

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION
DT 07-027

KEARSARGE TELEPHONE COMPANY, WILTON TELEPHONE COMPANY,
INC., HOLLIS TELEPHONE COMPANY, INC.
AND MERRIMACK COUNTY TELEPHONE COMPANY
PETITION FOR ALTERNATIVE FORM OF REGULATION

Rebuttal Testimony of
Michael C. Reed
on Behalf of Merrimack County Telephone Company,
Kearsarge Telephone Company, Wilton Telephone Company, Inc.
and Hollis Telephone Company, Inc.

November 15, 2007

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1 **INTRODUCTION**

2 **Q. Please state your name and occupation.**

3 A. My name is Michael C. Reed. I am employed by TDS Telecom Service Corporation
4 (TDS Telecom) as Manager, State Government Affairs in TDS Telecom's Government
5 and Regulatory Affairs department.
6

7 **Q. Have you testified previously in this Docket?**

8 A. Yes, I have. I submitted Direct Testimony in this Docket on March 1, 2007.
9

10 **Q. What is the purpose of your rebuttal testimony?**

11 A. I am providing testimony in response to the testimony submitted on behalf of the
12 Commission Staff (Dr. Chattopadhyay and Ms. Gage), the Office of Consumer Advocate
13 (Dr. Loube) and New Hampshire Legal Assistance representing Daniel Bailey (Dr.
14 Johnson). I refer to them collectively as the "opposing witnesses". I will respond
15 regarding the discussion of competitive alternatives, the evidence presented by the
16 Petitioners regarding competitive alternatives and regulation and rates under the filed
17 alternative regulation plan.
18

18 **COMPETITIVE ALTERNATIVES**

19 **Q. Turning first to the prefiled testimony of Dr. Loube, he states [Loube Direct at p. 2]
20 that your prefiled testimony asserts that competitive cable, wireless and broadband
21 service is available to a majority of TDS retail customers. He then says that this
22 assertion is false. Would you comment on this statement please?**

1 A. Dr. Loube misquotes my testimony and the applicable statutory standard and is incorrect
2 in his statement that my prefiled testimony is false. The applicable criterion in RSA
3 374:3-b, III(a), which my testimony addresses, is that competitive wireline, wireless or
4 broadband service must be available to the majority of the retail customers in each of the
5 exchanges served. Under the statute, the presence of one additional provider offering
6 service over one of those modalities is required. My testimony addresses this statutory
7 requirement [Reed Direct at p. 3].
8

9 **Q. Dr. Loube also states [Loube Direct at p. 2] that for approximately 70 percent of**
10 **customers who subscribe to wireless service, such service does not compete (i.e., is**
11 **not a substitute) with wireline service. Instead wireless service complements**
12 **wireline service. Would you comment on this statement please?**

13 A. Dr. Loube makes an excellent point that is pointed out in my prefiled testimony [Reed
14 Direct at p. 4]. Many wireless customers are using wireless as a complement to their
15 wireline service, which may not result in the loss of an access line, but certainly results in
16 the loss of access minutes of use, loss of features, and ultimately loss in overall revenue.
17 I believe Mr. Loube's quote from the FCC report "Telephone Subscribership in the
18 United States" is a good representation of the wireless market in New Hampshire
19 (response to data requests TDS-OCA 1-13 and TDS-OCA 1-30). Again I reiterate that the
20 test under RSA 374:3-b is whether wireless service is available, not whether wireless has
21 replaced an existing wireline service.
22

1 **Q. Dr. Loube describes [Loube Direct at pp. 7-12] the standing of some VoIP**
2 **companies such as Vonage and SunRocket, and the pricing strategies of the major**
3 **ILECs and Comcast. Would you care to comment?**

4 **A.** VoIP certainly is not dead. Conversely, it is alive and well. Our petitions and testimony
5 make it clear that we meet the statutory requirements of availability of the services
6 mentioned. The availability of broadband makes VoIP available as well. I have not
7 viewed the status for VoIP companies other than to observe their advertising and the
8 migration into the telecommunications business. I do know that there are pending actions
9 at the FCC regarding VoIP, there have been actions related to VoIP and emergency
10 services. Moreover, I understand that Vonage has in fact settled some of its patent
11 infringement lawsuits. They are still in business with approximately 2.5 million
12 subscribers. The FCC has recently issued an Order regarding the Porting of VoIP
13 telephone numbers. Clearly VoIP providers are here to stay and are a major factor in our
14 competition. In our own company, all or the majority of the commercial business
15 systems we offer are IP capable. That would include PBX, now called IPPBX and key
16 systems now referred to as Converged or IP capable. That's what customers demand and
17 that is what the manufacturers are making.

18
19 **Q. Dr. Johnson states in his testimony [Johnson Direct at pp. 101-102] that some**
20 **customers are now placing long distance calls over a wireless phone that otherwise**
21 **might have been placed over their wireline phone. He goes on to say that some**
22 **portion of the reduction in access minutes and access revenues might be attributed**
23 **to customers using wireless phones and email. He concludes that in an**

1 **appropriately structured alternative regulatory plan, basic services would be placed**
2 **in a separate basket from long distance toll and enhanced services with greater**
3 **pricing freedom provided to the latter category. Do you agree?**

4 A. I absolutely agree and I believe his analysis describes one goal of 374:3-b and describes
5 our Plan as filed.

6
7 **Q. Dr. Johnson describes his opinion of what the Legislature was thinking or meaning**
8 **with the language of RSA 374:3-b, including his statement of why competitive was**
9 **included [Johnson Direct at pp. 28-30]. As part of the process of providing**
10 **information to the legislative committees, do you have an opinion as to what they**
11 **might have been “thinking”?**

12 A. I know that the committee sessions I attended and testified at, and in discussions with
13 many individual legislators, our group provided the exact type of data included in the
14 Petition. Availability of alternatives was very important, as were the impacts of
15 competition on our companies. The legislation was based on exactly the same
16 competition and competitors included in our Petition--wireless, cable, and VoIP. The
17 same issues were addressed: losses in access lines, minutes of use and revenue. The
18 difference is that since the enactment of the law in mid-2006, competition from those
19 sources has increased and the losses we are experiencing have increased, even while
20 population is increasing according to Population Estimates provided by the New
21 Hampshire Office of Energy and Planning reports provided in Staff 1-17.

22

1 **Q. The statute clearly singles out basic local service rates in the rate limitation section**
2 **of the statute (RSA 374:3-b, III, (b)) from all other telecommunications products**
3 **and services. Why then do you say that Staff is incorrect in using basic local service**
4 **in their model?**

5 A. The Legislature recognized that all or nearly all of the products offered by a small
6 telephone company are offered by competitors including, for example, local, long
7 distance, broadband and calling features. They also understood that competition is not
8 completely built out to every customer in every location at this time and that most other
9 providers do not break out a fixed local service offering as a part of their service. In
10 order to reach a balance between protecting customers and reducing, but still maintaining
11 some regulation of small companies to meet the growing competition, they included
12 protections for basic local service rates during the period of continuing growing
13 competition as well as a rate cap to ensure the ongoing goal of universally available
14 service at affordable rates.

15
16 **Q. Did your company prepare a price elasticity model? If not, why not?**

17 A. Price elasticity models or theoretical pricing studies were never contemplated as part of
18 RSA 374:3-b and they certainly are not a requirement for approval of an alternative
19 regulation plan by the Commission. We did not prepare price elasticity models as a part
20 of this case. What I do know, however, is that we have customers with choices of
21 services provided by inter-modal competitors, and our customers are using them. I think
22 it is only fair to assume customers are making the correct economic choices for
23 themselves. Whether they like the flexibility of wireless, the benefits of unlimited long

1 distance calling, or all the features included in their wireless package or VoIP package,
2 they are making the choice to use those services today, resulting in the access line, access
3 minute and revenue losses demonstrated in our filing. As Dr. Loube aptly pointed out in
4 his testimony, many customers are using wireless as a complementary service and have
5 not yet disconnected their landline [Loube Direct at pp. 2, 13-14]. It is not the purpose of
6 RSA 374:3-b to analyze why customers make certain choices, or why they might retain a
7 landline and a wireless phone. Rather, the purpose of RSA 374:3-b, among other things,
8 is to gauge the availability of alternative wireline, wireless or broadband service.

9 **EVIDENCE SUBMITTED BY PETITIONERS REGARDING ALTERNATIVES**

10 **Q. Dr. Loube stated in his testimony that according to your Attachment E to your**
11 **prefiled direct testimony there is no cable service in Andover and Salisbury;**
12 **therefore, KTC does not meet the first criterion that each exchange must have an**
13 **alternative available in order for the alternative regulation plan to be approved**
14 **[Loube Direct at p. 5]. Do you agree?**

15 **A. No. Unfortunately, Dr. Loube again has misinterpreted RSA 374:3-b which states**
16 **competitive wireline, wireless or broadband service must be available to a majority of the**
17 **retail customers in each of the exchanges served. He is correct in that Confidential**
18 **Attachment E states there is no cable service in Andover. However, we note there is an**
19 **error in Attachment E. Andover, in fact, has [BEGIN CONFIDENTIAL END**
20 **CONFIDENTIAL] cable coverage as well as [BEGIN CONFIDENTIAL END**
21 **CONFIDENTIAL] cable broadband coverage. A corrected version of Confidential**
22 **Attachment E is attached to this rebuttal testimony.**

1 **Q. Dr. Loube states that in Attachment E you show that customers have either the**
2 **ability to use DSL or a cable modem in every New Hampshire TDS exchange to**
3 **have access to a VoIP provider, but that you did not provide information that shows**
4 **that 50 percent or more of the customers in each exchange have access to a**
5 **broadband provider [Loube Direct at pp. 6-7]. Instead you provided the average**
6 **across the exchanges in each service territory. Please explain.**

7 **A. DSL and Cable modem services are considered broadband service and customers who**
8 **have broadband can utilize VoIP providers. Dr. Loube later agrees in a discovery**
9 **response that Attachment E does provide information by exchange for each company.**

10
11 **Q. Dr. Loube states that broadband is not available to a majority of the retail**
12 **customers in each exchange and every TDS exchange. He goes on to state that**
13 **“VoIP telephone service” is available only if the customer has already purchased the**
14 **underlying required broadband connection. He cites the percentage of TDS**
15 **customers who subscribe to DSL and states that he is unsure of the penetration rate**
16 **of cable modem subscribers [Loube Direct at p. 11]. Do you agree with his assertion**
17 **that broadband service is not available to a majority of the retail customers in each**
18 **New Hampshire exchange served by TDS Telecom?**

19 **A. No. Dr. Loube seems to be saying that broadband service is not available, either cable or**
20 **DSL, if the customer does not purchase the broadband service. This is incorrect. The**
21 **language in RSA 374:3-b, II(a) states the service needs to be “available”, not purchased.**

22

1 **Q. Dr. Loube discusses wireless and wireline as substitutes or complements. He states**
2 **that the overwhelming majority of customers use wireless as complements. He**
3 **states that 12.8 % of households have cut the cord, and 86.2% have wireless service.**
4 **[Loube Direct at pp. 13-14]. Do you agree with this statement?**

5 A. I did not verify any of the sources, but I do agree that most existing customers use
6 wireless as a complementary service. As I have stated in my testimony, this
7 complementary service is competition to our companies in the form of lost minutes of
8 use, loss of features such as voice mail, etc. [Reed Direct at pp. 4-5]. Because customers
9 have the complementary service and are already using it as a substitute for some of their
10 wireline services, the risk of wireless becoming a complete substitute is high. I must also
11 point out that many potential “new” customers, such as some of today’s college students,
12 will never be customers and will utilize only wireless and possibly a broadband
13 connection. Because of this, the statute references availability of the wireless service, not
14 how customers choose to use it and where they may try to use it.

