

HISTORY OF THE PNEUMATIC MAIL IN VIENNA

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[1] On the occasion of the 60th anniversary of the pneumatic mail system in Vienna I have been asked by the Postal Administration of Vienna to write a history of the Viennese Pneumatic Mail. I have therefore tried in this text to bring together a summary of this history, principally the postal aspects.

Since relatively few direct sources for the history of the Viennese Pneumatic Mail were available, especially for certain periods, I am especially grateful to Sektionsrat Ing. SCHARTEL (General management of the Post and Telegraph administration), Regierungsrat SONTAG (Vienna Postal administration) and Amtsrat TADRALO (Vienna Telegraph administration), as well as the construction section for the pneumatic system, for various specific items of information.

Dr. Hajek. Vienna, May 1933

[2]

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♦ These are the original page numbers, shown in our text by [green numbers in square brackets].

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Andynotes

1. The detailed reference numbers to decrees, laws etc have been moved to ‘endnotes’.
2. The English is intended to convey the meaning behind the original, not to be a word-by-word translation into indifferent Englisch. Padding and repetition has often been pruned!
3. A little extra information thought to be helpful has been added as footnotes.
4. FAOD: when the physical plumbing is concerned, “tube” is used in general and where mail-carrying containers traversed it; and “pipe” where it was a service connection providing compressed air or vacuum. When the routing between post offices is concerned, it’s a “line”.

I: Previous history and the start of the Vienna Pneumatic Mail

[3] The rapid increase in telegraph communications at the beginning of the 1870s was the main reason why the existing arrangements for telegram delivery in Vienna became inadequate, causing increasing complaints. While the telegraph service during earlier decades was restricted mainly to the business houses of the Inner City, which could be easily reached from the Telegraph Central Station [hereafter "TCS"], the repeated lowering of the service fees and the generally accelerated economic activities enabled all classes of the population in the whole territory of the city to take part. It goes without saying therefore that telegram delivery by foot-messengers from the TCS to the further-away districts needed more time and that such time-consuming delivery caused increased criticism, especially since the expediting over the wire from sending office to the delivery office during the last years could be effected much quicker than previously through liberal construction of trunk lines to distant places and through improvements in the telegraph apparatus.

When even the doubling of the number of existing telegram delivery men did not decrease the delivery time to any desirable extent, it was tried at first to utilise the local network of the Private Telegraph Company, which had existed in Vienna since 1869, as an intermediate handler for the official government telegrams. The result was not very encouraging because they found out that the relay of the increased volume of telegrams took so much extra time and caused such a jamming especially during the busiest hours of the day, that the loss of time was even larger than the delivery of telegrams from the TCS by messengers on foot. Moreover the government had to pay to the Private Telegraph Company for the handling (including delivery) of each single telegram a rather steep fee. viz, 10 Kreuzer.

The utilisation of the network of the Private Telegraph Company could have been dispensed with if they had expanded the government network. Against such a consideration was the fact that even such a network would not have sufficed for the great rush of metropolitan traffic during certain hours of the day. On the other hand, if they had actually expanded the network to such a degree as would have been sufficient for all needs, then such a network would turn out to be not economical for the bigger part of the day and the efficiency would not be fully utilised most of the time. The result would have been very uneconomical indeed. [5]

But not only the telegram delivery, but also the expedition over the wire of such despatched telegrams from the TCS to the many stations of the Private Telegraph Company and to the few government stations outside of the TCS did not suffice any more to meet the needs of communications. Faced with such a situation, only the construction of a pneumatic tube system could bring any satisfying remedy.

As we can read in a report that was submitted to the Parliament on Jan 21 1874 and called "Motivation report for the construction of a pneumatic tube network in Vienna", in 1872 a holding company had asked for the concession to build and run a pneumatic tube network. However granting this request had been postponed endlessly, until the well-remembered financial crash after the World Exhibition in 1873 happened and the negotiations went astray. In spite of the unfavourable financial situation of the government in 1874 it was now decided to construct such a pneumatic tube network at government expense.

The first decision to be made was which system should be chosen for such an enterprise. As models only the pneumatic systems in London, Berlin and Paris came into consideration.

The pneumatic system in London, founded in 1853, was such that from the TCS a separate pair of tubes led to each individual pneumatic station; in them a circulating current of air had to be kept up during the whole duration of the system being in operation. One tube served for the transport of pneumatic containers from the central telegraph office to the other pneumatic station; the second tube served, similar to a railway with double tracks, for the returning of the container. One could put such containers in short intervals into the apparatus, from where they slid into the tubes where they met the circulating air stream and thus were sent forward. Thus the traffic of the trains was not necessarily tied to any planned timetable.

The pneumatic tube system in Berlin was built in a similar way; it also depended on a steadily circulating stream of air. But this system differed from that of London amongst other things by the fact that all pneumatic stations were connected with each other by a common double tube. The Berlin system was built in 1865 and consisted until 1875 of four pneumatic stations. As with the London system, it was intended only for the despatch of telegrams.

