TAF GROUP REGIONAL SEMINAR ON COSTS AND TARIFFS

Interconnection and Access Deficit

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Agenda

Introduction

I- Concepts of interconnection and Access deficit

II- Interconnection Usage Charge and Access Deficit Modelling

III- Access Deficit recovering

Conclusion

Introduction

The objective of this presentation is to show how to calculate and recover the total costs of a fixed local (access and local calling) network.

With a simplified telecommunication network model, the approach presents:

- Some cost covering methods ;
- Who must support these various costs;
- **T**he access deficit problems and their management
- Access deficit management tools: tariff rebalancing, universal access fund, interconnexion usage charge….

I- Concepts of interconnection and Access deficit

The Concept Of Interconnection

According to the World Trade Organization (WTO), interconnection refers to:

"linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken."

The Concept Of Interconnection

Under the provisions of the European directive of 30 June 1997, interconnection means:

"the physical and logical linking of telecommunications networks used by the same or a different organization in order to allow the users of one organization to communicate with users of the same or another organization, or to access services provided by another organization. Services may be provided by the parties involved or other parties who have access to the network"

The Concept Of Interconnection

For the International Telecommunication Union:

"Interconnection is comprised of those commercial and technical arrangements by which service providers connect their equipment, networks and services so that their customers can have access to the customers, services and networks of other service providers"

Interconnection revenue
For operator A vis-à-vis operator B

- Revenue from termination of calls from B to A
  - Operator B collects all revenue billed to the customer
  - Operator B provides call termination service
  - Operator B pays an interconnection charge to A

- Revenue from leasing of infrastructure
- Revenue from leased links
- Revenue from co-location of certain technical equipment.

Interconnection Charges
For operator A vis-à-vis operator B

►Charges for termination of calls from A to B

Operator B collects all revenue billed to the customer
Operator B provides call termination service
Operator A pays B an interconnection charge.

►Charges for infrastructure leasing
►Charge for leased links
►Charge for co-location of certain technical equipment

The concept of Access Deficit

- The Access Deficit is defined as the difference between the costs and revenues associated with the provision of access and local telecommunication services

- The Access Deficit may be applicable to fixed or mobile

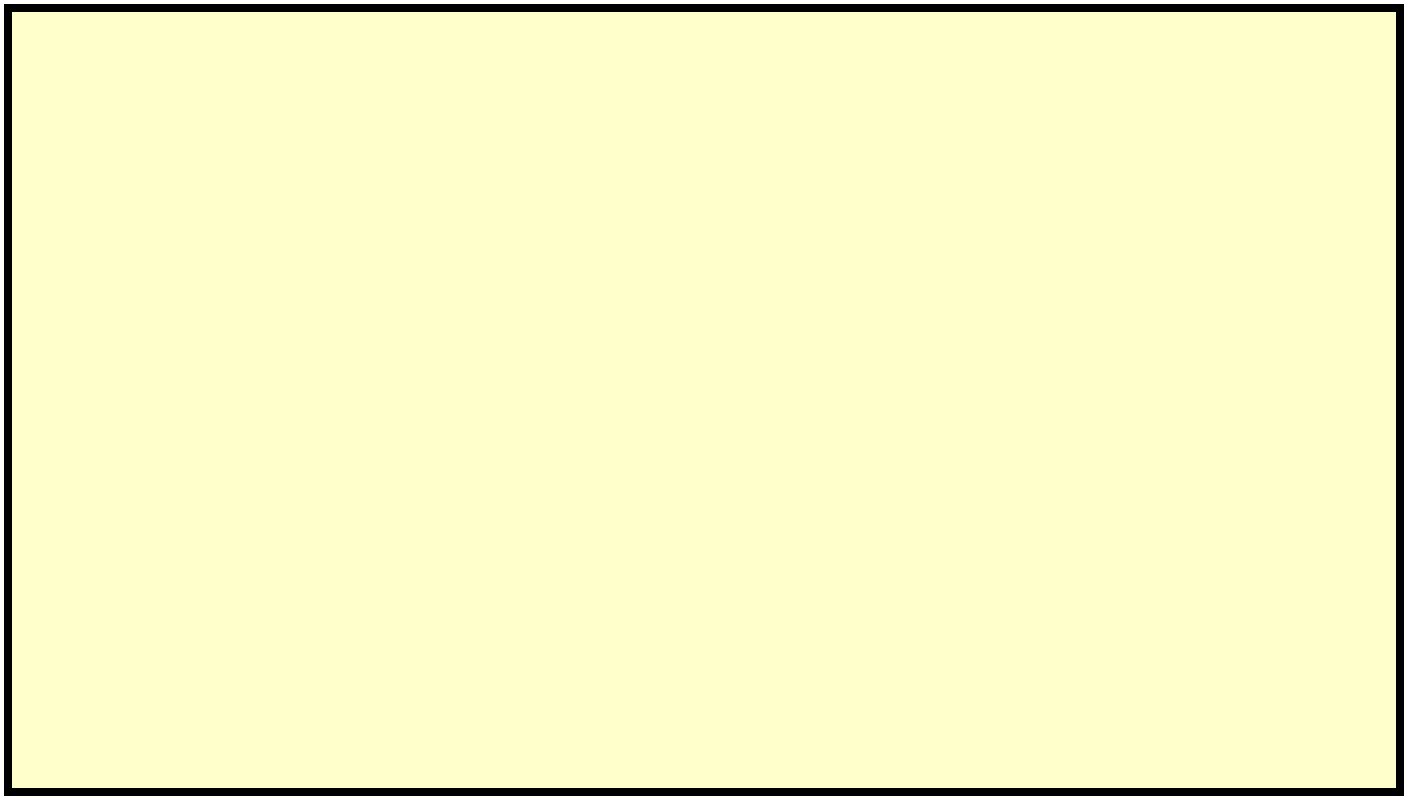
The concept of Access Deficit

- An access deficit may occur when the regulatory authority opposes cost-orientated adjustment of the following components:

