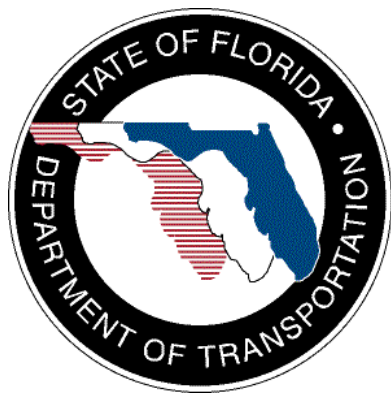


Florida Department of Transportation

Florida 511 Support Project

Update of the 511 Call Transfer Analysis

**August 4, 2006
Final Version 2**



Prepared for:

Florida Department of Transportation
Traffic Engineering and Operations Office
Intelligent Transportation Systems Office
605 Suwannee Street, M.S. 90
Tallahassee, Florida 32399-0450
(850) 410-5600

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Table of Contents

List of Tables	iii
List of Acronyms	iii
1. Update Purpose	1
2. Initial Review	1
2.1 Initial Assumptions	1
3. Tables.....	2
4. Conclusions	4

List of Tables

Table 3.1 – Results of the First Call Transfer Review – October 2005 - December 2005.....	3
Table 3.2 – Results of the Second Call Transfer Review – January 2006 - March 2006.....	3
Table 3.3 – Average Cost of Call Transfers between the 511 Systems – October 2005 - March 2006	3

List of Acronyms

FDOT	Florida Department of Transportation
IVR.....	Interactive Voice Response
PSTN.....	Public Switched Telephone Network
Telco	Telephone Company

1. Update Purpose

The purpose for this update of the *Draft FDOT 511 Call Transfer Analysis* is to validate the cost assumptions developed during the first review that was conducted in January 2006.¹

Now that all of Florida's available 511 services have been operating for a complete calendar quarter, this review provides a more complete comparative cost analysis between the various systems in use throughout the state of Florida.

2. Initial Review

The initial review of call transfer costs contained detailed descriptions of the methods and costs of the various call transfer schemes used by Florida's 511 systems. Some of this information is outlined below for clarity.

The focus of this review is on the first quarter of 2006. A comparison to the initial review period is provided, as well as a total average to validate the assumptions.

2.1 Initial Assumptions

The primary assumption is that all 511 systems in Florida transfer calls or callers from one to another. A request for a transfer to another system results in a "call transfer" through the public switched telephone network (PSTN), with one exception. The only exceptions are requests for transfers between the central Florida and statewide iFlorida systems.² These transfers are internal transfers, which means that callers are transferred between the application databases of the two systems, since both reside on the same interactive voice response (IVR) servers. There is no charge associated with transferring calls between these two systems because these transfers do not travel across the PSTN.

Each 511 system in Florida uses one of the call transfer methods described below.

- **Bridged Call Transfer** – This transfer method uses two ports/lines to bridge incoming and outgoing calls together for the duration of the call. The original system pays the regular, per-minute rate for the call even after the call has been transferred to another system.

¹ *Draft FDOT 511 Call Transfer Analysis* (Version 1B, January 2006). FDOT Contract No. C-7772.

² More information regarding the Florida Department of Transportation's (FDOT) iFlorida Surface Transportation Security and Reliability Information System Model Deployment project is available online at <http://www.iflorida.net/>.

- **Call Transfer and Drop** – The transfer-and-drop method accesses a new port for an outbound call, then drops, or clears, both ports once the call is connected. The original system pays per-minute costs for the life of the call, even after the ports in the system have been cleared.
- **Transfer Call and Transfer Charges** – With this method, charges associated with the call are transferred to the receiving system along with the call. Some carriers offer a contract rate that allows *all* charges to be transferred from the original system to the receiving system, as long as both systems use the same long distance (i.e., toll-free) carrier. (It should be noted that none of the Florida systems use this method.)
- **Additional Cost for a Call Transfer** – In some cases, a carrier may assess an additional, per-transfer charge to the original 511 system to initiate a call transfer.