The working results of both of the two systems mentioned above were so unfavourable that Vienna could not decide to model its system on either of them. The main disadvantages of such systems with a constantly circulating air stream were the high costs, because during the hours with little traffic too much working power was wasted; furthermore water condensed easily from the air that was constantly compressed through the tubes, [7] which in winter caused

formation of ice and in summer under certain conditions could penetrate into the containers and thus damage their contents, the telegrams. Moreover the construction cost of the double tubes was very high. {¹}

The pneumatic system of Paris avoided almost all these disadvantages; it was constructed in 1866-67 and had been greatly expanded since then. The pneumatic air pumps were not immediately connected with the transmission tubes, but with very large air reservoirs in which the air had been either compressed or rarified. Normally the air in the tubes was not moving; only when a train of containers had to be transported, the valve of a certain air reservoir was opened, thus producing an air stream in the transport tube which forwarded the train. Therefore such a system was very economical. Also the cost of its construction was less, because every pneumatic station was connected with another station only by one tube. The danger of condensation of water was also less, because the air circulated in the tubes only temporarily. Furthermore the tube network could be expanded easily with relatively modest means, because in many cases the erection of costly machinery was not made necessary, only the construction of a suitable air reservoir from which the newly constructed tubes were supplied with the necessary transport air stream. The air reservoirs, it is true, had to be connected with special air pipes to an [8] existing machine house, from which the compressed air or the vacuum had to be transported from the machine house to the reservoirs.

Considering all the advantages described above, it was therefore decided to build the pneumatic system of Vienna after the Paris model, with some minor changes. The contract was awarded to the firm of Ing. von Felbinger (Vienna) and Crespin (Paris); work started some time in 1874 and was finished by the middle of February 1875. On 1 March 1875 the pneumatic system was opened up for public use. Its total costs including the costs of all machinery, apparatus, the construction of the containers etc as well as the costs of buying the necessary land for the Gumpendorf machine house amounted to 364,700 Gulden. Sectionsrat Dr Militzer of the Department of Commerce was especially responsible for the introduction of Pneumatic Mails.

There follows an extract from the regulations of the Telegraph Decree Nr 3 of 19 March 1875 about the “Beginning of operation of the pneumatic tube system and introduction of pneumatic letters in Vienna”, showing the pneumatic stations as they existed at the time and the principal regulations for the transport. {²} [9]

To facilitate and accelerate the despatch and delivery of telegrams in Vienna, a pneumatic tube system has been constructed, and opened for public use on 1st March of this year. The pneumatic tubes connect the following ten stations:

1. k.k. Telegraph Central Station
2. k.k. Pneumatic station Laurenz Building
3. k.k. Post Office Leopoldstadt
4. k.k. Post Office Landstrasse
5. k.k. Telegraph Office Kärtnerring
6. k.k. Post Office Wieden, Neumanngasse
7. k.k. Pneumatic station Gumpendorf
8. k.k. Post Office Neubau
9. k.k. Post office Josephstadt
10. k.k. Pneumatic station in the temporary Stock Exchange on Schottenring

The first nine stations are for the time being open for business from 8am to 9pm and pneumatic trains run during this time at intervals of a quarter up to half an hour. The station in the temporary Stock Exchange is open only during Stock-Exchange business hours.

There is no additional fee above the normal Telegram Rates on account of the new accelerated way of transportation.

Finally, written messages as well will be transported through the pneumatic tubes during the business hours of 8am to 9pm if the sender and the addressee are located within the Linienwälle of Vienna.

¹ Following a design by von Siemens, the Berlin system adopted in 1876 an air recirculation arrangement, whereby the same air was pumped round and round, avoiding the constant ingress of fresh moist (and dusty) air and the resulting condensation.

² Also see the actual decree whose text isn't quite the same as this!

Such pneumatic letters are as a rule supposed to be written on special official postal stationery which is for sale at the above offices; or written on thin writing paper, in which case the sender is instructed to put the letter in a pre-franked envelope. [10] Such envelopes are also available at the pneumatic stations.

The pneumatic letter must not be heavier than 10 grams. The postal rate is 20kr O.W. If the sender wants a receipt for his letter, he will get a stamped receipt for having posted his letter {³} against an additional fee of 5kr O.W. [11]

II: 1875 – 1895 (Period of basic design of the pneumatic tube system)

II-1) Expansion of the pneumatic network.

In 1875 seven out of the ten pneumatic stations as they existed at that time were connected with each other by a circular line; the remaining three stations – ie the Stock Exchange, the P.O. Leopoldstadt, and the P.O. Landstrasse – were joined to this circular line by radial connections (see map in appendix 1).

Steam engines for the air pumps existed only at the Telegraph Central Station and in Gumpendorf. The engines at the TCS (consisting of a principal and a spare machine) could each furnish 26 HP, the two in Gumpendorf each 11 HP.

The total length of the pneumatic network at that time was 14,011 meters, of which 11,802m consisted of transport tubes for telegrams and letters and 2,209m consisted of the two air pipes which furnished the compressed air and the vacuum from the TCS machine house to two air receivers at the Laurenz Building.