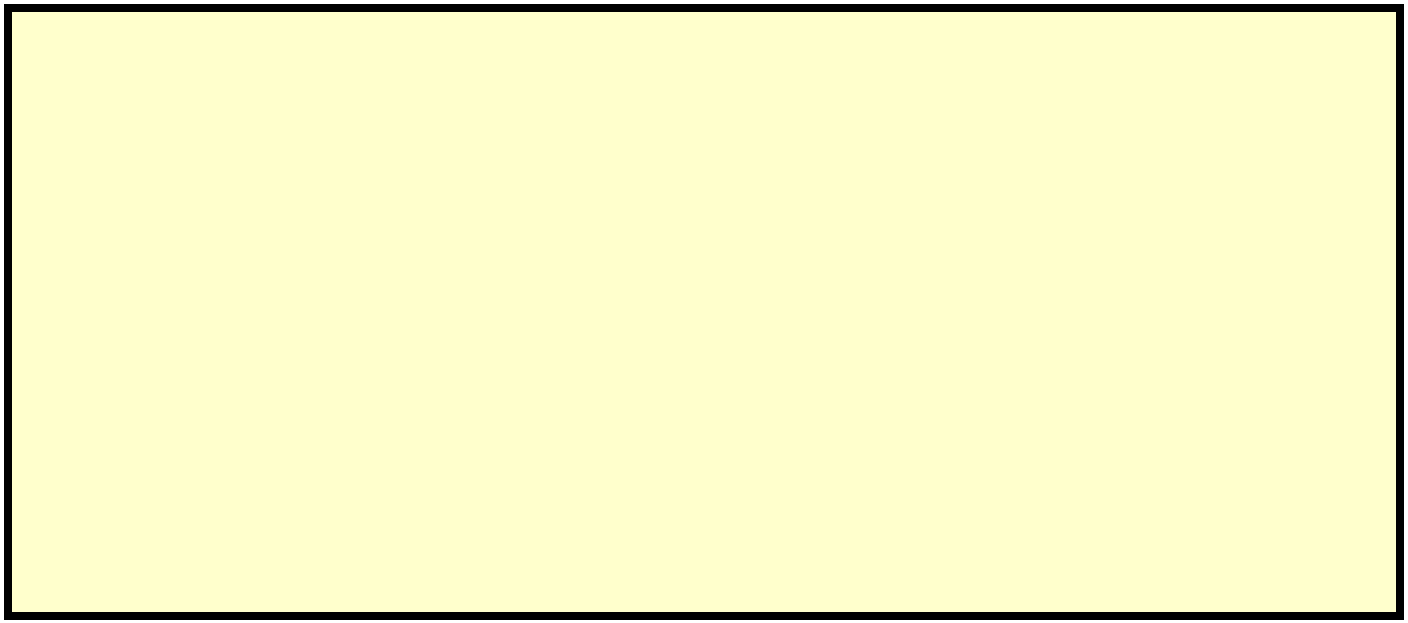
  - ***The connection charge***
  - ***The monthly subscription***
  - ***The price per minute of a local call (urban)***
  - ***The price per minute of a trunk call (interurban)***

II- Interconnection Usage Charge and Access Deficit Modelling

Start with fixed local (access and local calling) network. The main objective is to show how to calculate and recover the total costs.

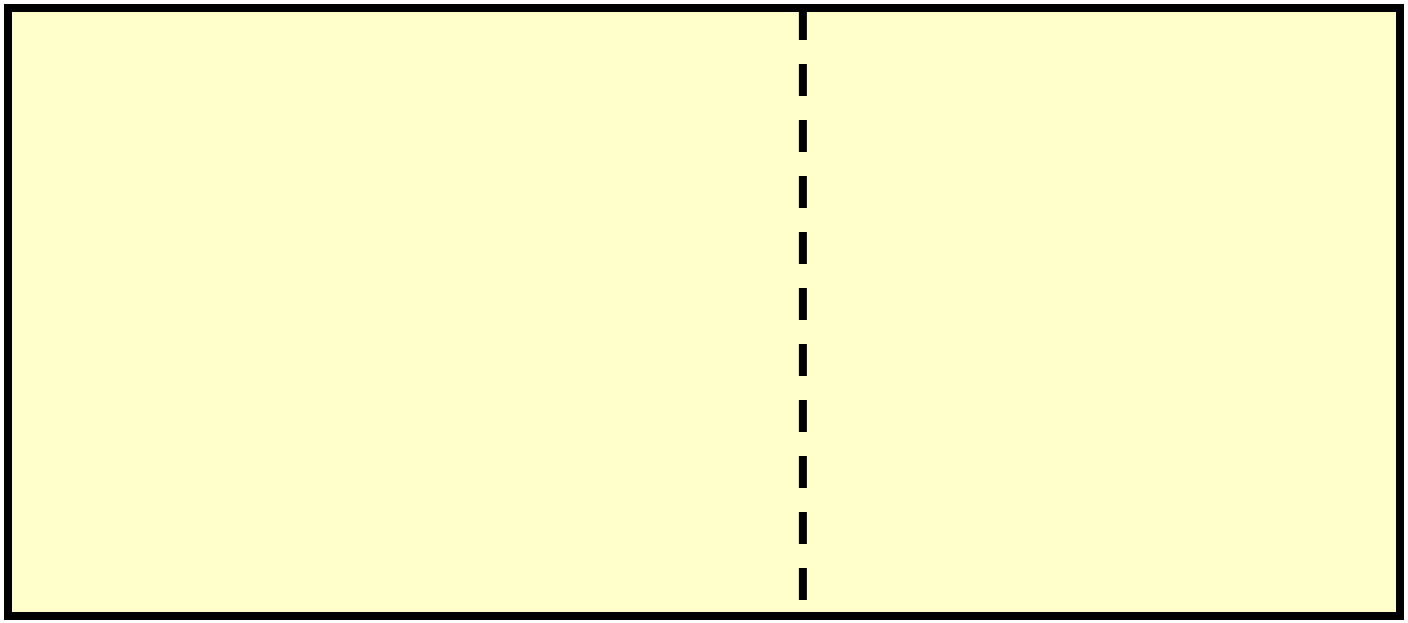


For exposition purposes, this calculation may be disaggregated into four main components