15
16 **Q. Dr. Loube points out in his testimony that for Merrimack County Telephone**
17 **Company, you did not provide data regarding the percentage of customers that are**
18 **served by each cable provider [Loube Direct at p. 7]. Could you please explain?**

19 A. Yes. Attachment A as well as my prefiled testimony quotes the estimated cable coverage
20 for Comcast. I did not include the cable television coverage provided by MCT
21 Communications, Inc., not for the reason described by Dr. Loube (that it is a TDS
22 affiliate), but rather for the reason that it does not offer cable modem/broadband service.
23 If MCT Communications, Inc. did offer a broadband service option to customers, those

1 customers could easily purchase VoIP services from companies with no affiliation with
2 the Companies.

3
4 **Q. Dr. Loube states that although TDS asserts lost customers to VoIP, you present no
5 evidence of migration to VoIP providers [Loube Direct at p. 7]. Could you explain?**

6 A. The statute clearly focuses on the availability of alternatives, not the actual take rate. I
7 included in my testimony additional information regarding the sharp decline in minutes
8 of use, access lines and revenues to provide the Commission with proof that not only are
9 competitive alternatives available, customers are using those alternatives. One additional
10 bit of information I provided was data relating to customer exit interviews as to reasons
11 why they left the Companies. We do not have a category for “Left to go to VoIP”. Had
12 that data been available I certainly would have included it.

13
14 **Q. Dr. Loube draws conclusions regarding VoIP service based on the pricing of
15 broadband services by large ILECs and Comcast [Loube Direct at pp. 9-10]. Do
16 you have any comments or thoughts on the subject?**

17 A. Again the New Hampshire statute clearly states that services need be available, not that
18 certain pricing levels for those services must be met. Dr. Loube does clearly state some
19 important points that describe the marketplace today. Pricing, not regulation, is what’s
20 going on in the marketplace. I agree that not every customer we have today is a potential
21 \$24.95 Vonage customer. Customers opting for a Vonage-like service at \$24.95/month
22 for unlimited calling are likely to be the customers who use our network today (and
23 generate access revenues) to make long distance calls beyond \$24.95. Another

1 important point Dr. Loubé made is that Comcast is not regulated and thus free to change
2 its prices [Loubé Direct at p. 10].
3

4 **Q. Could you please clarify the competitive position of Comcast as it relates to your**
5 **companies?**

6 A. Comcast clarified in their late intervention in this case what we described in data
7 responses, i.e., that they do not currently offer their “Digital Voice” service in our serving
8 territories. TDS has been in discussions with Comcast regarding interconnection
9 arrangements regarding both Vermont and New Hampshire. During our last discussions,
10 while only verbal planning discussions, Comcast stated that they planned to file a bona
11 fide request for interconnection with TDS in Vermont first, then following completion of
12 that process file a similar request for the TDS territories in New Hampshire. The bona
13 fide request has been received in Vermont and discussions are in progress.
14

15 **Q. Why is this important to mention Comcast’s position in this case?**

16 A. I mention this for two reasons. First, there was some confusion during discovery
17 regarding the availability of Comcast telephone service in our territory, and I wanted to
18 clarify the situation. I also believe that Comcast’s plans emphasize the point that
19 competition is escalating for our companies every day, and we must change the
20 regulatory environment to match those changes as quickly as possible. The above
21 mentioned discussions with Comcast have all taken place after we filed this case in
22 March. The timing of the bona fide request in New Hampshire is based on a Comcast
23 timetable or market strategy. Waiting for even more competition from Comcast before

1 approving the Companies' alternative regulation plans would provide an unfair advantage
2 to Comcast since based on this current proceeding, the alternative regulation approval
3 process can take a year or more before any relief may be granted.
4

5 **Q. Dr. Loube states that he suspects that many if not all customers who stated they**
6 **dropped TDS for a Cable Modem service were dropping a second line used for dial**
7 **up service [Loube Direct at pp. 6-7]. Do you agree?**

8 A. I am not aware of the data used by Dr. Loube to reach that conclusion on our behalf, but I
9 do know that [BEGIN CONFIDENTIAL END CONFIDENTIAL of the [BEGIN
10 CONFIDENTIAL END CONFIDENTIAL] lost residential access lines, from
11 December 2004 through August 2007, are a result of disconnecting a second residential
12 line. Therefore I can agree that certainly some customers might be dropping a second
13 line to go to a cable modem for service, thereby clearly indicating consumer choice as
14 defined by the statute. In this example the customer has a choice to go to an alternate
15 provider for broadband service, which means TDS lost an access line at a minimum and
16 an access line, features, and access charges as a maximum. Furthermore, Dr. Loube
17 concluded in TDS-OCA 1-48 "there is no difference in functionality between the two
18 types of lines, but customers may use them for different purposes."
19

20 **Q. Do you agree with Dr. Loube's assertion in his testimony that "the decrease in**
21 **access lines...could have been directly related to the increase in DSL sales" because**
22 **"(c)ustomers with multiple lines could have been reducing lines dedicated to**
23 **Internet dial-up service and replacing them with TDS DSL service"?**

1 A. No. Let me again reiterate that my inclusion of the impacts of competition, such as the
2 decrease in access lines our New Hampshire companies have experienced since the end
3 of 2004, is only meant to provide additional detail to the Commission regarding the true
4 picture of competition, competitive choices, and trends in customer usage in New
5 Hampshire. Regardless, Mr. Loube's assertion is incorrect. Our New Hampshire
6 companies have lost [BEGIN CONFIDENTIAL END CONFIDENTIAL
7 residential access lines since the end of 2004 (see response to data request Staff 2-3).
8 Second residential lines had a net decrease of [BEGIN CONFIDENTIAL END
9 CONFIDENTIAL] access lines over that same time period, representing only [BEGIN
10 CONFIDENTIAL END CONFIDENTIAL] of the total residential access lines
11 lost. Moreover, as stated in my direct testimony, for each customer that disconnects an
12 access line, the Company attempts to find out the reason for doing so. Our analysis of
13 this customer provided information from January 2005 through August 2007 shows that
14 only [BEGIN CONFIDENTIAL END CONFIDENTIAL] of the customers that
15 disconnected their second residential line indicated that they did so specifically to initiate
16 a DSL connection. Another [BEGIN CONFIDENTIAL END CONFIDENTIAL]
17 of the customers that disconnected their second residential line indicated that they did so
18 due to a change in their needs. This more general change in needs category could include
19 some customers that disconnected their second residential line for DSL service or for a
20 competitive service such as wireless or cable modem. Therefore, we estimate that only
21 [BEGIN CONFIDENTIAL END CONFIDENTIAL] of our lost residential
22 access lines were lost due to customers replacing their residential service with DSL
23 service.

1 During the same period from January 2005 to August 2007, total access line declines by
2 company ranged from [BEGIN CONFIDENTIAL END
3 CONFIDENTIAL] (see response to data request Staff 2-2), while business access line
4 declines ranged from [BEGIN CONFIDENTIAL END CONFIDENTIAL]
5 (see response to data request Staff 2-4).

6
7 **Q. Dr. Johnson asserted that, since TDS had not received any requests for numbers to**
8 **be ported to a VoIP provider, quite likely customers were simply disconnecting their**
9 **second lines for Internet use rather than completely eliminating their use of TDS**
10 **voice telephone service [Johnson Direct at p. 84]. Do you agree?**

11 **A.** No, certainly not entirely. Dr. Johnson fails to state that any broadband connection
12 makes it possible to access a VoIP provider and thereby have access to additional
13 methods of local and long distance calling even if the customer did not choose to port the
14 local number. I do agree a customer in this example could choose not to eliminate his or
15 her TDS voice telephone service. What Dr. Johnson does not point out, however, is that
16 the ability of a customer to make this choice clearly shows the availability of an
17 alternative falling within the meaning of RSA 374:3-b. It should be noted as well that
18 number portability is available in each exchange in each company.

19
20 ~~**Q. In the data you provided you included maps of each exchange with DSL coverage**~~
21 ~~**included with your estimates of cable and cable modem availability. Why did you**~~
22 ~~**use this technique? Did you consider alternative techniques?**~~

23 **A.** The maps were used in my analysis and included in the Petition for two reasons. First, I
24 had to understand and see for myself our best estimates of where the cable television and

1 cable modem service was in each exchange before preparing a petition. Second, I
2 thought it would be a helpful visual depiction for the Staff and OCA to see where the
3 service was located, compared to just reporting numbers or percentages. For my own
4 analysis, I enlisted the aid of the local technicians and supervisors to provide their
5 knowledge of the area and the locations served by cable. These employees work and
6 many live in the exchanges, and other than having copies of the facilities maps of the
7 competitors, this is the most accurate method I could find to ensure good data. At times
8 during the process, the supervisors reviewing the data with us would call their technicians
9 in the field to either verify a particular location or have the technician verify the
10 locations. Some of these technical folks have worked and lived in these towns for twenty
11 years or more, know the area, have set the poles and run the cable and wires. Once I had
12 the best estimate of the cable network, I utilized the locations where we provide DSL and
13 overlaid that information on the same exchange maps. Knowing the percentage of DSL
14 availability in an exchange or the area of an exchange I was visually able to make an
15 estimate of the cable availability. For a simple example, if an exchange had 80% DSL
16 availability and the estimated cable coverage was the same I concluded that there was
17 80% cable availability. Of course, I utilized all the competitive data available from
18 competitors' websites and advertising as well. This technique was the most accurate I
19 could provide for both our internal analysis as to meeting RSA 374:3-b and to provide to
20 the Commission. I did consider alternatives such as using only website data and zip code
21 data, but in my opinion using the maps and drawings from actual field knowledge of each
22 of our exchanges was the best data.
23

1 **Q. Have you utilized this technique in any other competitive analysis?**

2 A. I first used this technique to evaluate competition in one of the other states I work in,
3 New York.

4
5 **Q. What might you have used as an alternative technique?**

6 A. Alternatives might include the use of only publicly available data from web sites. An
7 additional alternative might have been to rely only on maps with our estimated cable
8 coverage only, to minimize confusion on the part of people outside of our company. I
9 believe the method we chose provided the most accuracy. I should clarify the term
10 accuracy. The technique used is the most accurate I could think of which still provides
11 the best estimates, not an actual house to house count. It is difficult to say that a number
12 should be 73% rather than 77%, but it certainly provides ample proof that the majority,
13 over 50%, have availability to a particular type provider and service.

14
15 **Q. Are there any New Hampshire competitive studies on which you could have relied in
16 your filing?**

17 A. I am not aware of any competitive studies that are available and certainly none available
18 to the level of detail we provided.

19
20 **Q. RSA 374:3-b does not have any requirement to provide or prove the effects of
21 competition on a company yet you included that data in the Petition. Why?**

22 A. I included that data with the Petition as clear evidence to the Commission that customers
23 not only have alternatives, but are choosing to use those alternatives. It is exactly the

1 same type of data that legislators relied on when they passed RSA 374:3-b, and I felt the
2 Commission would want to be able to assess the impacts on the Companies.