[12] As one can see from the above description, the original system was not exactly a large one, but it was sufficient for all needs for the first years of its existence. But when the pneumatic mail was used more and more for the transport of pneumatic letters, pneumatic postcards, railway avisos {⁴} etc; when Vienna's population kept growing; and when the suburbs outside the Linienwälle attained increasing importance; then a corresponding expansion of the pneumatic system became an absolute necessity.

The expansion of the network was started towards the end of 1879 by connecting the Fruchtbörse (produce exchange), which at that time was still located at the Börsegasse, with a line via the Stock Exchange to the TCS. In 1880 a line was laid from P.O. Gumpendorf via the P.O. Zieglergasse to the P.O. Fünfhaus; thus for the first time part of the suburbs were included into the pneumatic network. The year 1883 brought the opening of the pneumatic stations at the Rathaus and the Reichsratsgebäude.

The additional expansion of the pneumatic network went on according to a general plan, whose main purpose was the accessibility of the suburbs for the tube mails.

The first new line built connected the TCS to the P.O.s Lazarettengasse, Währing, and Hernals in 1886-87, while in 1889 it was expanded further to P.O. Josefstadt via the P.O.s Ottakring and Neulerchenfeld, connecting them there to the already-existing pneumatic network.

[13] The construction of the new (now the second) circular line had been possible without adding to the machine houses, but at the P.O. Josefstadt two more air reservoirs became necessary, which were connected with air pipes to the machine house at the TCS.

A third circular line was constructed towards the end of the 1880s by laying a tube from the pneumatic station Gumpendorf via P.O.s Hundsturm, Gaudenzdorf and Meidling to Fünfhaus, and back to Gumpendorf via the P.O. Westbahnhof which had been included into the tube network in 1889. The construction of this circular line was likewise done without any erection of a new machine house, but it made necessary two new air reservoirs at Gumpendorf.

After these important connections in the suburbs had been established and in the year 1892 after the P.O.s Wien 59, 63 and 66 (under Post & Telegraph Ordinance Nr 5/1892 the post offices received numbers rather than local names) had

³ There was no provision for a proof-of-delivery returned to the sender.

⁴ Railway avisos typically informed the addressee that his goods, or even a waggon, had arrived at the station, and that if he didn't collect them huge storage fees would be levied.

been connected to the pneumatic network by laying a loop line; in that year another great project was started: the inclusion of the Railway Post Offices Vienna 24, 28, 41, 68, 76 & 77 ^[5].

The respective constructions were essentially made in the years 1892 to 1894 and they necessitated amongst other things the construction of a Machine House in the IIIrd District at Mohsgasse and in the IIInd District (as it then was) at Webergasse as well as the laying of air pipes between the Webergasse machine house and the new air station at ^[14] Nordwestbahnhof, and between the Mohsgasse machine house and the new air station at Südbahnhof. The steam engines (principal and spare) at Mohsgasse furnished 25-30 HP, those at Webergasse 15-20 HP.

In the South of the city the laying of corresponding transport tubes was accomplished by connecting the P.O. Wien 40 with the offices Wien 128, 77 & 76 and by continuing the line from Wien 76 via Wien 53 & 54 to the Telegraph Office Wien 57. To this line, Wien 41, 45 & 74 were connected by short branch lines in the years 1894-95.

In the North of the city a radial line had existed since the founding of the pneumatic system, from the pneumatic station Laurenz Building to P.O. Wien 23 (Leopoldstadt), to which in 1889 P.O. Stephaniestrasse and in 1890 the P.O. in the new building of the Produktenbörse at Taborstrasse had also been connected. This radial line was extended in 1895 up to the P.O. Wien 68 via the P.O.s Wien 28 & 24 and the TuPA (Telegraph and Pneumatic Office) Wien 129. One year later, the line between P.O.s Wien 23 & 28 was completed with the construction of a loop to P.O. Wien 27.

The laying in 1894 of a tube from the TCS via P.O. Wien 13 (Bräunerstrasse) to P.O. Wien 15 must be mentioned. This line was expanded in 1895 via P.O. Wien 49 up to TuPA Wien 128.

In the second decade of the existence of the Vienna Pneumatic System, three private lines were also constructed. ^[15]

The first line was built in 1888 to connect the TCS with the Private Telegraph Station at the Stock Exchange. This line belonged to the Vienna Private Telegraph Company, but it was kept in operation by the Postal Administration for an annual lump sum of 600 Gulden and occasionally also repaired.

The two other private lines erected in 1893 led from TuRA Fleischmarkt to the Finanzministerium and from TuRA Mohsgasse to the State Printing Office; they had been built at the expense of the Finanzministerium and they served for expedition of letters between the Reichratsgebäude, the Finanzministerium, and the State Printing Office. Here too the Postal Administration maintained the installation; however the Finanzministerium did not pay a lump sum for this service, but a fee of 0.6 Kreuzer for every container-kilometre.