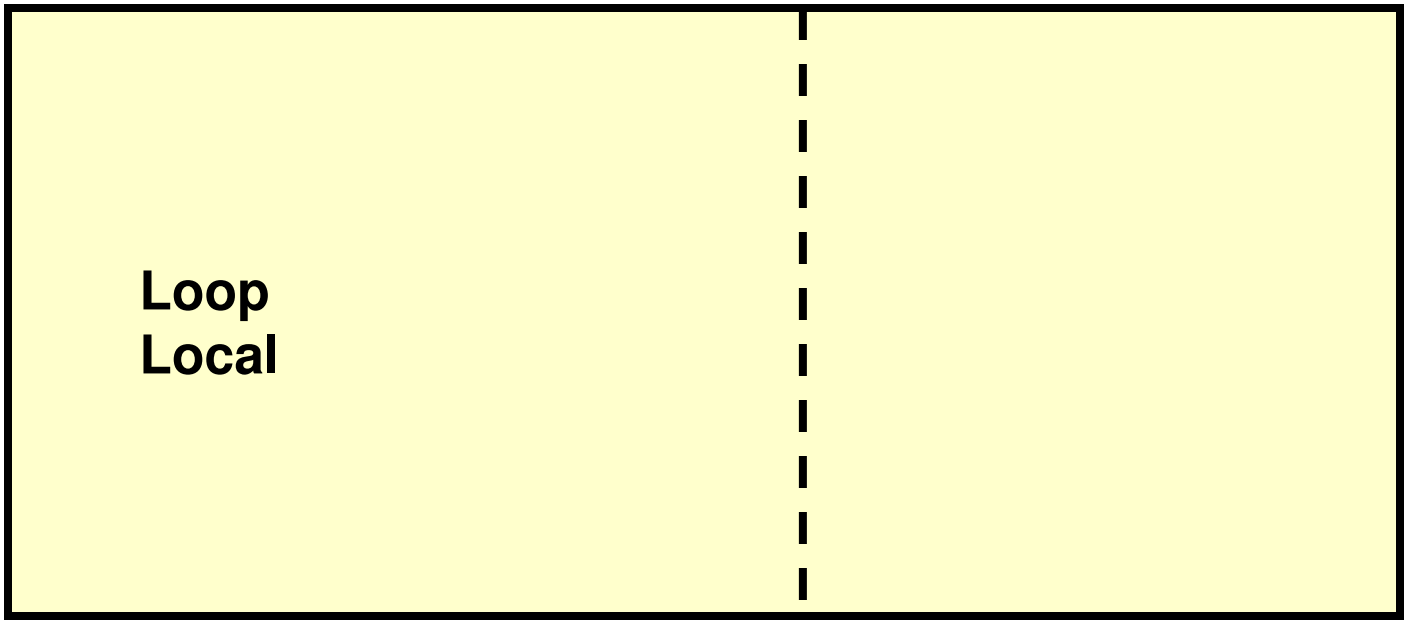
Local Loop **Switching** **Transmission** **Opex**

Take into account the Local Loop



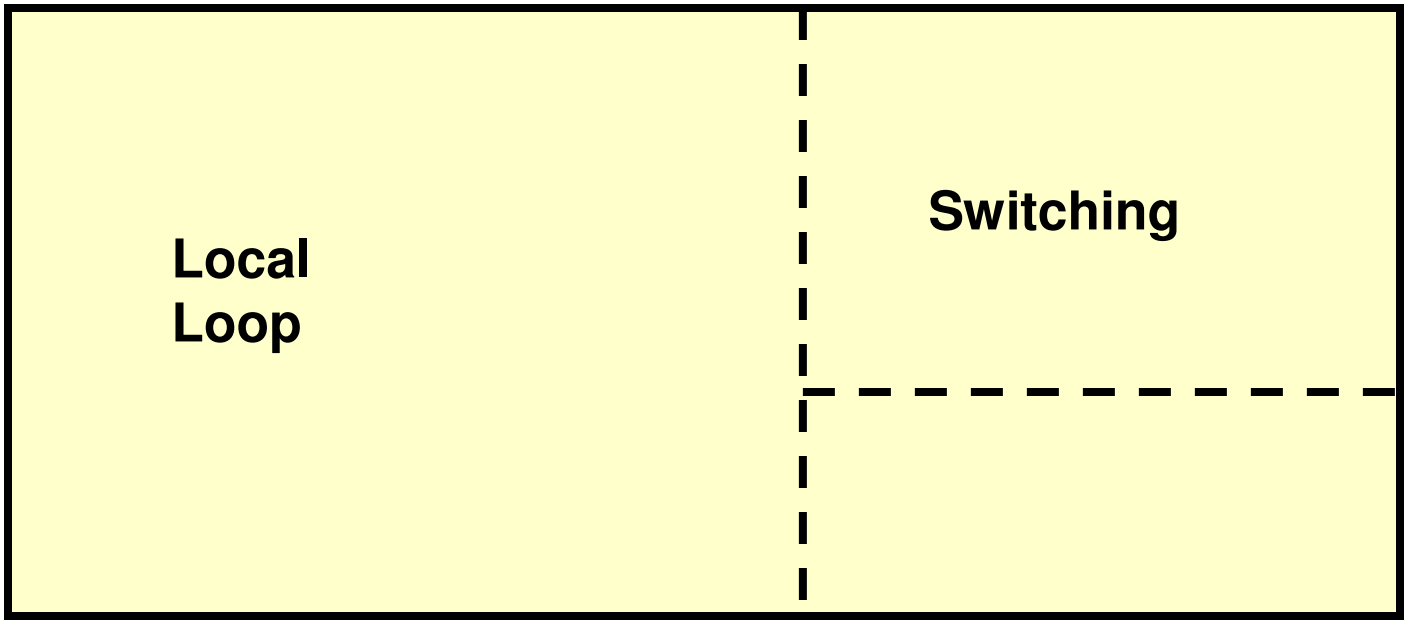
Loop Local **Switching** **Transmission** **Opex**

Then, the other two main “macro” elements...