3
4 **Q. Dr. Chattopadhyay states in his summary that TDS did not provide specific**
5 **evidence that competitive wireline, wireless or broadband service is available to the**
6 **majority of customers in each exchange. Instead, he says that the Company**
7 **provided a conglomeration of general information [Chattopadhyay Direct at p. 18].**
8 **Do you agree with this assessment?**

9 A. No. The analysis provided by the Staff continues to ignore the intent of the Legislature
10 as expressed in the text of the statute, in the legislative findings, and the Study
11 Committee Report referenced in Mr. Ulrich's testimony. The Petition, the associated
12 testimony and exhibits provided ample detailed data for each exchange for the Staff to
13 perform their analysis. The Staff has set a standard that does not conform to the statute
14 and is impossible for any small ILEC to meet. Dr. Chattopadhyay's testimony is an
15 economic exercise that has no relevance to the statutory test for approval. It should be
16 disregarded.

17
18 **Q. Ms. Gage provided testimony stating that wireless availability does not meet the**
19 **criteria of the statute [Gage Direct at p. 3]. Do you agree?**

20 A. Ms. Gage points out very well the differences and some of the difficulties with the
21 measurement of assessing wireless coverage. I agree that there are clearly differences in
22 the availability of wireless coverage in the exchanges. In fact, her testimony keys in on
23 two exchanges that have some geographic challenges, i.e., mountains. However I

1 certainly do not agree that wireless availability does not meet the criteria of the statute
2 (see response to data request Staff 2-37).

3
4 **Q. Ms. Gage, in her testimony provided analysis of the four companies reaching some**
5 **conclusions on the availability of broadband coverage for each. She determined**
6 **that Hollis Telephone Company had cable modem and cable television coverage for**
7 **the majority of the population [Gage Direct at p. 2]. Do you agree with that**
8 **analysis?**

9 A. Yes, her analysis concurs with the information provided in the Petition.

10
11 **Q. Ms. Gage concluded the same result for Wilton Telephone Company, that the**
12 **majority of the population had cable modem and cable television coverage [Gage**
13 **Direct at p. 2]. Do you agree?**

14 A. Yes, again her analysis concurs with the data provided in the Petition.

15
16 **Q. Ms. Gage concluded in her testimony that the Merrimack County Telephone**
17 **Company exchanges of Antrim, Bradford, Contoocook, Henniker, Hillsboro, Melvin**
18 **Village, Sutton, and Warner have broadband or cable TV service available to the**
19 **majority of the populations there [Gage Direct at p. 2]. Do you agree?**

20 A. Yes, her analysis concurs with the information filed in our Petitions.

21
22 **Q. Ms. Gage concluded in her testimony that the Kearsarge Telephone Company**
23 **exchanges of Andover, Boscawen, Chichester, Meriden and New London have**

1 **broadband or cable television service to the majority of the customers [Gage Direct**
2 **at p. 2]. Do you agree?**

3 A. Yes, her analysis concurs with the information filed in our Petition.

4
5 **Q. Ms. Gage concluded that the Kearsarge Telephone Company exchange of Salisbury**
6 **does not have the availability of broadband or cable TV service for the majority of**
7 **the customers [Gage Direct at p. 2]. Do you agree?**

8 A. No. I agree that her analysis of the cable television service availability is correct, and it
9 matches our same conclusion. However, DSL service is available to an estimated
10 **[BEGIN CONFIDENTIAL END CONFIDENTIAL]** of the customers in the
11 Salisbury exchange.

12
13 **Q. Ms. Gage states that DSL service from TDS at this time requires the inclusion of**
14 **basic local service. Therefore, this broadband service does not compete with basic**
15 **local service [Gage Direct at pp. 3-4]. Do you agree?**

16 A. I agree that basic local service is a component of our retail DSL product offering today,
17 and therefore, it does not compete with basic local service. However, as the Legislature
18 understood, access to broadband means access to alternatives to local service including
19 features, long distance calling and local calling from VoIP providers, so it would not be
20 correct to discount this as an available alternative to customers, even if they purchase the
21 underlying broadband network connection from TDS.

22

1 Q. Ms. Gage was quite critical of the data provided by TDS maps stating that there
2 were incorrect keys/legends, some information was incorrect, she felt a call by the
3 PUC counsel to a Salisbury selectman was more accurate, and Staff found it
4 increasingly difficult to rely on the information provided by TDS on their exchange
5 maps [Gage Direct at pp. 1-2]. Can you provide some information regarding the
6 maps and the accuracy of the maps?

7 A. I am disappointed that the Staff and Ms. Gage found the maps difficult to use. I pointed
8 out in the Petition, in discovery, and in the technical session that the maps were an
9 internal tool used by me to assess the competition and I hoped the commission would
10 find the visual presentation helpful. I in no way indicated or would want to indicate that
11 the maps were to be utilized as an exact measure of competition for every road, and every
12 pole. I will admit to being remiss in not clarifying the keys/legends etc. used internally
13 only, before sharing the maps with the parties. However, I must point out that TDS
14 Telecom provided every detail requested by the Staff, to the extreme of, for one request,
15 creating maps from over 500 individual company maps. I must also point out that in
16 Confidential Supplemental Request Staff 2-36 there was a detailed explanation of every
17 Staff concern with every map, the correction that was forthcoming on the maps, and most
18 importantly that while the corrections were being made and the updated maps being
19 provided in Second Supplemental Request Staff 2-36, there was no material difference in
20 the percentage of availability of alternative services for purposes of the filings. For
21 example in New London an error was made in the CATV estimates along the New
22 London/Sutton Town line, which resulted in a change to the % CATV available from
23 **[BEGIN CONFIDENTIAL** **END CONFIDENTIAL]** and changed the

1 cable modem availably from [BEGIN CONFIDENTIAL .END
2 CONFIDENTIAL]

3
4 **Q. Ms. Gage states that TDS did not provide any specific evidence as to the availability
5 of wireless service by exchange [Gage Direct at p. 6]. Do you agree?**

6 A. No. Again I am disappointed in Ms. Gage's comment. There is no basis for this
7 statement. We provided both maps and data with the Petition, as well as additional
8 information via data responses to Staff and intervener data requests. For example as part
9 of Staff 1-37 we provided a map depicting wireless coverage areas which was based on a
10 product called the CoverageRight map, which was provided by an outside firm and
11 tracked the availability of all wireless providers. This map is widely used in the industry.
12 Our company utilizes the CoverageRight map to monitor wireless competition. In
13 response to staff 2-37, additional detail was added at the request of Staff to define
14 exchange boundaries on the maps.

15
16 **Q. Why do you believe that both the Salisbury and Sutton exchanges meet the
17 availability requirements of RSA 374:3-b?**

18 A. The data provided in the Petition indicates where wireless signals are provided based on
19 information available from the wireless providers themselves. Of course, broadband is
20 also available to a majority of the retail customers in both of these exchanges.

21
22 **Q. Did you rely on any other data?**

1 A. Yes. I also relied on the extremely important fact that one wireless competitor has been
2 granted Competitive Eligible Telecommunications Carrier (CETC) status by the FCC in
3 all but one of the exchanges served by KTC in FCC Order DA 05-2673 adopted October
4 7, 2005. In that Order, the FCC concluded that RCC has satisfied the statutory eligibility
5 requirements of section 214(e)(1) to be designated as an ETC. The FCC further
6 concluded that it is consistent with the public interest, convenience and necessity to
7 designate RCC as an ETC. RCC satisfied the burden of proof in establishing that its
8 universal service offering in New Hampshire will provide benefits to rural and non-rural
9 consumers.

10
11 In Section III B. 13. of the same Order, the FCC states that RCC has demonstrated
12 through the required certifications and related filings that it now offers, or will offer upon
13 designation as an ETC, the services supported by the federal universal service
14 mechanism. RCC certifies that it now provides or will provide throughout its designated
15 service area the services and functionalities enumerated in section 54.101(a) of the
16 Commission's rules. RCC has also certified that in compliance with rule section 54.405
17 it will make available and advertise Lifeline service to qualifying low-income consumers.
18 Specifically, RCC will advertise the availability of Lifeline and Link-Up benefits
19 throughout its service area by advertising and reaching out to community health, welfare,
20 and employment offices to provide information to those people most likely to qualify for
21 Lifeline and Link-Up benefits.

22
23 **Q. Is there a CETC in any of the other exchanges included in the Petition?**

1 A. RCC has also been granted CETC status for the Hollis and Wilton exchanges, as well as
2 all exchanges served by MCT.

3
4 **Q. Why is this important and why does this meet the requirement of availability in the**
5 **Statute?**

6 A. Clearly the FCC decided that RCC met the requirement to receive high cost funding
7 based on the availability of services or providing service based on a request from a
8 customer. I believe the NH PUC must rely on the FCC in their ability to make this
9 determination of availability to all but one exchange at KTC, Meriden.

10
11 **Q. Do you know how RCC would accommodate service to a customer should they be in**
12 **a difficult service area?**

13 A. I again quote the FCC order section III B 16. RCC has demonstrated that it satisfies the
14 requirements of section 214(e)(1)(A) that it offer the supported services using either its
15 own facilities or a combination of its own facilities and resale of another carrier's
16 services. RCC states that it will provide the supported services using its existing network
17 infrastructure, which includes the same antenna, cell-site, tower, trunking, mobile
18 switching, and interconnection facilities used to service its existing CMRS customers.

19
20 I note that in another jurisdiction where RCC was granted CETC status by the State
21 Commission, RCC explained in some detail the use of cell extenders, repeaters,
22 temporary antenna, external fixed house antenna, in-building antenna, Yagi antenna, etc.
23 in its commitment to meet the requests of customers. So in my experience, state

1 commissions as well as the FCC have determined that RCC makes available or will make
2 available the supported services upon approval of ETC status which in this case, has been
3 granted.

4
5 **Q. Do you believe that each of the Companies has met the competitive test outlined in**
6 **RSA 374:3-b that the majority of the customers in each exchange must have access**
7 **to competitive wireless, wireline for broadband?**

8 A. Yes, I certainly do. If I did not, the Companies would not have gone to the considerable
9 efforts to prepare and present petitions and plans based on RSA 374:3-b.

10
11 **Q. Please summarize your analysis of the competition from the petitions.**

12 A. My prefiled direct testimony and attachments A-E, along with maps provided in
13 discovery (see data response to Staff 2-37 and Second Supplemental Request Staff 2-36),
14 provide the summary of our best estimates of the availability of competitive alternatives.
15 While there are differences in the level of available alternatives in the various exchanges,
16 it is clear that at least one wireline, wireless or broadband alternative is available to a
17 majority of customers in each exchange.

18 **FEATURES OF THE PLAN**

19 **Q. You participated in the legislative process that resulted in RSA 374:3-b. Does the**
20 **Plan filed by the Company meet the expectations of that process from your point of**
21 **view?**

22 A. Yes, it certainly does. The Legislature or committees within the Legislature heard
23 testimony from many parties, including many parties involved in this case. In my

1 testimony on behalf of both the TDS Companies and the New Hampshire Telephone
2 Association, I described the competition we were facing, the inter-modal nature of the
3 competition and our losses as a result of the increased competition. The Legislature
4 recognized the existing competition, our need to be able to compete and have less
5 regulation while limiting the exposure to consumers through rate caps, and the overall
6 ability of the PUC to monitor the Companies and take action if necessary.

7
8 **Q. Would you describe the rate cap the Legislature felt was appropriate and the**
9 **impacts this might mean for subscribers.**

10 A. The Legislature believed that the basic local service rate for the largest incumbent carrier
11 in the state should be the protective cap for the consumers in the small companies. In the
12 case of all the exchanges in the Companies it would fall in the Verizon tariffed and
13 approved rates of either \$15.67 or \$14.39 depending upon the size of the calling area.
14 For example, the customers in Hollis today pay \$14.59. The basic local service rates of
15 Hollis customers could only increase by \$1.08 to \$15.67. On the other hand, customers
16 in Wilton today pay just \$6.72, and their basic local service rate could increase over 5
17 years by a total of \$7.67 to \$14.39. In the other 14 exchanges, the maximum possible
18 increases range from \$3.19 to \$5.60. Annual increases during the first four years of the
19 plan are limited to 10% of the basic service rate. (Therefore, for example, the maximum
20 allowed increase for Wilton customers would be limited to just \$.67 during the first year.)