As one can see, the pneumatic network had been greatly expanded towards the end of the 1880s and first half of the 1890s. In 1895 there existed, 43 pneumatic stations plus the 3 private stations, even more than in 1933. The length of the transport tubes amounted to approx 48 km in 1895 (not including the private lines); thus it had quadrupled in comparison with 1875; the air pipes had a length of more than 10 km, almost five times the 1875 length. ^[16]

For a comparison it might be mentioned that the newly built pneumatic system of Berlin, constructed in 1876 after the model of that in Vienna, had 15 pneumatic stations and about 26 km of tubes, thereafter expanded by 1895 to 51 pneumatic stations and 104 km of tubes ("Newspaper for Post and Telegraphy", 1899, page 67).

II-2) Utilisation, rules and possibilities.

The pneumatic expedition of letters and postcards was permitted in Berlin from 1 Dec 1876 and in Paris from 1 May 1879 (Newspaper "Austro-Hungarian Post", 1883, page 173). In comparison, in Vienna letters could be sent from 1 March 1875, although correspondence-cards only from 1 Aug 1879. As for the rules of transport of letters, Telegraph Ordinance Nr 3 of 1875 (see the end of part 1) contains the respective directions, while Telegraph Ordinance Nr 16 of 1879 introduced "telegraph correspondence cards". These pneumatic postcards cost 10 Kr, and like the envelopes for pneumatic letters could at first be bought only at the pneumatic stations; they were permitted only for addresses in Vienna Districts I-IX plus the Prater but excluding the Brigittenau. ^[17]

The year 1880 brought essentially new regulations. Introduced on the occasion of the opening of the pneumatic station at Fünfhaus were the free express delivery of pneumatic mail for Fünfhaus, Sechshaus and Rudolfsheim; and by payment of a special messenger fee (the Botenlohn) express delivery to Gaudenzdorf and Meidling also. This annulled the previous rule that addressees of pneumatic mail had to live within the Linienwälle of Vienna.

Even more important was the decree published in Telegraph Ordinance Nr 9 of 10 July 1880 concerning the establishment of letter-collecting boxes especially for pneumatic mail. Shortly before this, the Postal Administration had ordered that pneumatic mail found in ordinary mail boxes had to be sent immediately to the nearest pneumatic

⁵ Railway Post Office Vienna 24 was at Railway Station Nordwestbahnhof; 28 at Nordbahnhof; 41 at Aspangbahnhof; 68 at Franz Josef Bahnhof; 76 at Südbahnhof; and 77 at Staatsbahnhof aka Ostbahnhof.

station by special messenger for its proper disposition. Since 1881 the emptying of the new pneumatic mail boxes was ordered to be every 20 minutes, much more often than the ordinary letter boxes, and since the public was given greater assurance that pneumatic mail was actually forwarded through the pneumatic tubes, by using those special little red pneumatic mail boxes an enormous increase of the local express communications was made possible.

Actually the introduction of special letter boxes remained an Austrian speciality, imitated only later on when a Pneumatic system was constructed in Prague in 1899. {⁶} [18]

The postal stationery for the pneumatic mail was initially available only from the pneumatic stations, but from 1 July 1880 it could also be bought at the tobacco shops.

The 1880 Ordinance also brought the introduction of reply-paid postcards, costing 20Kr{⁷} . Although the messenger who delivered such cards was obliged (on the wish of the receiver) to wait 5 minutes for a reply and then carry it to the next pneumatic station, these reply-paid postcards never became popular.

A further step for better utilisation of the pneumatic system was the introduction of the so-called Railway Station Correspondence. From 1 July 1883, pneumatic letters and postcards for addresses outside Vienna were accepted by all Viennese Post Offices and pneumatic stations. They were forwarded to an appropriate pneumatic station, from which an express messenger took them to the railway station to catch a specific mail-carrying train {⁸}.

Such mail had to be fully franked for both the pneumatic and the postal transportation. Correspondence cards, which were franked with only 10 Kr, were treated as untransportable; [19] letters if franked with 20 Kr received postage dues and were then forwarded.

Railway Station Correspondence, in extenuating circumstances, did not have to be written on official pneumatic stationery, and if it met all the other conditions it would be forwarded pneumatically.

Incoming Railway Station Correspondence arriving at Vienna from other towns and receiving pneumatic forwarding to its delivery station was permitted from 1899.

These regulations show that in the 1870s and partly the 1880s, apart from Railway Station Correspondence to other towns, the only mail sent through the pneumatic system and delivered by express messenger was that addressed to Vienna and some suburbs for delivery within a certain distance from the delivering pneumatic station. Thus for instance, at the beginning of 1887 such delivery was only made in Vienna Districts I-IX and Fünfhaus, Sechshaus Rudolfsheim, Gaudenzdorf and Meidling, because the pneumatic establishment did not reach any further.

[20] A regulation of 6 May 1887 ordered that pneumatic mail could also be sent to addresses in the remaining postal suburbs of the “Vienna City Post Rayon”, thus to places where the pneumatic system didn’t go – eg Hietzing, Pötzleindorf or Floridsdorf. Here it must be mentioned that even before their incorporation, Districts XI to XXI had been included in the Vienna City Post Rayon. (XI-XIX were incorporated in 1890, XX in 1900 by separating it from II, and XXI in 1905.) Pneumatic mail for places in the Rayon outside the reach of the pneumatic system was forwarded from the last station like special delivery mail without the charging of a postal fee and generally also without charging [*the recipient*] a messenger fee (Botenlohn), just as within the limited territory of the Pneumatic system.

