ Telecom providers are regulated in varying degrees by the Commission:
  - ILECs --- most restrictive, although regulations are becoming less so thanks to changes made by General Assembly -Commission becoming more of a referee between carriers than an enforcer of prescriptive rules
  - CLECs --- were always given more regulatory freedom as new entrants into competitive markets
  - Wireless providers – not regulated by the Missouri Commission at all, answer to the FCC
  - Cable voice providers - very limited oversight from the Missouri Commission when they offer voice service
  - Video providers (both telecom & cable) – very limited oversight from Commission – limited mostly to registration





# The Network

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Local “traffic” and Non-local “traffic”

- ◆ Traffic = voice, data, video

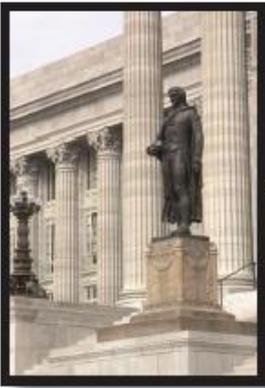
Interconnection between service providers ensures seamless service for consumers

Appropriate interconnection with incumbents cannot be denied

- ◆ Required by federal and state law
- ◆ Incumbent obligations stronger than non-incumbent

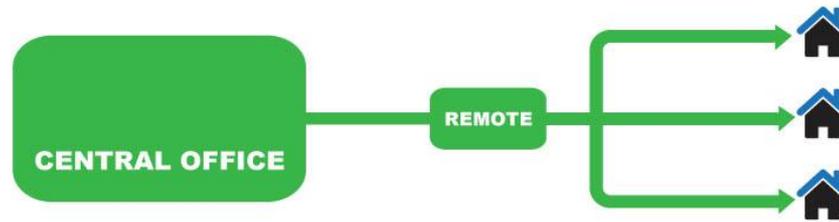
Tariffs and interconnection agreements approved by regulators detail conditions and pricing of services.