21

1 In the case of Hollis the current rates prevent even a 10% increase so the cap could be
2 reached in one year; in other companies such as Wilton it would take at least 5 years to
3 reach the cap.

4
5 Although testimony from other parties in this case uses high percentage numbers when
6 describing the potential rate increases, presumably for dramatic effect, they fail to point
7 out the very small dollar amounts actually at stake and the reasonableness of the caps
8 established by the Legislature (see response to data request OCA 2-11).

9
10 **Q. Do you agree with the caps and the process the Legislature included in the statute?**

11 **Do you believe they intended to authorize the potential for these increases?**

12 A. Yes. I agree that legislators were protecting affordable universal service by limiting basic
13 service rate increases to rates with which they felt very comfortable. They capped basic
14 service rates at the Verizon level with limitations on annual increases to avoid any claims
15 of rate shock. I also agree with their analysis that competition is still growing.
16 Legislators were very thorough in their research and very careful in the questions they
17 asked during hearings.

18
19 I admit I have some reservations with tying a rate cap for a small company to the rate of a
20 larger provider, but it is certainly a reasonable and affordable cap for customers and
21 provides assurance for the Commission that universal service will be protected.

22

1 **Q. Dr. Loube states that the companies could have proposed less than the 10%**
2 **maximum basic rate increase limitations outlined in RSA 347:3-b and that by not**
3 **doing so you are indicating that the Petitioners still have market power and are,**
4 **therefore, ineligible for alternative regulation [Loube Direct at p. 14]. Could you**
5 **explain why the language was submitted as it was?**

6 A. This question addresses a major fallacy in the arguments of the opposing witnesses.
7 They suggest that alternative regulation under the statute is not available unless the
8 applicant has no price increase potential over basic service due to competition. The
9 Legislature understood the effects of competition on a small company and did not impose
10 this requirement, but instead imposed a cap on basic rates. Under the theory advanced by
11 the opposing witnesses, no cap would have been required. The Legislature acted not only
12 to determine that a cap was required, but it also determined what that cap should be. The
13 language in the Plan is a cap only. It is not an expression of any intention of the
14 Companies to raise rates as quickly as possible to the maximum. The Companies simply
15 have followed the intent of the legislature and the statute.

16
17 **Q. Did you have plans to file for rate increases when you filed the Plan? Do you have**
18 **any plans to file for rate increases once the Plan is approved?**

19 A. We have not proposed a rate increase. That is not the purpose of these filings. I would
20 say that I had concerns with the earnings levels of at least one of the companies at the
21 time we filed the plan, but we did not have an intention of increasing rates in that
22 company at the time of filing. As of today, I also do not have any plans to immediately
23 file for rate increases once the Plan is approved. The purpose of both the legislation and

1 filings is to give us flexibility to quickly raise and lower our rates as necessary to meet
2 our competition; to bundle our various products and services; to assure adequate financial
3 resources to maintain service quality and make necessary plant investment; and to meet
4 universal service obligations. Should we find it necessary to raise rates because of the
5 impacts of competition, the Legislature has built safeguards into the statute which are in
6 our Plan.

7
8 **Q. Dr. Johnson states that he does not believe the Plan preserves universal access to**
9 **affordable basic telephone service [Johnson Direct at p. 103]. Do you agree?**

10 A. Absolutely not. Dr. Johnson obviously does not fully understand the statute and clear
11 intent of the New Hampshire Legislature or how the proposed Plan complies with each
12 section of RSA 374:3-b. It is incomprehensible to suggest that the Plan as filed based on
13 RSA 374:3-b - with rates capped at levels enacted into law by the New Hampshire
14 Legislature; a local rate cap approved by the NHPUC for the vast majority of New
15 Hampshire's population; a Plan that clearly states that the Company's retail operations
16 shall be regulated comparable to the regulation applied to a CLEC except for those rules
17 that are necessary for the Company to continue its obligation as a carrier of last resort;
18 the authority of the Commission to require modifications or require the return to rate of
19 return regulation if the Plan fails - does not clearly preserve universal access to affordable
20 basic telephone service as envisioned by the New Hampshire Legislature.

21
22 **Q. Why is this important?**

1 A. The Plan ensures that all customers in the Companies serving territory will have the same
2 access to service at rates protected by statute. Competitors on the other hand may or may
3 not serve every customer in every exchange, so customers are protected. The Legislature
4 understood that this type of protection was necessary as competition is not everywhere
5 today, and it is quite likely that not every consumer in New Hampshire will have access
6 to multiple providers for all areas of communications, broadband, and wireless with the
7 technology available today.

8

9 **Q. Any other comments?**

10 A. Yes. Our Plan filed under RSA 374:3-b benefits the customers by allowing competitive
11 pricing and bundling, ensures the Companies' commitment to offer innovative services
12 and preserves access to affordable basic telephone service. At the same time, the Plan
13 limits customer risk by limiting increases in basic rates in conjunction with the capping of
14 basic local service rates at a rate already determined to be affordable by the Commission.
15 I need to stress, as I did at the three public hearings, this is not a deregulation plan, but
16 rather a plan that allows the Companies some flexibility to compete while maintaining
17 universal service and still being monitored by the PUC.

18

19 **Q. Does the Plan include other protections that you wish to bring to the attention of the**
20 **Commission?**

21 A. Yes. A key element in RSA 374:3-b is a failsafe feature for the customers, not mentioned
22 by the opposing witnesses. RSA 374:3-b III(f) provides that for a plan to receive
23 approval, the plan must provide that:

1 if the small incumbent local exchange carrier operating under the plan fails to
2 meet any of the conditions set out in this section, the public utilities commission
3 may require the small incumbent local exchange carrier to propose modifications
4 to the alternative regulation plan or return to rate of return regulation.
5

6 This feature makes it very clear that the Commission can approve this plan as filed,
7 monitor the progress via a myriad of Commission Rules included in the Plan and, if there
8 is a concern or problem, the Commission has full authority to act. And finally, the
9 Commission can enable an alternative regulation plan to be implemented so both the
10 Legislature and the Commission can evaluate actual experience of a small ILEC to see
11 the benefits to New Hampshire customers and shortcomings, if any.
12

13 **Q. Are you including any other materials with your testimony?**

14 **A.** Yes. I have provided the following TDS Data Responses as Exhibit MCR -1:

15 Staff 1-17
16 Staff 1-37 (Confidential)
17 OCA 1-13
18 OCA 1-48
19 OCA 2-11
20 Staff 2-3
21 Staff 2-36 (Confidential)
22 First Supplement to Staff 2-36 (Confidential)
23 Second Supplement to Staff 2-36 (Confidential)
24 Staff 2-37
25

26 Additionally, I have provided updated Exchange Maps as Exhibit MCR-2 (Confidential).

27 Please note that these Exchange Maps are a scaled-down version of the Exchange Maps
28 previously provided as attachments to our second supplemental response to Staff Data
29 Request 2-36 (TDS-CONF 0153-0168). Also included as Exhibit MCR-2 (Confidential)
30 is a color copy of the cellular coverage density map previously provided as an attachment

1 to Staff 2-37 (TDS-CONF 0095). Therefore, these attachments have not been included
2 within Exhibit MCR-1.

3 **CONCLUSION**

4 **Q. Please summarize your testimony.**

5 A. In summary, it is clear that we have fully demonstrated that competitive wireline,
6 wireless, or broadband service is available to the majority of our customers in each of the
7 exchanges in each of the four companies as defined in RSA 374:3-b. We have followed
8 with great care both the text of the statute and the policy embodied in the legislative
9 findings and the legislative Study Committee Report. The Plan should be approved as
10 filed for each of the Companies.

11
12 **Q. Does this conclude your rebuttal testimony?**

13 A. Yes, it does.

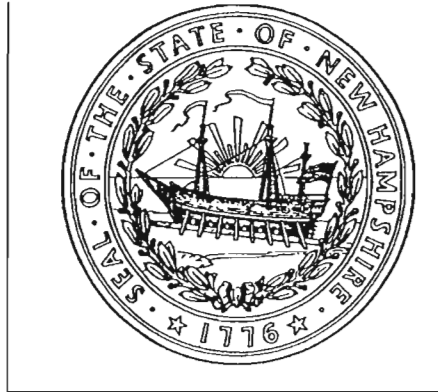
Kearsarge Telephone Company
Wilton Telephone Company
Hollis Telephone Company
Merrimack County Telephone Company
Docket No. DT 07-027
Company Responses
To Staff Set 1 Data Requests
September 4, 2007

STAFF 1-17: Reed Testimony, Page 5, line 23 to Page 6, line 3. For areas served by each of the exchanges, please provide supporting evidence that in “most instances we are seeing development and growth in the communities.”

Response:

Please refer to the attached 2005 and 2006 Population Estimates of New Hampshire Cities and Towns prepared by the New Hampshire Office of Energy and Planning or reference the OEP website (attachments TDS 0009-0028). In addition, the Petitioners relied on information regarding new housing developments in 10 of the exchanges, and discussions with local technicians and managers regarding new housing.

Michael C. Reed is responsible for this response.



2005 Population Estimates of New Hampshire Cities and Towns

Prepared by The

New Hampshire Office of Energy and Planning

Date of Publication: July 2006

The Office of Energy and Planning (OEP) is required by Law (RSA 78-A:25) to estimate the population of the State's municipalities on an annual basis. The law stipulates that the estimates be certified to the State Treasurer by August 19th and that they reflect population levels of the preceding year. Further, the law requires that the definition of resident be the same as that of the US Decennial Census.

The accompanying figures are **ESTIMATES** and are so labeled. Users of these figures should be aware that many of the data used to calculate the estimates were collected by local governmental units or school districts, for purposes other than accounting for population change. The methods which convert these data, such as school enrollments and building permits, into estimated population have been developed to reflect true population insofar as possible. Data used to calculate estimates in past years are subject to change. For this and other reasons, OEP strongly recommends that these estimates *not* be compared on a year to year basis.

Some communities may have estimating procedures that are different from the ones used by OEP. Also, some communities have established population figures based on their own enumeration (census) efforts. These local efforts can render highly accurate results. The OEP however uses a uniform estimating system, that is applied equally to all 234 communities. It is likely that if OEP staff were to estimate any one municipality on an individual basis, the resulting estimate would be different than the one contained herein.

The accompanying table shows the total population of NH's municipalities for 1990, 2000, and OEP's estimate for 2005. These figures are composed of the household population and persons living in group quarters. Group quarters populations consists of persons living in dormitories, some types of nursing homes, prisons, etc. Many municipalities have no group quarters populations. For the convenience of data users, the table shows *the 2005 group quarters population that is part of the total estimated population.*

Populations for unincorporated areas are not included in this report.

Anyone wishing further information regarding these estimates should contact the Office of Energy and Planning,
57 Regional Dr, Concord, New Hampshire 03301 - telephone (603) 271-2155.