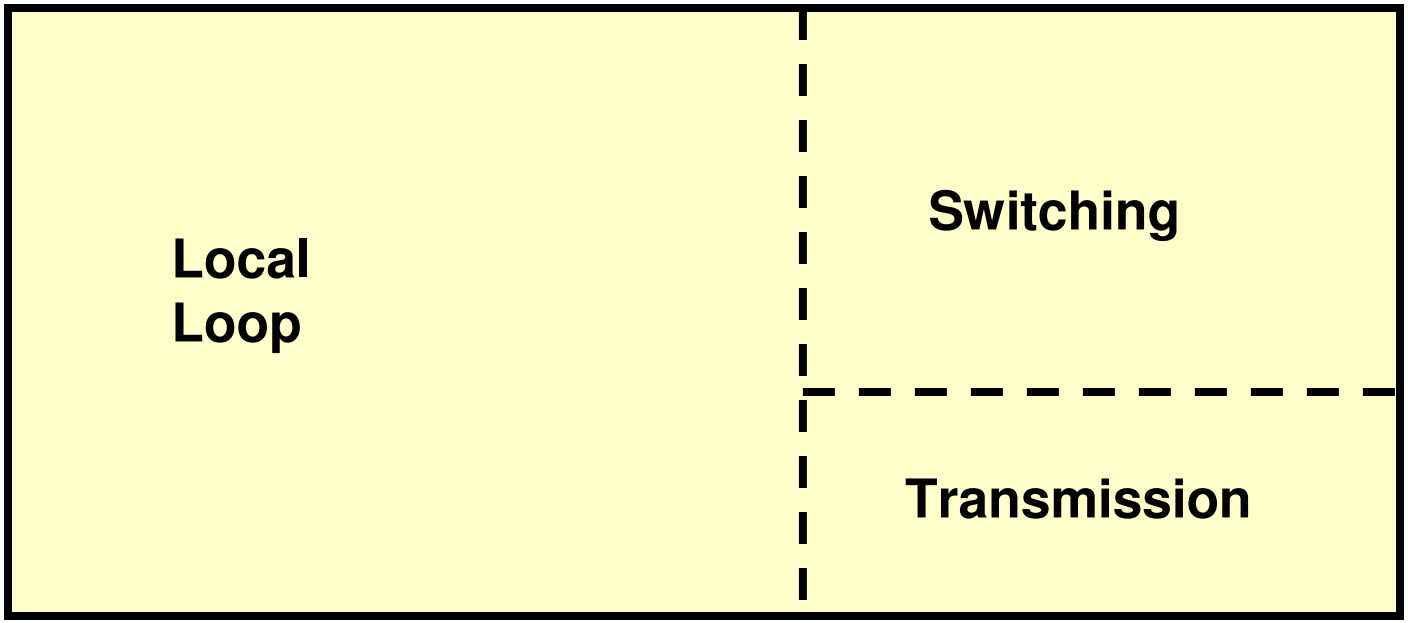
Switching **Transmission** **Opex**

Calculate switching and transmission



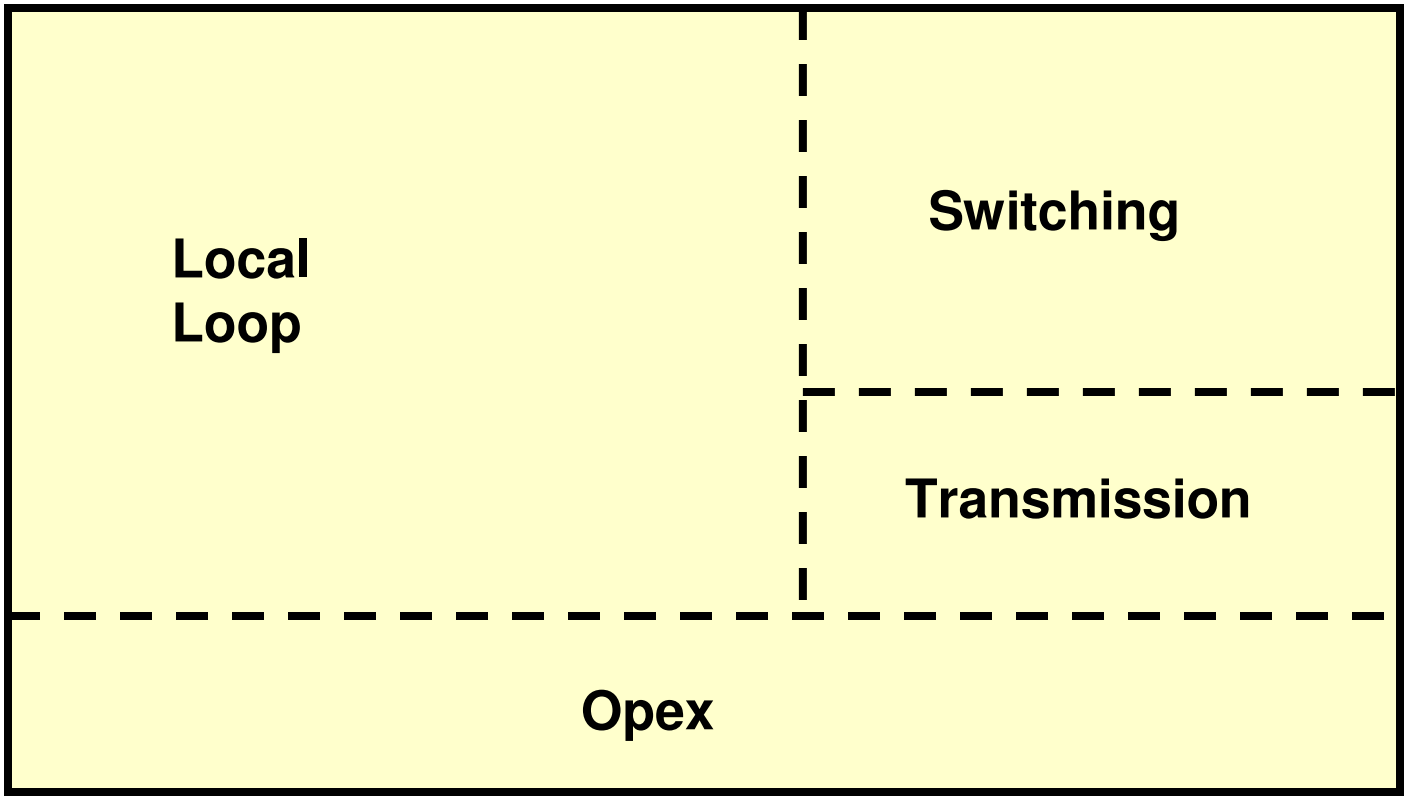
Transmission Opex

And the opex is estimated on the basis of three initial components...