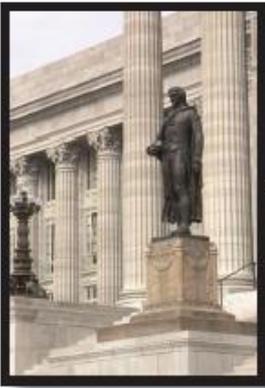




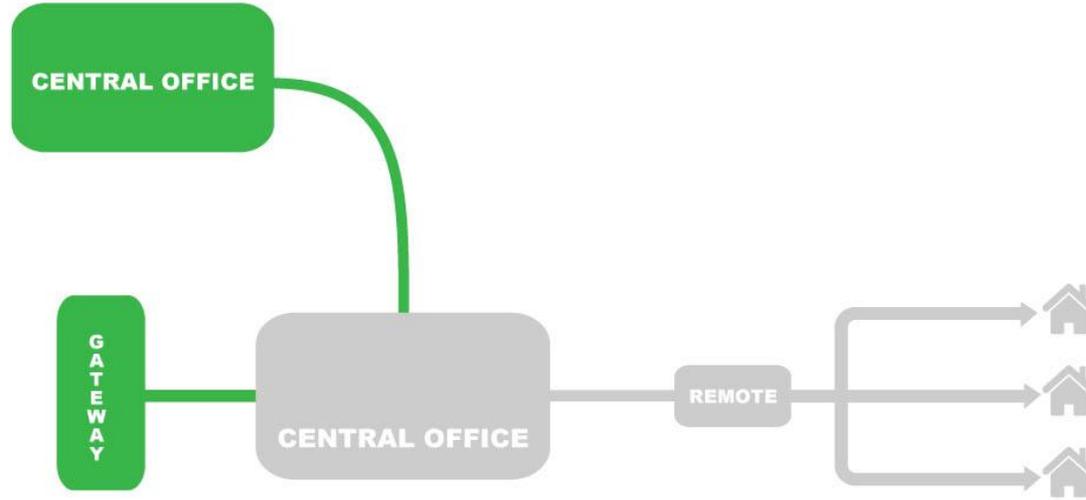
# The Network

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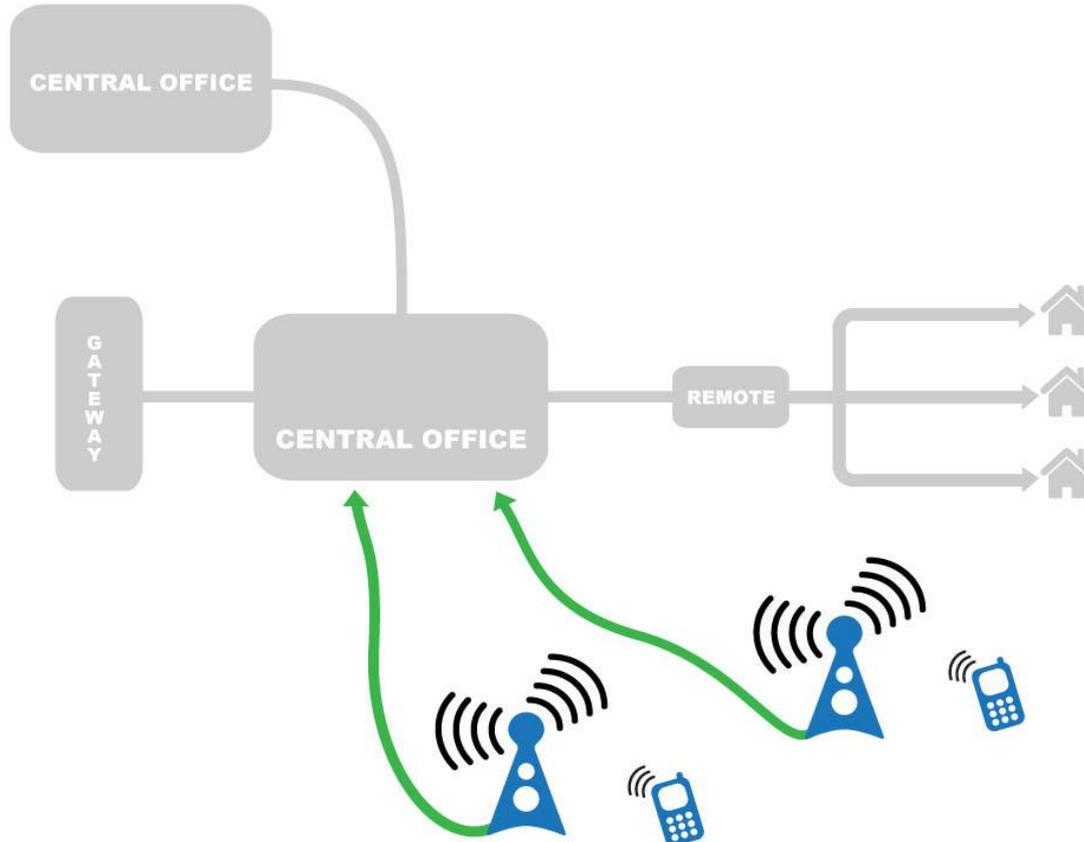