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Alton	3,286	4,502	4,991	0	78.1
Barnstead	3,100	3,886	4,507	0	105.1
Belmont	5,796	6,716	7,206	11	239.4
Center Harbor	996	996	1,082	9	81.4
Gilford	5,867	6,803	7,287	2	187.8
Gilmanton	2,609	3,060	3,430	7	59.5
Laconia	15,743	16,411	17,102	675	850.8
Meredith	4,837	5,943	6,350	161	157.6
New Hampton	1,606	1,950	2,131	3	57.9
Sanbornton	2,136	2,581	2,829	0	59.8
Tilton	3,240	3,477	3,637	255	319.0
Belknap Co.	49,216	56,325	60,552	1,123	150.4

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Albany	536	654	689	3	9.1
Bartlett	2,290	2,705	2,932	16	39.2
Brookfield	518	604	671	0	29.3
Chatham	268	260	270	0	4.8
Conway	7,940	8,604	9,192	154	131.9
Eaton	362	375	421	2	17.3
Effingham	941	1,273	1,425	118	36.6
Freedom	935	1,303	1,431	7	41.5
Harts Location	36	37	33	0	1.7
Jackson	678	835	872	13	13.1
Madison	1,704	1,984	2,242	0	57.9
Moultonboro	2,956	4,484	4,875	31	81.3
Ossipee	3,309	4,211	4,561	161	64.3
Sandwich	1,066	1,286	1,359	0	14.9
Tamworth	2,165	2,510	2,516	6	42.1
Tuftonboro	1,842	2,148	2,312	0	56.9
Wakefield	3,057	4,252	4,784	0	121.1
Wolfeboro	4,807	6,083	6,475	103	134.1
Carroll Co.	35,410	43,608	47,060	614	50.5

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Alstead	1,721	1,944	1,995	12	51.2
Chesterfield	3,112	3,542	3,771	0	82.7
Dublin	1,474	1,476	1,545	73	55.4
Fitzwilliam	2,011	2,141	2,275	1	65.8
Gilsum	745	777	810	7	48.5
Harrisville	981	1,075	1,106	0	59.1
Hinsdale	3,936	4,082	4,267	0	206.1
Jaffrey	5,361	5,476	5,755	161	149.9
Keene	22,430	22,563	23,023	2,578	620.6
Marlborough	1,927	2,009	2,102	0	103.0
Marlow	650	747	783	0	30.1
Nelson	535	634	656	0	30.0
Richmond	877	1,077	1,146	9	30.6
Rindge	4,941	5,451	6,130	1,342	165.2
Roxbury	248	237	242	0	20.2
Stoddard	622	928	992	0	19.5
Sullivan	706	746	785	0	42.4
Surry	667	673	739	0	47.1
Swanzey	6,236	6,800	7,229	11	161.0
Troy	2,097	1,962	2,021	0	115.5
Walpole	3,210	3,594	3,703	1	103.7
Westmoreland	1,596	1,747	1,865	302	51.9
Winchester	4,038	4,144	4,314	91	78.4
Cheshire Co.	70,121	73,825	77,254	4,588	109.2

Water area not included in persons per sq. mi calculations

Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Berlin	11,824	10,331	10,503	578	170.8
Carroll	528	663	747	9	14.9
Clarksville	232	294	334	2	5.5
Colebrook	2,444	2,321	2,432	39	59.6
Columbia	661	750	833	3	13.6
Dalton	827	927	1,007	0	36.6
Dummer	327	309	327	2	6.8
Errol	292	298	347	3	5.7
Gorham	3,173	2,895	2,961	5	92.8
Jefferson	965	1,006	1,070	0	21.4
Lancaster	3,522	3,280	3,418	142	68.1
Milan	1,295	1,331	1,370	0	21.4
Northumberland	2,492	2,438	2,478	0	67.5
Pittsburg	901	867	933	1	3.3
Randolph	371	339	420	2	8.9
Shelburne	437	379	385	0	8.0
Stark	518	516	530	1	9.0
Stewartstown	1,048	1,012	1,019	106	21.9
Stratford	927	942	1,002	0	12.5
Whitefield	1,909	2,038	2,123	76	61.9
Coos Co.	34,693	32,936	34,239	969	27.6

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Alexandria	1,190	1,329	1,472	0	33.8
Ashland	1,915	1,955	2,030	0	179.6
Bath	784	893	943	0	24.7
Benton	330	314	333	108	6.9
Bethlehem	2,033	2,199	2,407	25	26.5
Bridgewater	796	974	1,029	0	47.9
Bristol	2,537	3,033	3,185	27	186.3
Campton	2,377	2,719	3,039	0	58.6
Canaan	3,045	3,319	3,518	0	66.0
Dorchester	392	353	382	0	8.6
Easton	223	256	290	0	9.3
Ellsworth	74	87	87	0	4.1
Enfield	3,979	4,618	4,857	12	120.5
Franconia	811	924	1,018	81	15.5
Grafton	923	1,138	1,203	0	28.9
Groton	318	456	496	0	12.2
Hanover	9,212	10,850	11,037	3,953	224.8
Haverhill	4,164	4,416	4,677	285	91.3
Hebron	386	459	539	0	31.9
Holderness	1,694	1,930	2,029	22	66.5
Landaff	350	378	391	0	13.8
Lebanon	12,183	12,568	13,421	305	333.0
Lincoln	1,229	1,271	1,310	0	10.0
Lisbon	1,664	1,587	1,698	0	64.1
Littleton	5,827	5,845	6,281	71	125.6
Lyman	388	487	547	0	19.3
Lyme	1,496	1,679	1,724	10	32.0
Monroe	746	759	806	0	36.0
Orange	237	299	311	0	13.5
Orford	1,008	1,091	1,177	0	25.4
Piermont	624	709	725	0	18.8
Plymouth	5,811	5,892	6,387	1,997	226.5
Rumney	1,446	1,480	1,570	17	37.4
Sugar Hill	464	563	639	0	37.4
Thornton	1,505	1,843	2,084	1	41.4
Warren	820	873	932	0	19.2
Waterville Valley	151	257	278	0	4.3
Wentworth	630	798	871	0	20.8
Woodstock	1,167	1,139	1,200	0	20.5
Grafton Co.	74,929	81,740	86,923	6,914	52.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	Total Population			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census 1990	U.S. Census 2000	OEP Estimate 2005		
Amherst	9,068	10,769	11,527	0	340.0
Antrim	2,360	2,449	2,604	10	72.9
Bedford	12,563	18,274	20,738	487	632.3
Bennington	1,236	1,401	1,500	0	131.6
Brookline	2,410	4,181	4,755	0	238.9
Deering	1,707	1,875	2,049	79	67.0
Francestown	1,217	1,480	1,581	0	53.1
Goffstown	14,621	16,929	17,804	2,082	479.9
Greenfield	1,519	1,657	1,774	159	66.9
Greenville	2,231	2,224	2,268	0	328.7
Hancock	1,604	1,739	1,818	0	60.6
Hillsborough	4,498	4,928	5,674	36	129.8
Hollis	5,705	7,015	7,626	0	239.8
Hudson	19,530	22,928	24,559	186	861.7
Litchfield	5,516	7,360	8,124	0	545.2
Lyndeborough	1,294	1,585	1,785	1	59.1
Manchester	99,567	107,006	109,966	2,728	3,332.3
Mason	1,212	1,147	1,307	0	54.5
Merrimack	22,156	25,119	26,609	88	816.2
Milford	11,795	13,535	14,860	129	585.0
Mont Vernon	1,812	2,034	2,356	20	140.2
Nashua	79,662	86,605	87,986	1,555	2,856.7
New Boston	3,214	4,138	4,968	7	115.5
New Ipswich	4,014	4,289	4,945	25	151.2
Pelham	9,408	10,914	12,485	0	474.7
Peterborough	5,239	5,883	6,134	332	161.4
Sharon	299	360	383	0	24.4
Temple	1,194	1,297	1,518	18	68.1
Weare	6,193	7,776	8,854	1	149.8
Wilton	3,122	3,743	3,995	0	156.1
Windsor	107	201	239	86	29.1
Hillsborough Co	336,073	380,841	402,791	8,029	459.2

Water area not included in persons per sq. mi calculations

Group Quarters population is included in total population

Municipality	Total Population			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Allenstown	4,649	4,843	5,032	35	245.5
Andover	1,883	2,109	2,219	14	55.2
Boscawen	3,586	3,672	3,848	448	154.5
Bow	5,500	7,138	7,805	0	276.8
Bradford	1,405	1,454	1,565	21	44.5
Canterbury	1,687	1,979	2,235	3	50.9
Chichester	1,942	2,236	2,482	5	117.1
Concord	36,006	40,687	42,221	3,264	659.7
Danbury	881	1,071	1,179	0	31.2
Dunbarton	1,759	2,226	2,521	0	81.9
Epsom	3,591	4,021	4,512	121	130.8
Franklin	8,304	8,405	8,686	202	313.6
Henniker	4,151	4,433	4,955	710	112.4
Hill	814	992	1,083	0	40.6
Hooksett	8,767	11,721	13,240	1,048	365.7
Hopkinton	4,806	5,399	5,630	0	130.0
Loudon	4,114	4,481	5,048	2	109.7
Newbury	1,347	1,702	2,020	0	56.4
New London	3,180	4,116	4,438	850	198.1
Northfield	4,263	4,548	4,911	59	171.7
Pembroke	6,561	6,897	7,352	0	325.3
Pittsfield	3,701	3,931	4,362	6	181.0
Salisbury	1,061	1,137	1,257	0	31.7
Sutton	1,457	1,544	1,769	13	41.5
Warner	2,250	2,760	2,953	117	53.5
Webster	1,405	1,579	1,761	4	62.2
Wilmot	935	1,144	1,276	0	43.4
Merrimack Co.	120,005	136,225	146,360	6,922	156.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census 1990	U.S. Census 2000	OEP Estimate 2005		
Atkinson	5,188	6,178	6,562	4	585.9
Auburn	4,085	4,682	5,177	7	203.0
Brentwood	2,590	3,197	4,105	489	241.5
Candia	3,557	3,911	4,110	0	135.6
Chester	2,691	3,792	4,617	82	177.6
Danville	2,534	4,023	4,492	3	387.2
Deerfield	3,124	3,678	4,272	50	84.1
Derry	29,603	34,021	34,655	247	979.0
East Kingston	1,352	1,784	2,108	0	212.9
Epping	5,162	5,476	5,980	8	229.1
Exeter	12,481	14,058	14,563	351	735.5
Fremont	2,576	3,510	4,075	42	235.5
Greenland	2,768	3,208	3,391	20	323.0
Hampstead	6,732	8,297	8,642	50	644.9
Hampton	12,278	14,937	15,394	222	1,115.5
Hampton Falls	1,503	1,880	2,037	0	164.3
Kensington	1,631	1,893	2,074	0	172.8
Kingston	5,591	5,862	6,191	0	311.1
Londonderry	19,781	23,236	24,673	10	587.5
New Castle	840	1,010	1,035	11	1,293.8
Newfields	888	1,551	1,634	0	230.1
Newington	990	775	802	26	97.8
Newmarket	7,157	8,027	9,306	43	738.6
Newton	3,473	4,289	4,484	0	457.6
North Hampton	3,637	4,259	4,509	0	324.4
Northwood	3,124	3,640	3,982	3	141.7
Nottingham	2,939	3,701	4,371	0	94.0
Plaistow	7,316	7,747	7,817	11	737.5
Portsmouth	25,925	20,784	20,995	628	1,337.3
Raymond	8,713	9,674	10,639	10	369.4
Rye	4,612	5,182	5,264	111	417.8
Salem	25,746	28,112	29,941	38	1,207.3
Sandown	4,060	5,143	5,851	34	417.9
Seabrook	6,503	7,934	8,403	0	933.7
South Hampton	740	844	892	0	112.9
Stratham	4,955	6,355	7,131	0	472.3
Windham	9,000	10,709	12,565	136	470.6
Rockingham Co	245,845	277,359	296,739	2,636	425.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Barrington	6,164	7,475	8,175	8	175.1
Dover	25,042	26,884	28,728	804	1,076.0
Durham	11,818	12,664	13,443	4,768	600.1
Farmington	5,739	5,774	6,710	27	183.8
Lee	3,729	4,145	4,436	28	221.8
Madbury	1,404	1,509	1,748	0	152.0
Middleton	1,183	1,440	1,710	2	94.5
Milton	3,691	3,910	4,372	0	132.1
New Durham	1,974	2,220	2,488	1	60.1
Rochester	26,630	28,461	30,684	285	684.9
Rollinsford	2,645	2,648	2,662	0	364.7
Somersworth	11,249	11,477	11,880	33	1,212.2
Strafford	2,965	3,626	3,985	9	81.3
Strafford Co.	104,233	112,233	121,021	5,965	329.5