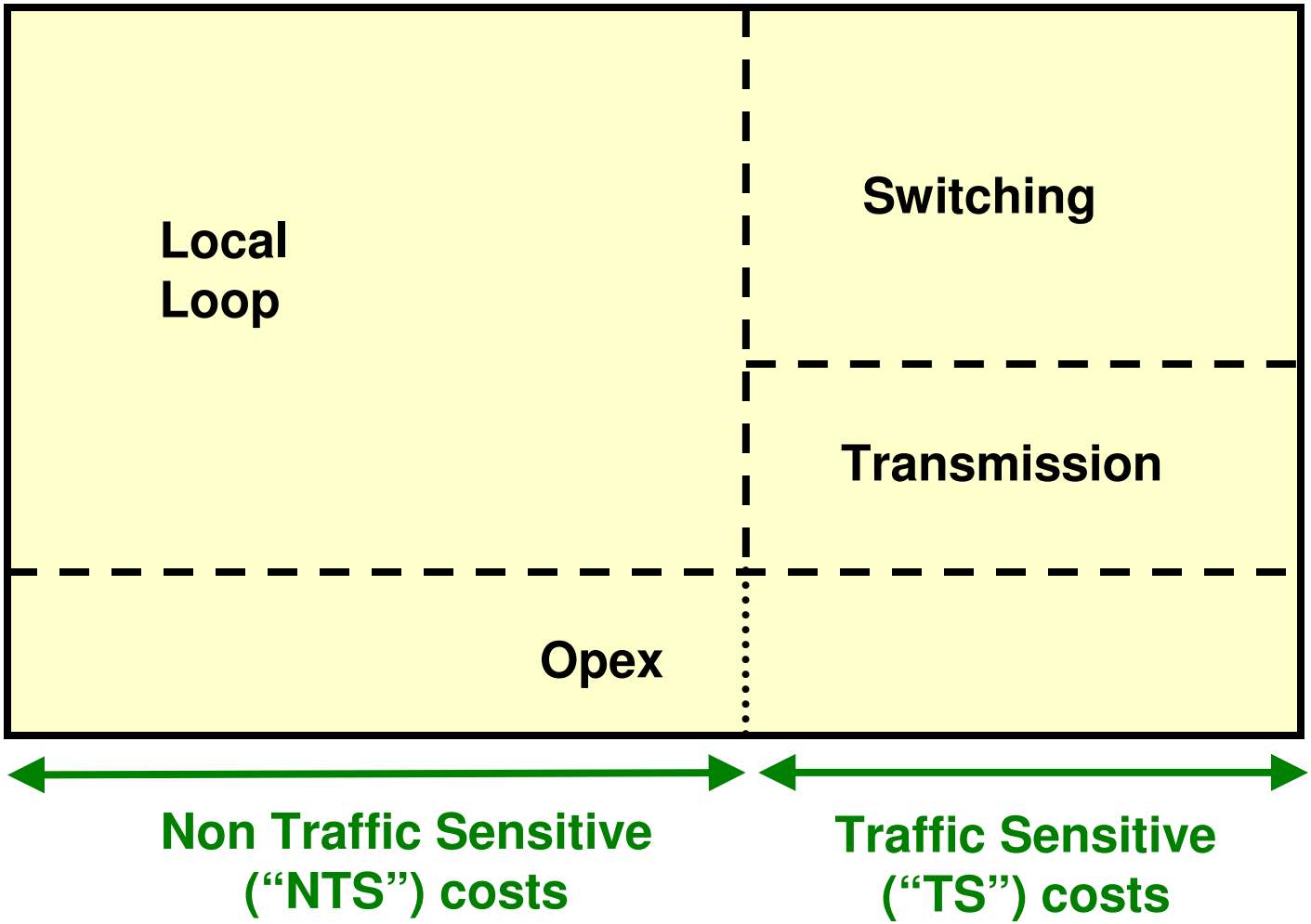


Opex

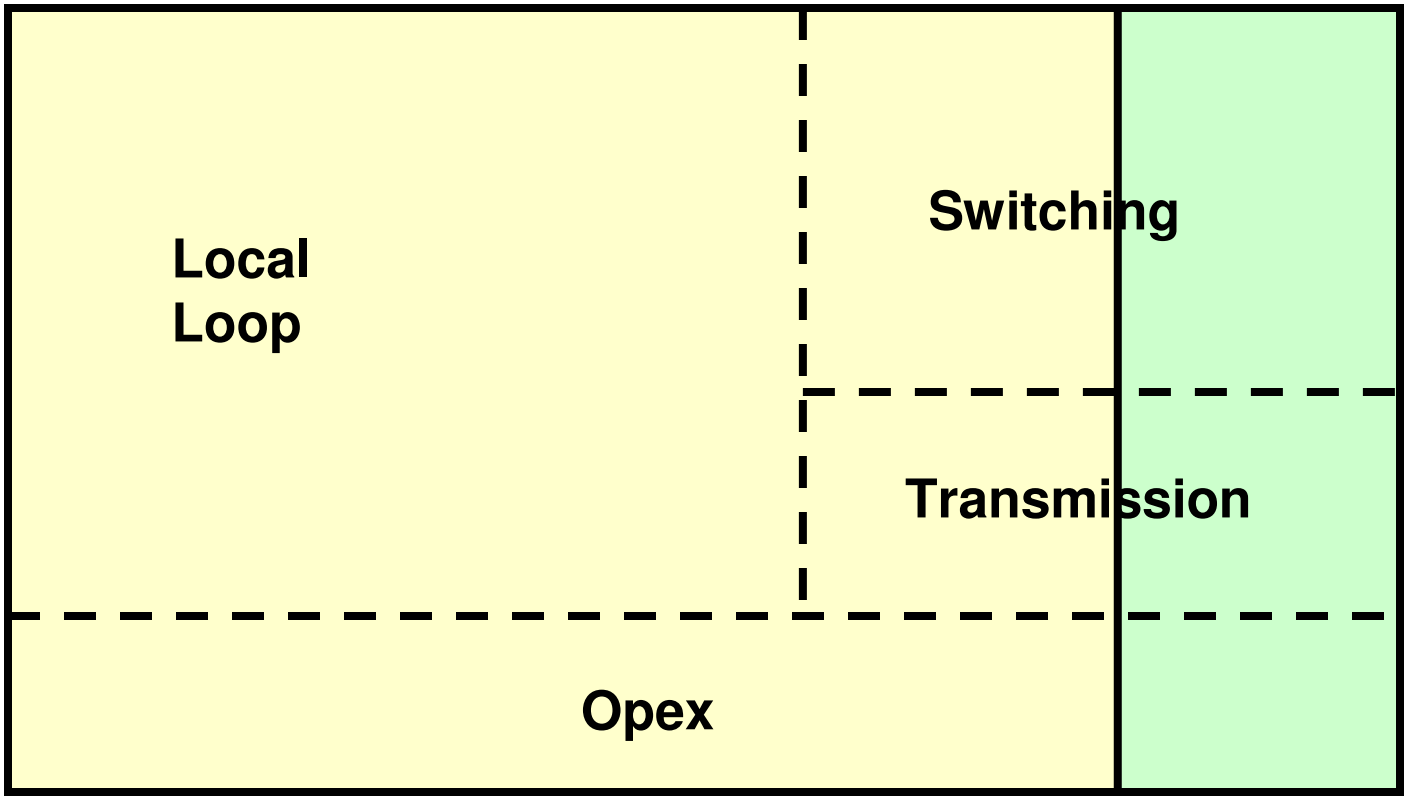
So that at this stage we have modelled and estimated the entire access and local calling network / costs