Furthermore it is important for the traffic development to mention also the reduction of the rate for pneumatic letters from 20 Kr to 15 Kr and the simultaneous introduction of a new type of pneumatic stationery – “lettercards for pneumatic express delivery”. Section II-8 discusses the steep increase in the use of lettercards.

[21] Around the mid-1890s, the pneumatic expedition and delivery of correctly-franked letter mail not written on official pneumatic mail stationery was finally also permitted, without regard to the destination. With that, the essential regulations for the public use of the pneumatic system in the years 1875-1895 were put together.

As for the internal use of the pneumatic system, it remains to mention that, as well as the transport of telegrams for which it was in principle built, it was also used for the despatch of official mail, of railway avisos, and from 1891 for the despatch of misdirected ordinary mail letters for the Vienna Rayon when a quick forwarding to the correct delivery office was required. The delivery of such misdirected mail had to be done by special delivery messenger without any extra charge. It cannot now be established when this pneumatic transport and special delivery of misdirected post was

⁶ This is untrue – Great Britain from 1930 to 1938 had special blue airmail boxes at important sites; they only lasted for eight years because rapid expansion of the air service to Europe and the British Empire, made their usefulness redundant. One can still be seen outside Windsor Castle

⁷ T.V.B1.9/1880

⁸ Cirk.V.B1.10/1883

withdrawn; this probably occurred at the end of the 1890s when the trains of the Vienna Stadtbahn were used to a large extent and thus the postal traffic network in Vienna had become even denser. [22]

II-3) Collection

The introduction of pneumatic mail letter boxes in 1880 was originally planned only for the Inner City, but by 1881 had expanded to favourably-located places in the entire territory of the pneumatic system. Their number increased steadily, and by the end of 1895 there were 427 of these mailboxes in use in Vienna.

The boxes were emptied daily (including Sundays) every 20 minutes between 8am and 8:30pm until 1885, in the following years from 7:30 or 7:40am until 8:30pm, and from 1891 on – because of the expanded train traffic – between 6:30am and 9pm.

In comparison, the yellow letter boxes (of the Post) were emptied for instance at the beginning of the 1880s 13 times in the densely-populated inner districts I-IX between 6am and 9pm, and 5-9 times in district X and the suburbs. At the beginning of the 1890s a 14th collection at 10pm was introduced in the inner districts on work-days and the number of collections in the outer districts on work-days was increased to 7-13; on Sundays there were only 8-9 collections in the inner districts and 1-5 in the outer.

[23] On account of the different times of emptying and especially because of the shorter intervals between emptying the pneumatic mail boxes, the emptying of the ordinary and the pneumatic boxes had to be done by different mail men. For the pneumatic boxes, the so-called “pneumatic mail collectors” were employed. They had to make a security deposit of 100 Gulden; during their first year they received a daily wage of 1 Gulden, gradually increasing to 1 Gulden 30 Kreuzer after their fifth year; they were entitled to a service uniform which after being worn for several months became their property {⁹}. Their wages were calculated only for actual service: days of absence (holidays, illness etc) were unpaid. The employment contract could be terminated mutually by giving 14 days advance notice. (See the Service Instructions for Pneumatic Mail Collectors)

II-4) Operating Procedure at the pneumatic stations

In order to show how awkward and time-wasting the procedure was for the reception, forwarding and delivery of pneumatic mail, we shall give below a few important regulations of the “Instruction” of 1883, which remained in force essentially until 1910. [They were drawn up for a 10-station system not a 53!] [24]

Each Pneumatic Telegraph Station must keep for itself and for each of the other pneumatic stations one pad of 100 receipts which carry the name of the different destination stations in printing.

When accepting pneumatic correspondence, the mail has to be cancelled and marked with the Instradierungs-code {¹⁰} in the upper left corner with coloured crayon. After this is done, the receipt from the top of the pad must be detached, which carries the name of the destination station of the mail piece; whereupon the imprinted number of the detached receipt must be entered on the mail piece; the receipt in its turn must be stamped with the location-and-date postmark and the part of the receipt that says “dispatched with train ...” must be filled in by hand with the actual despatch time.

On the receipt one has furthermore to enter at the respective printed notation whether it is a pneumatic letter or a pneumatic postcard; in the space before the printed word “Empfangschein” the letter ‘S’ must be written if the mail piece came from a pneumatic letter box, but the letter ‘A’ when it was official service correspondence.

The mail items thus adjusted must be rolled together for each separate station together with its receipt from the pad {¹¹} and tied in such a way that the Instradierungs annotation is clearly visible, and each pad-sheet must be laid in such a way that the unprinted side faces towards the outside. The mail pieces are now ready for despatch.

[25] Die Umkartierungsstationen haben auf den nach aussen liegenden Empfangsscheinen die zeitlichen Umkartierungsdaten zu vermerken. {¹²}

⁹ It says elsewhere that they had to pay for it by deduction from their daily wage, or possibly their per-item fee.