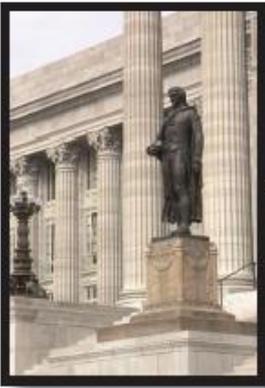
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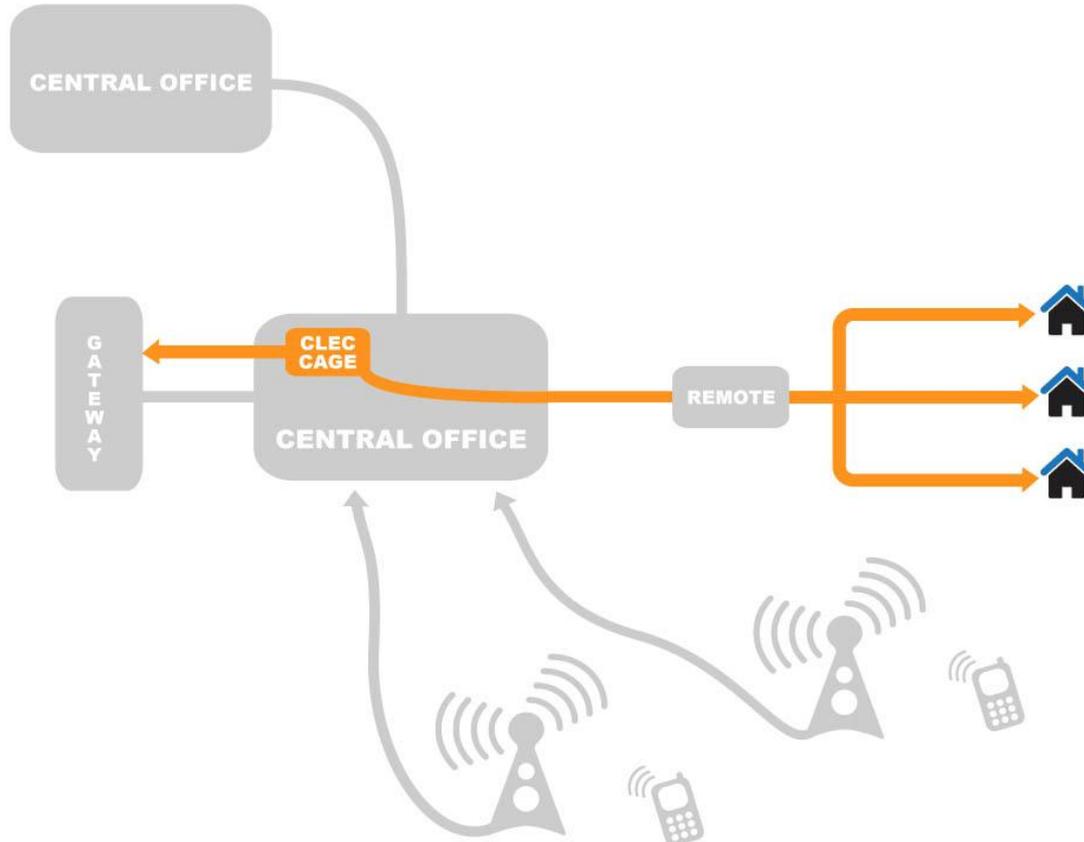


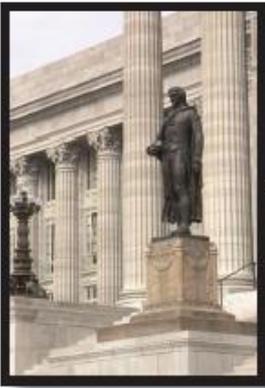
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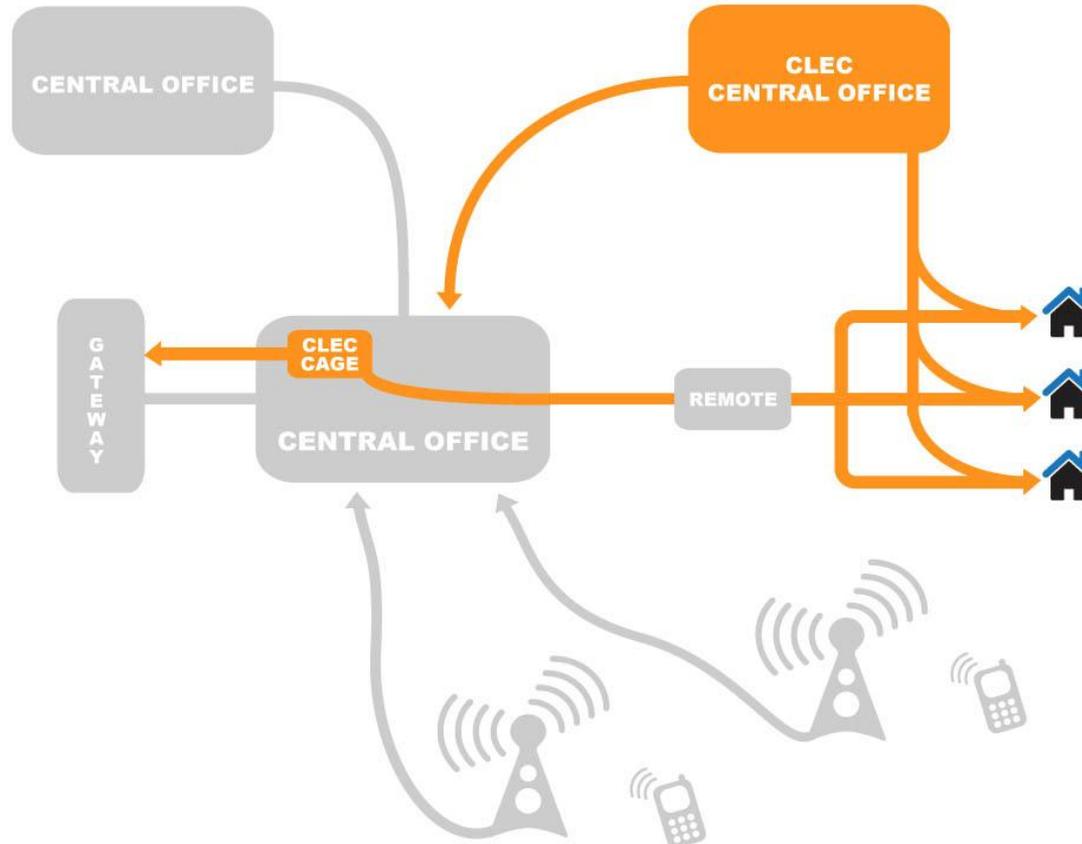