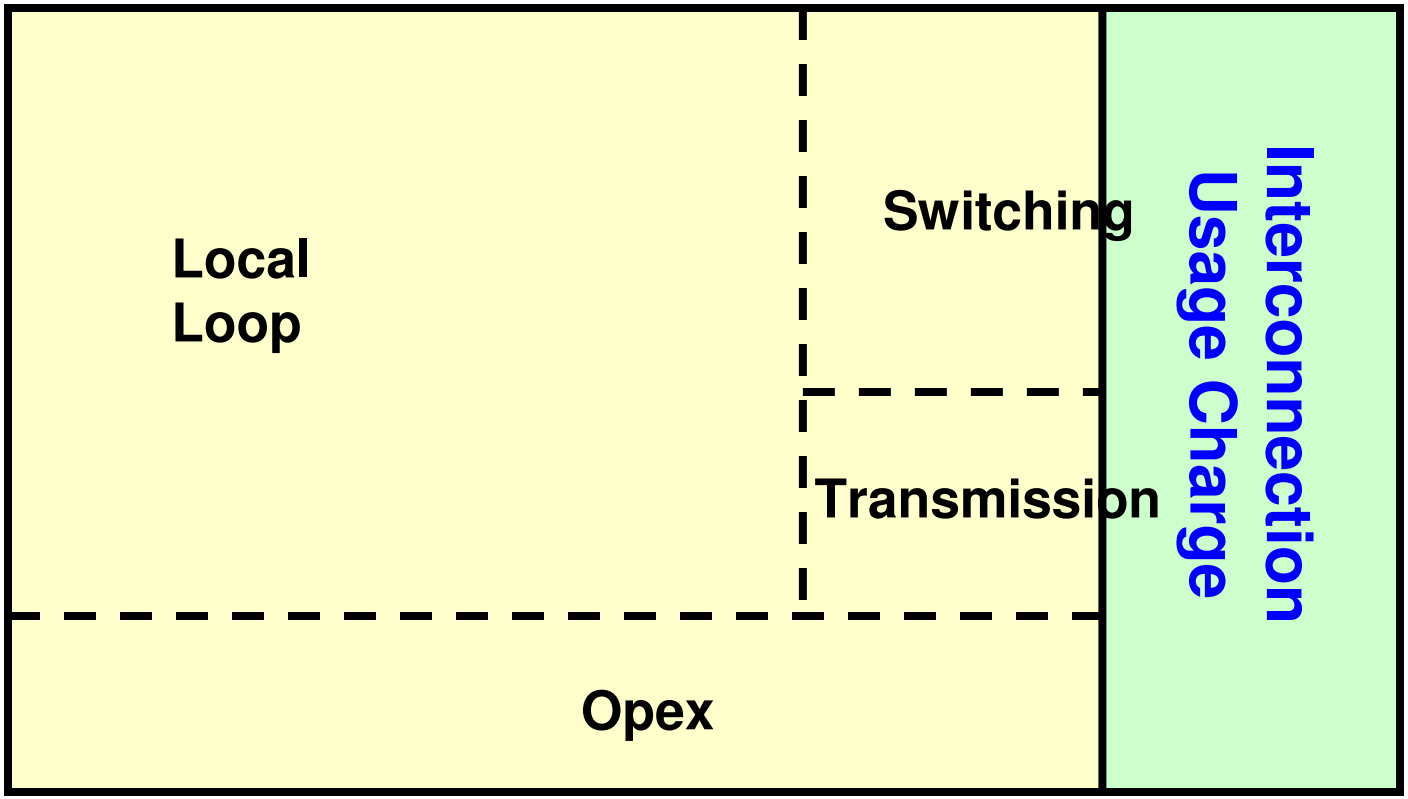
So that at this stage we have modelled and estimated the entire access and local calling network / costs. One key distinction is the NTS vs. TS costs



Efficient recovery of all of the costs means that IUC should recover a portion of the Traffic-Sensitive ("TS") Costs (switching, transmission, some overhead and some opex)

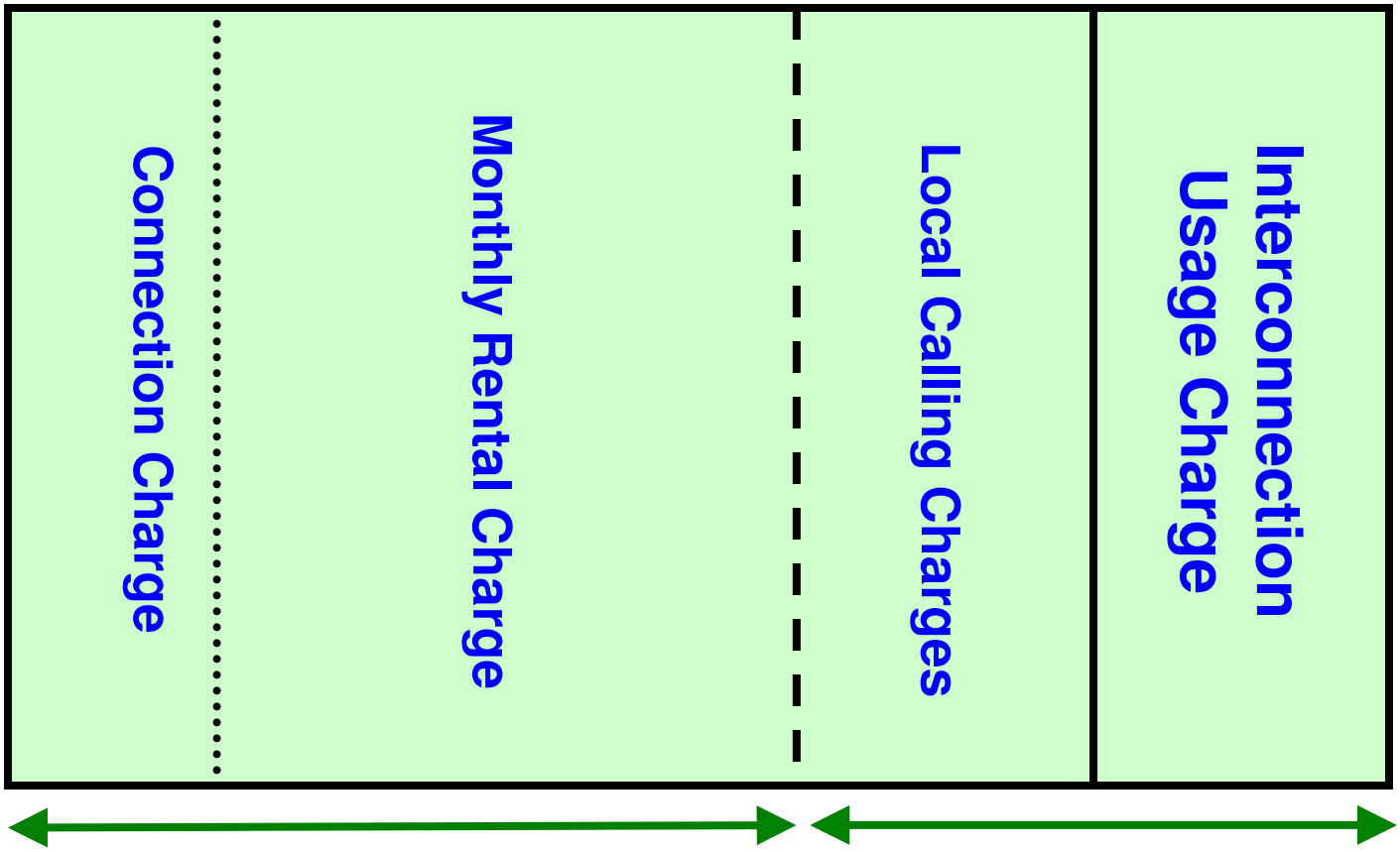


Recovery of the remainder of the TS costs and ALL of the Non-Traffic-Sensitive ("NTS")