3. Tables

Table 3.1 provides the results of the initial review that was performed in January 2006. That review contained data gathered between October 2005 and December 2005. Table 3.2 provides the results of the updated review and contains data gathered between January 2006 and March 2006.

Table 3.3 provides the final summary, thus covering a six-month period, to validate the total average cost per month of call transfers between Florida's various 511 systems.

The following assumptions were used in these calculations:

1. All calls were assumed to be two minutes in length.
2. Calls from the central Florida and statewide 511 services use the bridged call transfer method. This method uses two telephone company, or telco, ports for the life of the call. The central Florida and statewide 511 systems have additional telco ports for a queuing application, so there is additional capacity to accept calls into the IVR system even though the ports involved in the transfer are still in use.
3. Call transfers from the central Florida statewide 511 systems are billed at the rate of 5¢ per minute.
4. Call transfers from the Tampa Bay 511 system are billed at the rate of 2.2¢ per minute, plus 5¢ to initiate each call transfer.

Call transfers from the southeast Florida 511 system are billed at the rate of 12¢ per minute.

Table 3.1 – Results of the First Call Transfer Review – October 2005 - December 2005

FROM – SYSTEM	BRIDGED CALL TRANSFER	CALL TRANSFER & DROP	ATTENDED CALL TRANSFER	RATE CHARGED TO ORIGINAL SYSTEM AFTER TRANSFER	ADDITIONAL CHARGE FOR TRANSFER PER CALL	AVERAGE NO. OF TRANSFERS PER MONTH	AVERAGE COST PER MONTH
Central Florida and Statewide Systems	✓		✓	5¢ / minute (full rate)	0¢	2,100	\$210 / month
Southeast Florida System		✓	✓	12¢ / minute (full rate)	0¢	Unknown	Unknown
Tampa Bay		✓		2.2¢ / minute (reduced rate)	5¢	2,000	\$188 / month

Table 3.2 – Results of the Second Call Transfer Review – January 2006 - March 2006

FROM – SYSTEM	BRIDGED CALL TRANSFER	CALL TRANSFER & DROP	ATTENDED CALL TRANSFER	RATE CHARGED TO ORIGINAL SYSTEM AFTER TRANSFER	ADDITIONAL CHARGE FOR TRANSFER PER CALL	AVERAGE NO. OF TRANSFERS PER MONTH	AVERAGE COST PER MONTH
Central Florida and Statewide Systems	✓		✓	5¢ / minute (full rate)	0¢	1,659	\$165 / month
Southeast Florida System		✓	✓	12¢ / minute (full rate)	0¢	946	\$227 / month
Tampa Bay		✓		2.2¢ / minute (reduced rate)	5¢	2,340	\$219 / month

Table 3.3 – Average Cost of Call Transfers between the 511 Systems – October 2005 - March 2006

FROM – SYSTEM	AVERAGE NUMBER OF TRANSFERS PER MONTH	AVERAGE COST PER MONTH
Central Florida and Statewide Systems	1,880	\$187 / month
Southeast Florida System	946	\$227 / month
Tampa Bay System	2,170	\$204 / month

4. Conclusions

This second call transfer cost review serves to validate the previous conclusion. The overall cost of transferring calls between Florida's 511 systems is marginal, adding an average of \$200 to \$230 per month to each system's operating cost.

The cost of transferring calls from the southeast Florida system is the overall highest, since it involves the continuation of the 12¢ per minute cost of the initial call. This holds true even though this system shows the fewest call transfers.

Conversely, the cost to transfer calls from the Tampa Bay system is the lowest by cost per call, but costs more per month, as there are more call transfers from this system.

The most efficient use of the call transfer system is that of the statewide and central Florida systems. These systems reside on the same network infrastructure, which allows them to transfer calls between themselves without cost and to use the available infrastructure (bursting capacity) to perform the call transfers. The number of call transfers is lower than that of the other systems, perhaps because of the ability to perform the internal transfers between the systems, and perhaps because of the larger coverage area of the entire statewide system.

Current conclusions indicate that, though the methods of performing call transfers vary between systems, no additional action is recommended at this time because the actual call transfer costs are minimal when compared to the potential costs of changing the infrastructures and call transfer methods at this time.