# The Network





# The Network





# Dollars & Sense

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## *Revenue Sources*

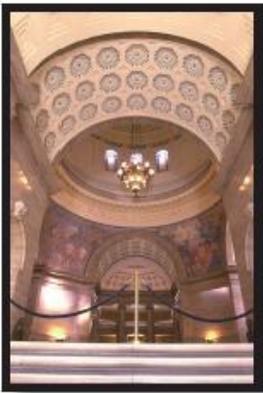
### **Customer/End-User Rates**

- ◆ local line-local calling area, toll or long distance, custom calling features, operator, directory assistance, etc.

### **Intercarrier Compensation – Rates paid by other carriers**

- ◆ Carrier Access Rates - Rates charged by a LEC to another carrier to originate and/or terminate long distance calls on the LEC's network (Note: different rates for Interstate and Intrastate access services)
- ◆ Reciprocal Compensation - Rates charged by a LEC to a local competitor (including wireless) to terminate local calls on the LEC's network





# Dollars & Sense

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## *Revenue Sources*

### **Universal Service Fund (USF)**

- ◆ Federal (high cost & low income support)
- ◆ State (low income & disabled support only)

**The significance of any particular revenue source to a Company's overall revenues will vary by Company.**

- ◆ Wireline v. Wireless
- ◆ LEC, IXC or VOIP
- ◆ Rural v. Urban
- ◆ Large v. Small





# Dollars & Sense

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## *Cost Structure*

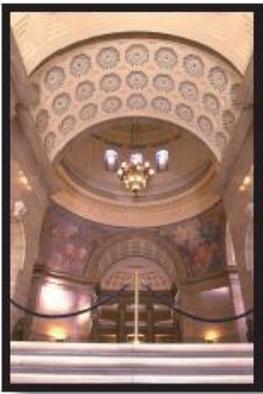
### Operating Expenses

- ◆ Administrative & general
- ◆ Labor, Maintenance & repair
- ◆ Depreciation
- ◆ Taxes (income, property, etc.)
- ◆ Utilities
- ◆ Rent
- ◆ Insurance, etc.
- ◆ Interest on debt
- ◆ Return on capital investment

### Capital or Plant Expenditures

- ◆ Switches
- ◆ Fiber optic and/or copper cable
- ◆ General Support – e.g. buildings, vehicles, computers, tools, etc.
- ◆ Wireless spectrum
- ◆ Towers, antennas, etc.





# Dollars & Sense

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## *Types of Services & Rates*

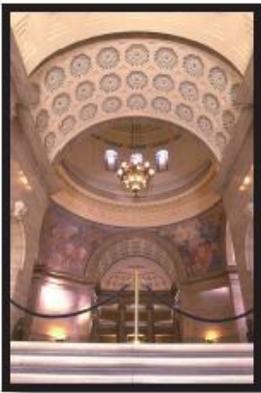
### **“Regulated Services”**

- ◆ Rates contained in tariffs filed with FCC (for interstate services) or MoPSC (for intrastate services)  
(e.g., local line, toll (MoPSC only), custom calling features, access)

### **“Non-Regulated Services”**

- ◆ Rates set by Company – subject to market conditions  
(e.g., wireless, video, Internet, inside wire & telephone maintenance plans)





# Dollars & Sense

## *Types of Rate Regulation by MoPSC*

### **Rate of Return (primarily Small ILECs)**

- ◆ MoPSC sets rates (local, toll, access, custom calling features) based on ILECs “cost of service” which includes their prudently incurred operating expenses plus a reasonable return on their investment in plant.
- ◆ Telephone Cooperatives – (i.e. Telephone Companies whose customers are also its shareholders) are free to set their own local rates without MoPSC oversight. Access rates are still subject to MoPSC regulation.
- ◆ Historically, MoPSC has set access rates at levels higher than their interstate counterparts in order to keep local customer/end-user rates affordable.