Water area not included in persons per sq. mi calculations

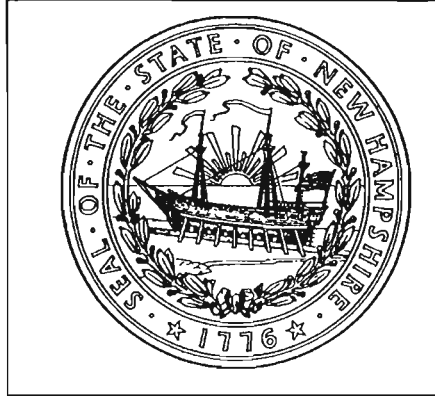
Group Quarters population is included in total population

Municipality	----- Total Population -----			2005 Group Quarters Pop	2005 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2005		
Acworth	776	836	882	0	22.7
Charlestown	4,630	4,749	4,941	20	138.0
Claremont	13,902	13,151	13,124	206	304.5
Cornish	1,659	1,661	1,715	1	40.8
Croydon	627	661	750	1	20.4
Goshen	742	741	809	8	36.1
Grantham	1,247	2,167	2,438	0	89.6
Langdon	580	586	616	0	37.8
Lempster	947	971	1,076	0	33.3
Newport	6,110	6,269	6,395	118	147.0
Plainfield	2,056	2,241	2,420	0	46.4
Springfield	788	945	1,057	0	24.2
Sunapee	2,559	3,055	3,229	0	153.0
Unity	1,341	1,530	1,652	236	44.6
Washington	628	895	957	0	21.0
Sullivan Co.	38,592	40,458	42,061	590	78.2
N.H.	1,109,117	1,235,550	1,315,000	38,350	156.5

Population of unincorporated places not included in this report

Water area not included in persons per sq. mi calculations

Group Quarters population is included in total population



2006 Population Estimates of New Hampshire Cities and Towns

Prepared by The

New Hampshire Office of Energy and Planning

Date of Publication: July 2007

The Office of Energy and Planning (OEP) is required by Law (RSA 78-A:25) to estimate the population of the State's municipalities on an annual basis. The law stipulates that the estimates be certified to the State Treasurer by August 19th and that they reflect population levels of the preceding year. Further, the law requires that the definition of resident be the same as that of the US Decennial Census.

The accompanying figures are **ESTIMATES** and are so labeled. Users of these figures should be aware that many of the data used to calculate the estimates were collected by local governmental units or school districts, for purposes other than accounting for population change. The methods which convert these data, such as school enrollments and building permits, into estimated population have been developed to reflect true population insofar as possible. Data used to calculate estimates in past years are subject to change. For this and other reasons, OEP strongly recommends that these estimates *not* be compared on a year to year basis.

Some communities may have estimating procedures that are different from the ones used by OEP. Also, some communities have established population figures based on their own enumeration (census) efforts. These local efforts can render highly accurate results. The OEP however uses a uniform estimating system, that is applied equally to all 234 communities. It is likely that if OEP staff were to estimate any one municipality on an individual basis, the resulting estimate would be different than the one contained herein.

The accompanying table shows the total population of NH's municipalities for 1990, 2000, and OEP's estimate for 2006. These figures are composed of the household population and persons living in group quarters. Group quarters populations consists of persons living in dormitories, some types of nursing homes, prisons, etc. Many municipalities have no group quarters populations. For the convenience of data users, the table shows *the 2005 group quarters population that is part of the total estimated population*.

Populations for unincorporated areas are not included in this report.

Anyone wishing further information regarding these estimates should contact the Office of Energy and Planning,
57 Regional Dr, Concord, New Hampshire 03301 - telephone (603) 271-2155.

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Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Alton	3,286	4,502	5,031	0	78.1
Barnstead	3,100	3,886	4,523	0	105.1
Belmont	5,796	6,716	7,167	11	239.4
Center Harbor	996	996	1,085	9	81.4
Gilford	5,867	6,803	7,306	2	187.8
Gilmanton	2,609	3,060	3,431	7	59.5
Laconia	15,743	16,411	17,104	717	850.8
Meredith	4,837	5,943	6,401	157	157.6
New Hampton	1,606	1,950	2,135	3	57.9
Sanbornton	2,136	2,581	2,859	0	59.8
Tilton	3,240	3,477	3,648	272	319.0
Belknap Co.	49,216	56,325	60,690	1,178	150.4

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Albany	536	654	688	3	9.1
Bartlett	2,290	2,705	2921	0	39.0
Brookfield	518	604	673	0	29.4
Chatham	268	260	276	0	4.9
Conway	7,940	8,604	9202	150	132.1
Eaton	362	375	424	2	17.4
Effingham	941	1,273	1459	127	37.5
Freedom	935	1,303	1423	6	41.3
Harts Location	36	37	32	0	1.7
Jackson	678	835	873	13	13.1
Madison	1,704	1,984	2260	0	58.4
Moultonboro	2,956	4,484	4886	31	81.4
Ossipee	3,309	4,211	4654	192	65.6
Sandwich	1,066	1,286	1366	0	15.0
Tamworth	2,165	2,510	2609	6	43.6
Tuftonboro	1,842	2,148	2336	0	57.5
Wakefield	3,057	4,252	4818	0	121.9
Wolfeboro	4,807	6,083	6400	82	132.4
Carroll Co.	35,410	43,608	47,300	612	50.5

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Alstead	1,721	1,944	1,959	12	50.3
Chesterfield	3,112	3,542	3,783	0	83.0
Dublin	1,474	1,476	1,537	78	55.1
Fitzwilliam	2,011	2,141	2,265	1	65.4
Gilsum	745	777	805	7	48.3
Harrisville	981	1,075	1,100	0	58.8
Hinsdale	3,936	4,082	4,286	0	206.9
Jaffrey	5,361	5,476	5,730	163	149.2
Keene	22,430	22,563	22,770	2,568	614.5
Marlborough	1,927	2,009	2,095	0	102.7
Marlow	650	747	778	0	29.9
Nelson	535	634	661	0	30.2
Richmond	877	1,077	1,146	9	30.5
Rindge	4,941	5,451	6,292	1,459	169.7
Roxbury	248	237	241	0	20.1
Stoddard	622	928	1,000	0	19.6
Sullivan	706	746	784	0	42.3
Surry	667	673	737	0	47.0
Swanzey	6,236	6,800	7,203	11	160.3
Troy	2,097	1,962	2,043	0	117.0
Walpole	3,210	3,594	3,686	1	103.3
Westmoreland	1,596	1,747	1,863	301	51.9
Winchester	4,038	4,144	4,340	91	78.9
Cheshire Co.	70,121	73,825	77,104	4,701	109.2

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	Total Population			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census 1990	U.S. Census 2000	OEP Estimate 2006		
Berlin	11,824	10,331	10,390	601	169.0
Carroll	528	663	768	9	15.3
Clarksville	232	294	338	2	5.6
Colebrook	2,444	2,321	2,414	39	59.2
Columbia	661	750	838	3	13.7
Dalton	827	927	1,015	0	36.9
Dummer	327	309	324	2	6.8
Errol	292	298	352	3	5.8
Gorham	3,173	2,895	2,948	5	92.4
Jefferson	965	1,006	1,072	0	21.4
Lancaster	3,522	3,280	3,411	147	67.9
Milan	1,295	1,331	1,374	0	21.5
Northumberland	2,492	2,438	2,459	0	67.0
Pittsburg	901	867	930	1	3.3
Randolph	371	339	418	2	8.9
Shelburne	437	379	382	0	8.0
Stark	518	516	523	1	8.8
Stewartstown	1,048	1,012	1,042	127	22.4
Stratford	927	942	997	0	12.5
Whitefield	1,909	2,038	2,117	76	61.7
Coos Co.	34,693	32,936	34,112	1,018	27.6

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Alexandria	1,190	1,329	1,487	0	34.1
Ashland	1,915	1,955	2,024	0	178.8
Bath	784	893	957	0	25.1
Benton	330	314	333	111	6.9
Bethlehem	2,033	2,199	2,432	25	26.8
Bridgewater	796	974	1,030	0	48.0
Bristol	2,537	3,033	3,168	27	185.5
Campton	2,377	2,719	3,121	0	60.1
Canaan	3,045	3,319	3,551	0	66.6
Dorchester	392	353	377	0	8.5
Easton	223	256	302	0	9.7
Ellsworth	74	87	90	0	4.2
Enfield	3,979	4,618	4,857	25	120.5
Franconia	811	924	1,024	74	15.6
Grafton	923	1,138	1,230	0	29.6
Groton	318	456	510	0	12.5
Hanover	9,212	10,850	10,865	3,909	221.3
Haverhill	4,164	4,416	4,729	327	92.4
Hebron	386	459	543	0	32.2
Holderness	1,694	1,930	2,017	22	66.1
Landaff	350	378	397	0	14.0
Lebanon	12,183	12,568	13,511	319	335.0
Lincoln	1,229	1,271	1,309	0	10.0
Lisbon	1,664	1,587	1,710	0	64.5
Littleton	5,827	5,845	6,283	71	125.6
Lyman	388	487	559	0	19.7
Lyme	1,496	1,679	1,702	10	31.6
Monroe	746	759	813	0	36.2
Orange	237	299	303	0	13.1
Orford	1,008	1,091	1,173	0	25.3
Piermont	624	709	730	0	18.9
Plymouth	5,811	5,892	6,376	2,029	225.9
Rumney	1,446	1,480	1,557	17	37.1
Sugar Hill	464	563	630	0	36.8
Thornton	1,505	1,843	2,115	1	42.1
Warren	820	873	937	0	19.3
Waterville Valley	151	257	280	0	4.3
Wentworth	630	798	873	0	20.9
Woodstock	1,167	1,139	1,203	0	20.6
Grafton Co.	74,929	81,740	87,108	6,967	52.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	Total Population			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP Estimate 2006		
	1990	2000			
Amherst	9,068	10,769	11,538	0	340.0
Antrim	2,360	2,449	2,624	10	73.5
Bedford	12,563	18,274	20,788	476	634.6
Bennington	1,236	1,401	1,505	0	132.6
Brookline	2,410	4,181	4,842	0	243.1
Deering	1,707	1,875	2,058	79	67.3
Francestown	1,217	1,480	1,571	0	52.6
Goffstown	14,621	16,929	17,705	2,053	476.7
Greenfield	1,519	1,657	1,791	152	67.6
Greenville	2,231	2,224	2,259	0	328.4
Hancock	1,604	1,739	1,823	0	60.8
Hillsborough	4,498	4,928	5,723	36	131.0
Hollis	5,705	7,015	7,576	0	238.5
Hudson	19,530	22,928	24,585	187	861.6
Litchfield	5,516	7,360	8,343	0	559.1
Lyndeborough	1,294	1,585	1,788	1	59.3
Manchester	99,567	107,006	109,364	2,785	3309.2
Mason	1,212	1,147	1,312	0	54.7
Merrimack	22,156	25,119	26,362	62	808.0
Milford	11,795	13,535	14,984	134	589.6
Mont Vernon	1,812	2,034	2,370	17	140.8
Nashua	79,662	86,605	87,605	1,783	2848.6
New Boston	3,214	4,138	5,055	7	117.6
New Ipswich	4,014	4,289	5,023	19	153.4
Pelham	9,408	10,914	12,448	0	473.6
Peterborough	5,239	5,883	6,152	334	161.8
Sharon	299	360	380	0	24.3
Temple	1,194	1,297	1,526	18	68.6
Weare	6,193	7,776	8,800	1	149.0
Wilton	3,122	3,743	4,023	0	157.1
Windsor	107	201	221	69	26.8
Hillsborough Co	336,073	380,841	402,144	8,223	459.2