¹⁰ This is the number of the destination station, taken from a special list and not necessarily the same as the Post Office number used by the general public. “Instradieren” means “to direct” and is probably of Italian origin.

¹¹ Unclear if it’s one pad-receipt per bundle, or per item.

¹² We haven’t managed to translate this into meaningful English.

For incoming pneumatic correspondence, a Streichbogen with the numbers 1-100 must be readied for each station from which pneumatic mail can be expected, which thus corresponds to the receipt pad of the despatching station. On incoming correctly-Instradierted pieces, first of all the actual arrival time must be entered on the receipt where it says "arrived with the train", then on the mail piece the location-and-date postmark must be stamped. Furthermore on the Streichbogen one has to enter whether it is a letter, a postcard, mail from a collecting box etc.

Before the mail pieces are made ready for delivery, they must be entered each separately in the Verdienstverzeichnis of the telegram delivery man, as well as in a summary way on the telegram-despatcher protocol.

Incoming pneumatic correspondence, for which a second, third, or multiple Weiterinstradierung (*redirection*) is necessary for whatever reason, must receive a new pad receipt.

It is quite obvious that these awkward prescribed procedures were often completely disregarded. The "Instruction" tried to prevent this by demanding for each misrecording or defective adjustment of the bundles or receipts a fine of 20 Kr, and for each missed postmark fines [26] of 50 Kreuzer - 1 Gulden.

The treatment of these shipments of mail at the pneumatic stations was the duty of the Manipulationsdiurnisten, as was the general operation of the machines. Since almost every pneumatic station was also equipped with telegraph apparatus, the Diurnisten also had to know telegraphy. They were servant-class employees; they formed a special group of salaried clerks and could be compared as far as their service status was concerned approximately with the Offizianten of later time.

All clerks who had to work on pneumatic apparatus had to pass a corresponding examination.

II-5) Delivery

At the time of writing (1933) the express letter delivery service is regulated in such a way that the delivery man of the pneumatic station generally has to start his round at an exactly fixed time, eg 7:10, 8:10 etc. In those days it was different. It was a basic rule that pneumatic mail and telegrams arriving at the pneumatic office had to be delivered immediately after arrival and without waiting for another train. Incoming items could be briefly stored only in the exceptional case that because of specially heavy traffic not a single delivery man had come back from previous deliveries. [27]

The receivers note the handover of the pneumatic mail and telegrams on the pad-receipts.

The delivery was done by telegram delivery men, whose service contract was regulated similarly to that of the pneumatic mail collectors; however they did not receive a daily wage but were paid by the number of pieces – generally 4 Kr per piece. {¹³}

Starting in 1886, the telegram delivery men had to pass a special service examination: they had to prove amongst other things that they had mastered the German language orally and in writing; that they knew all post and telegraph offices within the territory of the Vienna City Post; that they knew the most important streets alleys and squares, the office locations of the different authorities legations & consulates, the addresses of the important limited companies, of the newspaper offices etc. (Once the war started no service examination was required of the telegram delivery men).

The necessity of a smooth and immediate delivery of pneumatic mail and telegrams during the period under consideration (1875-1895) is best proved by noting that in 1890 deliveries of ordinary mail in districts I-IX were made eight times on workdays between 8am and 7pm and on Sundays thrice between 8am and 5pm; in the remaining areas of the Vienna Rayon 4-7 times on workdays [28] and on Sundays twice almost everywhere. Even during the previous decades, the number of ordinary-mail deliveries was essentially the same. It is thus clear that such a generous ordinary delivery service demanded as a supplement a specially quick express delivery if it were to be of any value.

II-6) Operation of the pneumatic trains.

The pneumatic trains ran from the end of 1875 up to 1890 on almost all lines daily from 8am until 9pm at intervals of 20 minutes. At the beginning of 1891 this traffic was expanded to cover 6:45am till 10pm by the introduction of "early trains" and "night trains", and from the end of 1894 it was intensified by reducing the interval to 10 minutes between the offices of the Inner City.

¹³ Hence their desire to hang on for more items to deliver!

Much more important than the expansion of the pneumatic train service in the early and evening hours and the partially increased frequency was the basic change-over in 1892 from a circular traffic system to a radial one. Up till then a few radial lines had existed, but most of the principal lines (as described above in section II-1 on the expansion of the network) were arranged into large circular routes, on which the trains generally travelled in only one direction – eg from the TCS via Währing, Hernals, Neulerchenfeld, Josefstadt and back to TCS. From now on, each circuit was divided into several short single lines, within which the trains travelled every 20 minutes in both directions, eg from TCS to Währing then back through the same tube. By doing this the number of trains was doubled and the efficiency of the system increased.

Finally it should be mentioned that in 1891 following numerous jams in the train traffic it was decided that the pneumatic service on the troublesome lines had to be executed at the intervals set out in the timetables by using other vehicles such as horse cabs, horse buses, even the horse trams.

II-7) Pneumatic apparatus and vehicles

During the first years of the service, Felbinger-Crespin machines were used. These so-called ‘cannons’ were complicated to handle, and soon proved that they could not cope with the steadily increasing traffic. Even the later designs by Scharfenberg and by Felbinger, although a little easier to handle, could not meet all the demands because they were very expensive and required much space.