# Dollars & Sense

## *Types of Rate Regulation by MoPSC*

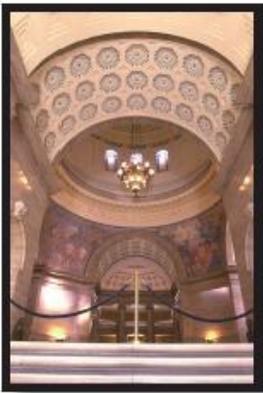
### **Price Cap (two mid-size ILECs)**

- ◆ Rates for basic local and exchange access services capped. Rates for exchange access shall decrease based on decreases in the CPI. Rates for basic local service shall decrease based on a decrease in CPI, and may increase, based on an increase in the CPI. Rates for non-basic/access services are not capped and can be increased/decreased at Company's discretion.

### **Competitive (Large ILECs, all CLECs, all IXC)**

- ◆ Rates for services (or Companies) deemed competitive are set by the Company at its discretion. Increases in rates for competitive services require ten (10) days written customer notice and ten (10) day tariff filing. Decreases may be made on one (1) day tariff filing (no customer notice required).





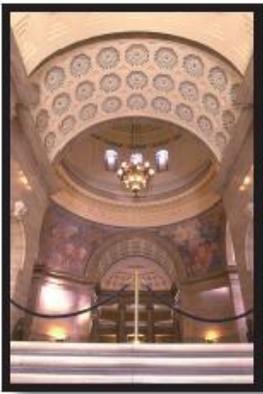
# Dollars & Sense

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## *Types of Rate Regulation by MoPSC*

Regardless of the type of regulation, investments in telecommunications infrastructure must make economic sense. In other words, revenues must be sufficient to recover incremental expenses (including depreciation) and provide a return on investment to shareholders and/or bondholders.





# Dollars & Sense

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## *Other Taxes & Governmental Charges/Fees*

### **Taxes (other than income & property)**

- ◆ Sales (state & local)
- ◆ Franchise
- ◆ Gross Receipts
- ◆ 911

### **Other Governmental Charges/Fees**

- ◆ MoPSC Assessment
- ◆ Deaf Relay
- ◆ USF (federal & state)

**On average taxes account for more than 15% of a customer's bill.**





# Dollars & Sense

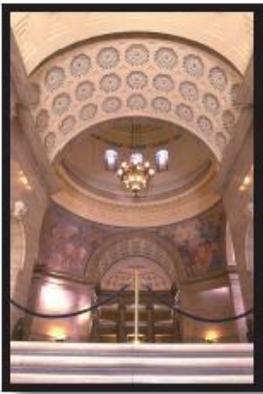
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## *Universal Service*

### **Federal Telecommunications Act provides, in part, that:**

“Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.” §254(b)(3)





# Dollars & Sense

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## *Universal Service*

### **Federal USF**

- ◆ Provides “high cost support” to Eligible Telecommunications Carriers (ETC) whose costs to provide local line service are higher than the national average
- ◆ Also provides support to qualifying low income customers
- ◆ Eligible Telecommunications Carrier (ETC) is a carrier designated as such by the MoPSC and, in addition to providing specified services, has the carrier of last resort (COLR) obligation.
- ◆ Carrier of Last Resort (COLR) – Any telecommunications company which is obligated to offer basic local telecommunications service to all customers who request service in a geographic area defined by the MoPSC and cannot abandon the obligation without approval of the MoPSC.





# Dollars & Sense

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## *Universal Service*

### **Missouri USF – MoPSC authorized to adopt rules to:**

- ◆ To ensure the provision of reasonably comparable essential local telecommunications service . . . throughout the state including high-cost areas, at just, reasonable and affordable rates.
- ◆ To assist low-income customers and disabled customers in obtaining affordable essential telecommunications services. (§392.248 RSMo)
- ◆ To date, MoPSC has only implemented rules for providing support to qualifying low income and disabled customers.