Water area not included in persons per sq. mi calculations

Group Quarters population is included in total population

Municipality	Total Population			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP Estimate 2006		
	1990	2000			
Allenstown	4,649	4,843	4,991	35	243.9
Andover	1,883	2,109	2,215	14	55.1
Boscawen	3,586	3,672	3,912	503	157.3
Bow	5,500	7,138	7,790	0	276.5
Bradford	1,405	1,454	1,578	21	44.8
Canterbury	1,687	1,979	2,239	3	51.0
Chichester	1,942	2,236	2,471	5	116.6
Concord	36,006	40,687	42,076	3,405	657.9
Danbury	881	1,071	1,175	0	31.1
Dunbarton	1,759	2,226	2,540	0	82.4
Epsom	3,591	4,021	4,564	108	132.4
Franklin	8,304	8,405	8,667	201	313.2
Henniker	4,151	4,433	4,963	696	112.5
Hill	814	992	1,076	0	40.3
Hooksett	8,767	11,721	13,201	1,048	364.7
Hopkinton	4,806	5,399	5,592	0	129.2
Loudon	4,114	4,481	5,069	2	110.1
Newbury	1,347	1,702	2,027	0	56.6
New London	3,180	4,116	4,362	804	195.2
Northfield	4,263	4,548	5,069	59	177.3
Pembroke	6,561	6,897	7,336	0	324.1
Pittsfield	3,701	3,931	4,370	6	181.1
Salisbury	1,061	1,137	1,266	0	32.0
Sutton	1,457	1,544	1,786	13	42.0
Warner	2,250	2,760	2,934	101	53.1
Webster	1,405	1,579	1,774	4	62.8
Wilmot	935	1,144	1,285	0	43.7
Merrimack Co.	120,005	136,225	146,328	7,028	156.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Atkinson	5,188	6,178	6,516	4	582.9
Auburn	4,085	4,682	5,110	7	200.5
Brentwood	2,590	3,197	4,129	516	243.3
Candia	3,557	3,911	4,091	0	134.9
Chester	2,691	3,792	4,642	139	178.3
Danville	2,534	4,023	4,445	3	381.7
Deerfield	3,124	3,678	4,314	47	85.0
Derry	29,603	34,021	34,386	234	970.5
East Kingston	1,352	1,784	2,181	0	220.0
Epping	5,162	5,476	6,052	8	232.1
Exeter	12,481	14,058	14,535	346	735.7
Fremont	2,576	3,510	4,159	45	241.0
Greenland	2,768	3,208	3,383	20	321.0
Hampstead	6,732	8,297	8,699	46	648.9
Hampton	12,278	14,937	15,278	245	1110.5
Hampton Falls	1,503	1,880	2,052	0	165.7
Kensington	1,631	1,893	2,089	0	174.4
Kingston	5,591	5,862	6,176	0	311.1
Londonderry	19,781	23,236	24,577	10	584.8
New Castle	840	1,010	1,024	11	1257.5
Newfields	888	1,551	1,634	0	230.3
Newington	990	775	795	26	96.5
Newmarket	7,157	8,027	9,357	42	744.6
Newton	3,473	4,289	4,540	0	461.6
North Hampton	3,637	4,259	4,463	0	320.4
Northwood	3,124	3,640	4,049	3	143.9
Nottingham	2,939	3,701	4,430	0	95.2
Plaistow	7,316	7,747	7,731	11	728.7
Portsmouth	25,925	20,784	20,811	585	1327.4
Raymond	8,713	9,674	10,780	10	374.1
Rye	4,612	5,182	5,219	112	412.8
Salem	25,746	28,112	29,885	126	1204.7
Sandown	4,060	5,143	5,901	33	421.9
Seabrook	6,503	7,934	8,473	0	941.5
South Hampton	740	844	888	0	112.2
Stratham	4,955	6,355	7,180	0	474.7
Windham	9,000	10,709	12,591	135	471.2
Rockingham Co	245,845	277,359	296,565	2,764	425.7

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Barrington	6,164	7,475	8,261	8	176.9
Dover	25,042	26,884	28,703	947	1073.4
Durham	11,818	12,664	13,626	5,066	608.2
Farmington	5,739	5,774	6,817	27	186.7
Lee	3,729	4,145	4,414	21	220.9
Madbury	1,404	1,509	1,762	0	152.6
Middleton	1,183	1,440	1,849	2	102.3
Milton	3,691	3,910	4,540	0	137.3
New Durham	1,974	2,220	2,548	1	61.6
Rochester	26,630	28,461	30,627	279	683.3
Rollinsford	2,645	2,648	2,646	0	361.8
Somersworth	11,249	11,477	11,898	33	1212.4
Strafford	2,965	3,626	3,996	9	81.6
Strafford Co.	104,233	112,233	121,687	6,393	329.5

Water area not included in persons per sq. mi calculations
Group Quarters population is included in total population

Municipality	----- Total Population -----			2006 Group Quarters Pop	2006 Persons per Square Mile
	U.S. Census		OEP		
	1990	2000	Estimate 2006		
Acworth	776	836	888	0	22.8
Charlestown	4,630	4,749	4,915	20	137.2
Claremont	13,902	13,151	12,972	199	300.6
Cornish	1,659	1,661	1,708	1	40.7
Croydon	627	661	756	1	20.5
Goshen	742	741	813	8	36.2
Grantham	1,247	2,167	2,450	0	90.1
Langdon	580	586	624	0	38.2
Lempster	947	971	1,088	0	33.7
Newport	6,110	6,269	6,363	118	146.2
Plainfield	2,056	2,241	2,419	0	46.3
Springfield	788	945	1,061	0	24.3
Sunapee	2,559	3,055	3,234	0	153.5
Unity	1,341	1,530	1,700	274	46.0
Washington	628	895	971	0	21.3
Sullivan Co.	38,592	40,458	41,962	621	78.2
N.H.	1,109,117	1,235,550	1,315,000	39,505	156.5

Population of unincorporated places not included in this report
Water area not included in persons per sq. mi. calculations
Group Quarters population is included in total population

OEP ESTIMATE METHODOLOGY

DWELLING UNIT METHOD

The official estimates of population are based on a dwelling unit method. The method attempts to translate permits issued for new dwellings, into estimated population.

The 2000 US Census serves as a benchmark; changes in the number of dwellings are used to update the dwelling unit counts by the US Census. Two rates are used to convert the estimated number of dwellings into estimated population. These rates are population per household and occupancy rates. These rates vary considerably by housing type. For this reason, data and calculations are divided into; single family, multi-family and manufactured housing types.

The two rates, by type, are calculated for each municipality using the 2000 US Census.

The dwelling unit calculations estimate household population. Group Quarters population, persons living in dormitories, prisons, etc, are estimated using the 2000 census and updated with an annual OEP survey of establishments known to have group quarters population.

Usually the individual municipal estimates are proportionately adjusted to an existing estimated state total. This state total is prepared with the state as a single statistical entity. In turn, this state total results from an adjustment to conform to a national total. The state total is prepared by the Federal-State Cooperative Program for Population Estimates (FSCPE). **However the 2003 OEP municipal estimates were NOT controlled to the FSCP state total.**

The 2002 calculations of the dwelling unit method for the Town of Alton appear below:

	(Census) 2000 Total <u>Units</u>	Permits Issued to <u>2002</u>	Percent of Units <u>Occupied</u>	2003 Occupied <u>Units</u>
Single Family	3,133	124	.4868	1,586
Multi-Family	200	6	.7950	164
Mfg. Units	189	6	.7460	145

	Population Per <u>H'Hold w/adjust.</u>	2002 Est. <u>Population</u>
Single Family	2.52	3,995
Multi-Family	2.53	414
Mfg. Units	1.87	272
		0 '02 Est. Group Quarters Pop.
		<u>+12</u> State Total Adjustment (1.002563 for 2002 Estimate)
		4,693

SCHOOL ENROLLMENT METHOD

The official OEP population estimates are based on the dwelling unit method. However, a school enrollment method is closely monitored to evaluate results based on dwelling unit data. The school enrollment method attempts to use a "known population" - school aged persons - to estimate an "unknown population," persons aged birth to 64 years inclusive. The population aged 65 years and over is estimated using medicare data. The population in group quarters is estimated in the same way as in the dwelling unit method (see above).

The 2000 census serves as a benchmark to convert school enrollment and medicare data into estimated population. The decennial census is used to calculate the ratio between the schoolaged population and the population aged birth to 64 years. This ratio will be adjusted through the oughts to account for shifts in age structure. This adjustment will be

based on state population estimates by age issued by the Bureau of the Census.

Using Alton as an example, the calculation for the school enrollment method appears below:

Calculate relationship between school enrollment and census.

Adjust school enrollment to 2000 census count.

$$\frac{\text{Pop 6-17 yrs 2000 census}}{\text{School Enrollment 1999-00}} \cdot \frac{745}{705} \cdot 1.0567$$

School Enrollment 01 - '02 =

738	
x <u>1.0567</u>	
780	(Adjusted school population)

Calculate relationship between age groups 6-17 and birth to 64 years.

$$\frac{(\text{Census}) 2000 \text{ Pop. Birth 64 Years}}{(\text{Census}) 2000 \text{ Pop. 6-17 Years}} \cdot \frac{3807}{745} \cdot 5.1101$$

The 2000 census indicates that there were 5.1101 persons aged birth to 64 years for everyone aged 6 - 17 years. In the future, state estimates by age, will be used to change this ratio according to indicated shifts in age structure of the state.

Estimate Birth to 64 population for 2002 by multiplying the adjusted school enrollment by adjusted age ratio:

Adjusted '02 school enrollment	780
Adjusted age ratio	x <u>5.1101</u>
2002 estimated pop. B - 64 yrs.	3,986

Using medicare enrollment, the county's 2002 pop. 65+, was estimated to be 8,766. In 2000, Alton's population 65 years old and over was 695, this was 8.1803% of Belknap County's total. Applying this percentage to the county estimate of persons over 65 produces a 2002 estimate for Alton's 65+ population:
 8,766 x .081803 = 717 (Alton 2002 pop. 65+.)

Change 2000 to 2002 of Alton's Group Quarters Population = 0

Estimated Alton Pop. Birth - 64 Yrs.	3,986	
Estimated Alton Pop. 65+	717	
Change in Group Quarters	<u>0</u>	
Raw 2002 Estimated Pop.	4,703	
State Total Adjustment	<u>106</u>	(4,703 x 1.022546)
Adjusted Alton 2000 Estimated Pop.	4,809	

Again, this figure is used to evaluate the outcome of the dwelling unit method.

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STAFF 1-37: Reed Testimony, Page 10, line 4. Please explain specifically for each exchange in each of the four company's service territories, why you believe that "significant competition exists at this very moment in each and every exchange, and will increase tomorrow"? Please provide your analysis for each of the exchanges for each of the four companies individually.