[30] In 1892 a new design was created after the plans of Franz Schwager, the Chief Engineer of the Vienna Pneumatic System. The model 1892 demanded only a fraction of the space previously needed, was easy to handle, and didn’t cost as much. This model was thus used from then on for all the expansions and changes.

For the transport of the mail, zinc-plated tin cylinders were used at first, but they wore out too quickly. Later, steel containers were used, and from 1891 aluminium ones. Also in that year the previous wood and steel drivers were replaced by aluminium. This use of aluminium, which continued until the end of the system, brought a decrease in train-weight so were more economical in service.

In 1891 a trial took place of leather containers and drivers, modelled on those used in Berlin. However the trial was abandoned because in those tubes driven by compressed air the leather offered little resistance to the unfavourable influence of condensed water.

The Post- and Telegraph Museum in the building of the Vienna Technical Museum displayed (*in 1933*) a Cannon-Apparatus, an improved Felbinger model, and a Schwager-apparatus along with several kinds of pneumatic containers and drivers. [31]

II-8) Results

In 1876, 693,022 telegrams were pneumatically transported; in 1885 1,040,385; in 1895 2,387,228. Thus the number increased in this 20-year period by 244%, while the total population of Vienna increased (partly by incorporation of the suburbs) from 668,000 in 1876 to 1,487,000 in 1895, an increase of 122%.

Population data for Vienna. W=Wikipedia; H=Hajek; V=Vienna City Govt.											
1754	1800	1850	1876	1880	1890	1893	1900	1910	1910	1923	1939
175460	271800	551300	668,000	726000	1365000	487000	1769137	2083630	2031000	1918720	1770938
W	W	W	Haj	V	V	Haj	W	W	V	W	W
1951	1961	1971	1981	1985	1990	1995	2000	2005	2010	2013	2014
1616125	1627566	1619885	1535145	1494874	1492636	1542667	1548537	1632569	1689995	1741246	1793667
W	W	W	W	W	W	W	W	W	W	W	W

Compared with these figures, the number of delivered pneumatic letters was at first ridiculously small, despite the fact that the rate for such letters of 20Kr was cheaper than for a local telegram at 25Kr or a private messenger (Dienstmann). In the period 1876-1879 the annual number of pneumatic letters was only 6-8000.

The small initial volume of pneumatic letters can be explained by considering the small territory of the city of Vienna at the time; also the relatively high rate (20Kr) compared with 3Kr for an ordinary local letter; and considering the fact that the compulsory official envelopes were available only at the pneumatic stations where also one had to post them.

When later the tobacco shops (Trafiken) took over the sale of pneumatic stationery, pneumatic collecting boxes were provided everywhere within the area of the system, the letter rate was lowered in 1887 to 15Kr, [32] and the network was expanded more and more – then the number of pneumatic letters increased relatively quickly. In 1890 it was 176,000 and in 1895 over 411,000.

As mentioned above, the pneumatic letter-card was introduced in 1887. It is interesting to see how quickly the letter-card captured the patronage of the public, and how it slowly displaced the much older envelope. This is shown best by the statistics of the Ministry of Commerce for the Posts and Telegraphs: in 1889, 101,000 pneumatic envelopes and 75,000 pneumatic letter-cards were sold; in 1891, 103,300 and 133,900; in 1893, 117,000 and 165,000; and in 1895, 110,000 and 192,500.

The cheaper pneumatic postcard was in those days used even more: their number rose from 67,846 in 1880 to 1,642,249 in 1895, four times the number of letters in 1895.

[33] A final item of pneumatic stationery must be mentioned – the reply-paid postcard. This never played any important role; sales were only 1,000 in 1881, 6,000 in 1890, and 4,500 in 1895.

While it can be seen from the above figures (and especially in Appendix 3) how quickly the annual total number of despatched items increased up to 1895, a calculation of the relative utilisation of the system by kilometre-units does not show the same picture. In 1875 each km of tube was traversed by 45,900 pieces ... and in 1895 by 98,100:

1875	1877	1879	1881	1883	1885	1887	1889	1891	1893	1895
45,900	64,500	65,000	86,700	96,900	110,500	102,700	114,700	100,400	93,100	98,100

The data show that a km of tube was less utilised in 1895 than in 1885. The explanation is that, especially from 1886 to 1895, the network was greatly expanded and the population of the new districts had to become accustomed to using the new correspondence method. A second reason is the development of the telephone network. [34]

The influence of telephonic communication on the pneumatic mail can be estimated from these figures:

Year	Subscribers	Local calls	Long distance calls
1881	154	?	?
1886	723	1,201,044	234
1889	1799	2,215,035	34,150
1892	5832	15,010,738	120,330
1895	8343	43,345,968	238,272

These also come from the Ministry of Commerce statistics. Even if the over-43-million local calls may include some double-counting and not represent the true facts, it remains the case that the use of the telephone increased extremely fast and a considerable part of the additional express-communication traffic was done by telephone over an ever-expanding network.