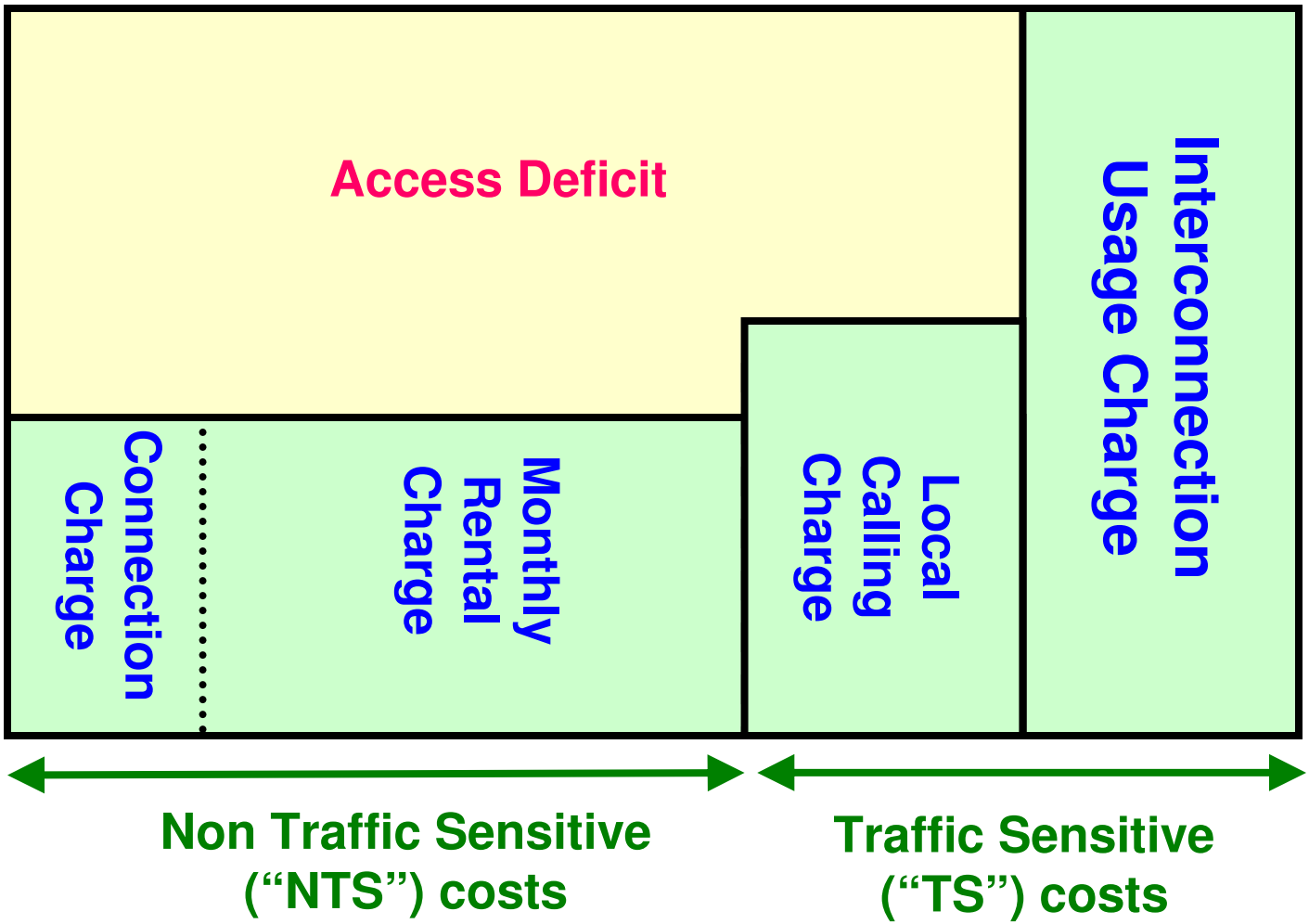


Should be done through the local consumer tariffs...

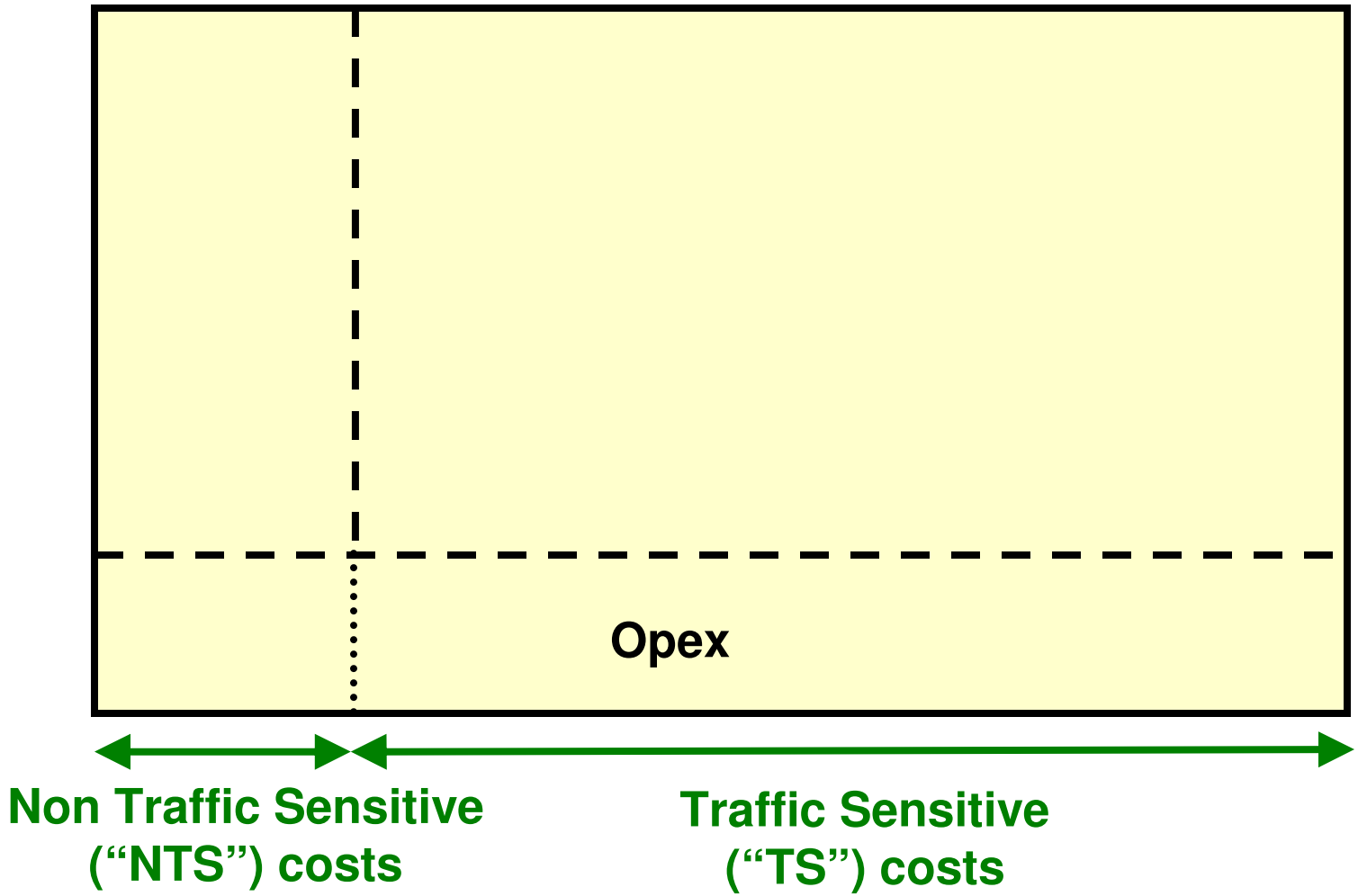
… and specifically the three types of charges...