Response:

In order to clearly demonstrate the available competition to the Commission the Petitioners prepared a detailed map of each exchange (see attached maps for each exchange), as well as a summary of competition for each exchange included in responses Staff 1-66, 1-67, 1-70 and 1-72. On each detailed map the Petitioners DSL coverage was outlined along with the best estimate of cable coverage. Wherever broadband service is available using DSL, cable modem, or satellite, VoIP service such as Vonage is available. A detailed map outlining the wireless coverage of multiple wireless providers is attached in this response. In addition to this map the Petitioner relied on the individual websites of the wireless providers to verify and provide the detail in responses Staff 1-66, 1-67, 1-70 and 1-72, including coverage maps (see attached example of Verizon Wireless coverage in response Staff 1-73). Examples of advertising by competitors are provided in response Staff 1-38. Combined these data provide a clear picture of the competition available today and clearly meets the requirements of RSA 374 III a. Clear indications of increasing competition can be found in the ongoing growth and usage of wireless. One wireless company has committed to making service available to all customers in the areas they serve, including the Petitioners serving area (see response Staff 1-79). **[BEGIN CONFIDENTIAL**

END CONFIDENTIAL]

Michael C. Reed is responsible for this response.

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OCA 1-13: Section 7.4 of the TDS Plan includes a prohibition on the Commission investigating the rate of return. Please provide the basis for this prohibition.

Response:

RSA 374:3-b,V

Timothy W. Ulrich is responsible for this response.

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OCA 1-30: Referring to Mr. Ulrich's testimony (p. 5, line 3-4), please define "substitutable services."

Response:

A service that is a competitive alternative (substitutable) is one that customers perceive will provide them with similar functional capabilities as those services provided by the small ILEC, e.g. the customers find it to be a substitute for a small ILEC's service." While many of the services provided by competitors are not the exact equivalent of a ILECs traditional wireline service, they are substitutable services, and are services which are increasingly attractive to customers at the prices at which they are offered. Specifically, small ILECs and competitive provider's services provide the same function for a customer. For example, wireless, digital cable telephone service and broadband VoIP service provide customers with local and long distance service along with all of the custom calling functionality as provided by the services offered by small ILECs.

For further reference, the following are references to just a few pertinent sources regarding substitution in general and specifically to the telecommunications market:

- Competitive Advantage: Creating and Sustaining Superior Performance;
Michael E. Porter; pg. 274

"Identifying substitutes requires searching for products or services that perform the same generic function or functions as an industry's product, rather than products that have the same form"

- NRRI Assessing Wireless and Broadband Substitution in Local Telephone Markets; June 2007
<http://www.nrri.ohio-state.edu/Telecom/assessing-wireless-and-broadband-substitution-in-local-telephone-markets>

“Wireless and broadband services are increasingly substitutable for and competitive with wireline services in the markets for basic local telephone service . . . Failure to consider the competitive effect of wireless and broadband services in local telephone markets will bias competitive analyses towards concluding that incumbent wireline providers have more market power than they actually do and lead to more intervention than is necessary to achieve public interest outcomes.” Executive Summary

“[W]hen assessing the competitiveness of the market for basic local telephone service, analysts should consider the extent to which wireless and broadband services are available and viewed by consumers as reasonable substitutes for traditional wireline services.” Pg. 1

“*Functional convergence* allows different technologies to satisfy a single end. Examples include using wireline and wireless networks to carry voice and/or data and using cable modems, DSL lines, broadband over power lines (BPL), or wireless networks to deliver broadband service.” Page 29

“Convergence in telecommunications gives many customers access to multiple technologies or platforms that can be used to send and receive voice communications. Consumers are no longer limited to wireline platforms: they can choose from a range of platforms, including wireless and broadband. As wireless and broadband technologies have become more widely available to and used by consumers, they have increasingly become part of the competitive continuum.” Page 31

“Wireless and broadband technologies are transformative in the sense that they are capable of altering the way people use telecommunications and redefining the market. Consumers do not want a telephone; rather, they want to be able to communicate with others. Whatever devices and networks best fill that need will win their business. Page 34

OCA 1-30 Response Continued, Page 3:

- Within the FCC Report: Local Telephone Competition: Status as of June 30, 2006; released January 2007, the FCC considers wireless and broadband providers to be providing local exchange service in competition with and substitutable for the ILECs services.
http://fjallfoss.fcc.gov/edocs_public/attachmatch/DOC-270136A1.pdf
- FCC Report on 2005 Cable Industry Prices; released December 2006
http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-06-179A1.pdf
- "As of January 1, 2005, approximately 87 percent of all cable subscribers were served by systems that had been upgraded to a capacity of at least 750 MHz. Also, 96 percent of all cable subscribers were served by systems that offered Internet access. In addition, 42 percent of subscribers were offered telephone service by their cable operator." FCC Report on 2005 Cable Industry Prices; released December 2006
- Wikipedia http://en.wikipedia.org/wiki/Substitute_good

"In economics, one kind of good (or service) is said to be a **substitute good** for another kind insofar as the two kinds of goods can be consumed or used in place of one another in at least some of their possible uses. . . It is important to note that when speaking about substitute goods we are speaking about *two different kinds* of goods; so the "substitutability" of one good for another is always a matter of degree. One good is a **perfect substitute** for another only if it can be used in exactly the same way, at exactly the same cost, and with exactly the same quality of outcome; that is, when there is no particular incentive for a customer to prefer one over the other. Needless to say, there are relatively few perfect substitutes except between two goods of the same kind. Much more common is for goods to be **imperfect substitutes** for one another."

Timothy W. Ulrich is responsible for this response.

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OCA 1-48: Please provide a list of zip codes where each cable provider provides video service in a TDS study area in New Hampshire by study area.

Response:

The Petitioners object to OCA Data Request 1-48 on the grounds that the data request is overbroad and unduly burdensome. Subject to and without waiving these objections, the Petitioners will provide information responsive to this data request.

KTC

Comcast:

03216

03257

03258

03268

03303

03770

WTC

Comcast: 03086

HTC

Charter Communications: 03049

MCT

Comcast:

03229

03242

03244

03440

03850

MCT Cable:

03221

03260

03273

03278

Michael C. Reed is responsible for this response.

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OCA 2-11: If TDS' proposal for an AFOR is approved by the Commission, please provide a chart showing today's basic residential rates for each exchange and the maximum rate they could increase to in each of the next 5 years by year (excluding exogenous changes).

Response:

The chart below assumes that the comparable rates charged by Verizon do not change over the next 5 years. These maximum potential rates are computed per RSA 374:3-b and are illustrative only.

Exchange	R1 Rate	Rate Cap	Year 1 Max R1 Rate	Year 2 Max R1 Rate	Year 3 Max R1 Rate	Year 4 Max R1 Rate	Year 5 Max R1 Rate
Hollis	\$14.59	\$15.67	\$15.67	\$15.67	\$15.67	\$15.67	\$15.67
Wilton	\$6.72	\$14.39	\$7.39	\$8.13	\$8.94	\$9.84	\$14.39
Meriden	\$12.07	\$15.67	\$13.28	\$14.60	\$15.67	\$15.67	\$15.67
New London	\$11.02	\$14.39	\$12.12	\$13.33	\$14.39	\$14.39	\$14.39
Andover	\$10.17	\$14.39	\$11.19	\$12.31	\$13.54	\$14.39	\$14.39
Boscawen	\$14.39	\$15.67	\$15.67	\$15.67	\$15.67	\$15.67	\$15.67
Salisbury	\$9.37	\$14.39	\$10.31	\$11.34	\$12.47	\$13.72	\$14.39
Chichester	\$10.07	\$15.67	\$11.08	\$12.18	\$13.40	\$14.74	\$15.67
Contoocook	\$11.20	\$15.67	\$12.32	\$13.55	\$14.91	\$15.67	\$15.67
Hillsborough	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Warner	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Sutton	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Bradford	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Henniker	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Antrim	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39
Melvin Village	\$11.20	\$14.39	\$12.32	\$13.55	\$14.39	\$14.39	\$14.39

Timothy W. Ulrich is responsible for this response.

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STAFF 2-3: Reed Testimony: Please provide monthly data on the number of residential access lines with basic local service for the period Jan. 2004 to August 2007 for each TDS exchange (also provide an electronic copy of this data).

Response:

The Petitioners object to Staff Data Request 2-3 on the grounds that the data request is overbroad and unduly burdensome. The information requested is not maintained in the monthly format requested in the ordinary course of business and would need to be re-created manually at substantial time and expense. (Internal monthly access line information does not reconcile to annually reported information due to the inclusion of items such as official lines, test lines, ISDN circuits, etc. in the monthly figures.) Subject to and without waiving these objections, the Petitioners will provide information responsive to Staff Data Request 2-3.

Information has been compiled as of the end of each year and August 2007.

MCT Residential Access Lines

Period	Residential Access Lines	Period Change	Cumulative Change	Period % Change	Cumulative % Change
12/31/2004	13,348				
12/31/2005	13,032	(316)	(316)	-2.37%	-2.37%
12/31/2006	12,585	(447)	(763)	-3.43%	-5.72%
08/31/2007	12,238	(347)	(1110)	-2.76%	-8.32%

Kearsarge Residential Access Lines

Period	Residential Access Lines	Period Change	Cumulative Change	Period % Change	Cumulative % Change
12/31/2004	7,413				
12/31/2005	7,239	(174)	(174)	-2.35%	-2.35%
12/31/2006	6,995	(244)	(418)	-3.37%	-5.64%
08/31/2007	6,818	(177)	(595)	-2.53%	-8.03%

STAFF 2-3 Response Continued, Page 2:

Wilton Residential Access Lines

Period	Residential Access Lines	Period Change	Cumulative Change	Period % Change	Cumulative % Change
12/31/2004	2,701				
12/31/2005	2,589	(112)	(112)	-4.15%	-4.15%
12/31/2006	2,489	(100)	(212)	-3.86%	-7.85%
08/31/2007	2,420	(69)	(281)	-2.77%	-10.40%

Hollis Residential Access Lines

Period	Residential Access Lines	Period Change	Cumulative Change	Period % Change	Cumulative % Change
12/31/2004	2,869				
12/31/2005	2,756	(113)	(113)	-3.94%	-3.94%
12/31/2006	2,645	(111)	(224)	-4.03%	-7.81%
08/31/2007	2,599	(46)	(270)	-1.74%	-9.41%

Michael C. Reed is responsible for this response.

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Supplemental Response Dated October 5, 2007
Second Supplemental Response Dated October 17, 2007

STAFF 2-36: Please plot TDS' customers on each exchange map provided as attachments TDS-CONF 0057-0072. USGS maps are acceptable to the extent that they include indications of residences.

Second Supplemental Response:

Please see Confidential Attachments TDS-CONF 0153-0168 for the revised exchange maps.

Michael C. Reed is responsible for this response.

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CONFIDENTIAL

STAFF 2-36: Please plot TDS' customers on each exchange map provided as attachments TDS-CONF 0057-0072. USGS maps are acceptable to the extent that they include indications of residences.

Response:

Please see Confidential Attachments TDS-CONF 0079-0094. **[BEGIN
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Supplemental Response:

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MCR - 1

**KTC Exh. 4P
0064**

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STAFF 2-37: Please provide both the electronic format and a color copy (with clearly viewable boundaries) of attachment TDS-CONF 0077. Also, please provide it with *exchange* boundaries in addition to the company boundaries provided on the map previously.

Response:

Please see Confidential Attachment TDS-CONF 0095.

Michael C. Reed is responsible for this response.