# Wireless, Broadband & Other Advanced Services

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- ⇒ New growth areas as face challenge of maintaining legacy services
- ⇒ Dynamic, innovative, rapidly evolving, competitive marketplace
- ⇒ Consumer driven environment
- ⇒ Capital intensive
- ⇒ Engine of economic development, job growth – we increase the velocity of business





# Wireless, Broadband & Other Advanced Services

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## *Wireless*

- ⇒ Now have over 5M wireless subscribers in Missouri – over 25% of homes are wireless only - increasing the challenge of maintaining wireline networks
- ⇒ Array of acronyms (2G, 3G, 4G, WiMax, LTE) – boils down to faster speeds, more capacity, improved coverage
- ⇒ Market characterized by a wide variety of phones and plans (e.g., post-paid, pre-paid, bring your own phone, etc.) – rapidly evolving
- ⇒ Evolution to data-centric environment – apps, smart phones, devices, tablets – voice becomes a data app
- ⇒ All this takes large, on-going capital investment (>\$22B)





# Wireless, Broadband & Other Advanced Services

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## *Broadband*

- ⇒ Brought to you by a variety of technologies - DSL, fiber, wireless, cable modems – evolution to faster speeds
- ⇒ Over 2.5M Missouri subscribers from 98 providers
- ⇒ Capital intensive – challenge of low demand, high cost, technology limitations
- ⇒ Federal and state government focus on broadband – (broadband plans / federal stimulus / mapping)
- ⇒ PSC study requested by Senate Commerce Committee





# Wireless, Broadband & Other Advanced Services

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## *Video*

- ⇒ 2007 franchise law hastened competition in video – approximately 800 franchise approvals to date
- ⇒ Some members in traditional cable business - others using new technology called IPTV
- ⇒ Capital intensive – over \$450M in new investment under franchise law
- ⇒ Over \$80M in franchise fees paid to municipalities





# Key Issues on the Horizon

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## *A little history from Capitol Hill ---*

- ✓ 1984 - Modern reform of national and state telecommunications laws began with divestiture of the Bell Operating System and introduction of competition in long distance market. Intercarrier compensation plan using access charges begun – long distance carriers pay to use local networks
- ✓ 1996 – More changes come in the 1996 Telecommunications Act. New laws moved away from monopoly environment and opened voice to competition from CLECs, allowed other providers, including wireless carriers, to use the networks of ILECs.





# Key Issues on the Horizon

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## *Missouri Milestones ---*

- ✓ 1987 (HB 360) – Recognized competition in long distance market and established method for IXC's to be certified by MoPSC. Existing carriers could have services classified as “competitive” or “transitionally competitive” and subject to reduced regulation.
- ✓ 1996 (HB 507) – Recognized competition in local markets and established new class of carrier - Alternative Local Exchange Carrier (same as CLEC). More relaxed regulation of ILECs. Established Price Cap regulation and set up framework of state Universal Service Fund.
- ✓ 2001 (SB 369) – Established uniform management procedures cities must follow when adopting utility ordinances governing the Right-of-Way – lowered barriers to deploy new services
- ✓ 2005 (SB 237) -- First major revision to the state's 1996 telecommunications law – allowed carriers more pricing flexibility to compete with cable providers – could offer discounts and incentives to retain customers





# Key Issues on the Horizon

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## *Missouri Milestones ---*

- ✓ 2007 (SB 284) – Allowed both cable TV companies and telecom providers to offer video services under a statewide franchise. No more local roadblocks to video services
- ✓ 2008 (HB 1779) – Gave both ILECs and CLECs new regulatory and pricing flexibility in light of increasing competition from cable providers offering voice service. VoIP services given very light regulatory touch
- ✓ 2010 (HB 1750) – Began the reform of Missouri's intra-state access rate system. Three largest providers (AT&T, CenturyLink and Windstream) will reduce rates by six percent each year for next three years
- ✓ ***Over last decade, legislative changes have recognized and reflected the move from a monopoly environment to a competitive marketplace ----***





# Key Issues on the Horizon

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## *Issues On & Over the Horizon*

- ✓ Further Telecom Reform – (i.e. “Carrier of Last Resort” Requirement)
- ✓ Continued Intra-State Access Reform
- ✓ Fewer regulatory “silos”, more parity across the board
- ✓ Wireless tax to support local 911 services
- ✓ USF & Intercarrier Compensation & the National Broadband Plan