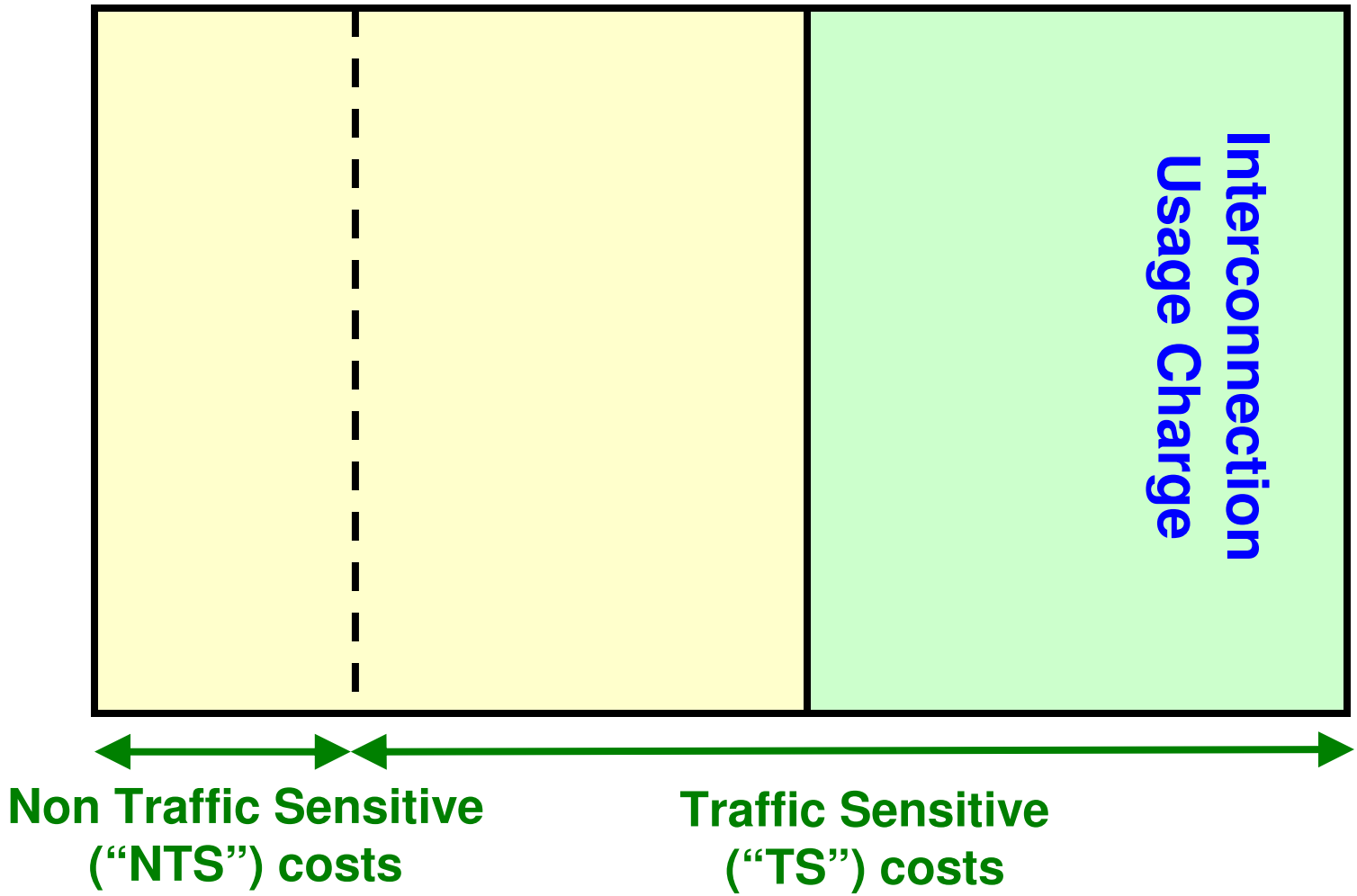
… but if connections, rentals and/or local calling are kept below costs or not included in the revenue calculations, then the remaining "Access Deficit" has to be recovered



Let us now look at the cost structure of a *mobile* network. Even assuming that the total per line size is similar, due to the characteristics of mobile network structure, there is a large majority of TS cost (in contrast to fixed)



Hence, for *mobile* network if we apply the same cost recovery principles, a larger proportion of the total costs should be recovered through calling and IUCs



III- Access Deficit recovering

Access Deficit recovering

The access deficit can be recovered by:

- **Tariff rebalancing**
- **Universal access fund**
- **Supplementary interconnection usage charges**

Conclusion

The cost recovering problems are global, its resolution must take into account the interconnection and detail of costs and tariffs.

The solutions are internal to each operator, can also depend on the telecommunication policy and the legal and regulatory framework in the country.

References:

- CTO/UIT
Interconnexion, costs and pricing Workshop, Abuja, November 2003
Bill Wigglesworth et Edgardo Sepulveda

- ITU Interconnection training workshop, banjul, 11-15 July, 2005
Emmanuel M. Emoah, “Interconnection: Access Deficits and Universal Access”

- ITU/ EU: West African Common Market Project
Harmonization of Policies Governing the ICT Market in the UEMOA-ECOWAS Space (Interconnection)

- Lectures and workshops on Economic Regulation
Mohamadou A. SAIBOU, ESMT

- COSITU, The ITU Cost Model
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Thank you for your attention

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