The construction of the Vienna local telephone network in 1881 was done by the Vienna Private Telephone Company, who continued its operations until the end of 1894. In 1895 the government, which previously had only concerned itself with long-distance calls, took the company over against a payment of 4 million Gulden, making it State Property.

III: 1896 – 1914 (Period of expansion of the system)

III-1) Expansion of the pneumatic mail network

The basic expansion of the pneumatic mail network took place during the years 1875-1895. Everything that has been accomplished since regarding the construction of new pneumatic lines served only as a relatively small completion of the system, although not an unimportant one.

First we mention the construction of a transport tube in 1896 between TCS and Wien 129, by which a direct connection between the two machine houses of TCS and Webergasse was accomplished. In the same year, the transport tube line between TCS and the former station of the Vienna Private Telegraph Company in the building of the Stock Exchange was converted into an air line, making more efficient the internal pneumatic mail system installed within the Exchange building.

A somewhat more important construction activity started in 1900, connecting the post offices Wien 43 and 79 into the pneumatic network. Furthermore, [37] once a 12HP steam engine had been installed in the new machine house at Währing in 1899, the important tube connection from Wien 68 via Wien 69 to Wien 110 was built. By this the circle that connected together the outer ends of the radial lines from the TCS was closed in the north. Two years later Wien 111 was inserted between P.O.s 69 and 110.

Finally, there must be mentioned the construction of pneumatic stations at P.O.s Wien 117 (1903); Wien 13 (the Police Direktion) (1905); Wien 125 (1905); Wien 8 (1911); Wien 89 (1912); and Wien 25 (1913). Also, a tube line was laid from TCS to the Telegraph Office Wien 57 (1906); the pneumatic station at Wien 74 was moved to Wien 75 (1907); two air tubes were installed from the Gumpendorf machine house to Wien 101 (1908); and the Central Machine House was converted to electric power in 1903.

In 1913 the Pneumatic network had reached its maximum expansion, with 82½ km of tubes, 68 km being transport and 14½ air, apart from two private lines totalling 1,843m. There were 53 pneumatic stations in Vienna.

At about the same time (around the beginning of WWI), the Berlin system had 187 km of transport tubes, 103 km of air pipes, and 80 stations (according to the Berlin postal administration). Paris had 350 km of transport tubes, 30 km of air pipes, and 120 stations (according to Schwaighofer). [38]

III-2) Rules for utilisation

Up to the end of 1899 the price of a pneumatic postcard was 10 Kr, and of a letter 15 Kr; when the currency changed on 1 Jan 1900 these became 20 & 30 heller. By §3 of the Postal Decree of 28 Dec 1906 [*effective 16 Jan 1907*], the rates and structure altered to 25 heller for a postcard, 35 for a letter-card, and 45 for a letter. The pneumatic stationery did not significantly change between 1895 and 1914: the outer appearance altered several times but the four types – postcard, reply-paid postcard, letter-card and letter – remained the same.

In 1899, pneumatic mail users were allowed for the first time to use, as well as the strongly-recommended official stationery, ordinary cards and letters provided they were suitable for pneumatic transport and were correctly franked. [39] Letters had not to exceed 8½ x 15 cm with a max weight of 15 grams; two years later letters were allowed up to 11 x 15½ cm and 20 grams.

The English text down to here has been checked and corrected by Mr & Mrs Colomb
– the authors are extremely grateful to them.

We must also mention [¹⁴] the frequently-changed regulations for Railway Station Mail (*ie to destinations outside Vienna*). Initially it had to be fully franked for both the pneumatic and the postal transportation. From 1901 it was sufficient if the franking covered the pneumatic transport, taking into account the special reduced rate of 20 heller instead of 30 for a letter, 15 instead of 20 for a card; the fee for the ordinary post would be demanded by affixing postage dues. However at the beginning of 1907 these concessions were reversed, prepayment of the full pneumatic and postal rates being required. [40] For incoming railway letters, permitted only from 1899, there was never a reduced rate because they had to be sent by pneumatic mail and then by express delivery messengers.

From 1 Aug 1911, partly-franked pneumatic mail (except Railway Station letters) was again accepted, receiving postage dues for double the missing amount: by this the principle of “complete franking for pneumatic mail” which had existed up to then was rescinded. Berlin had made the same concession at the beginning of 1909.

III-3) Collection

In order to improve the local correspondence, the entire letter-collection service in Vienna was reorganised in 1904, by combining the previously-separate ordinary and pneumatic mail box collections – thus increasing the maximum number of collections from the ordinary yellow boxes [41] from 15 to 30. It is true that from then, pneumatic boxes might be emptied every 30 minutes instead of 20, an apparent deterioration compensated for by shortening the collection round from 25-56 minutes to 16-25 minutes.

The half-hourly collection was made on work days from 6am to 8pm, followed by a yellow-box-only collection at 10pm. From September 1912 the red pneumatic boxes were included in the 10pm collection round.

There was a minor disadvantage in the new regulations for the Sunday pneumatic box collection; they were emptied along with the yellow boxes half-hourly between 6am and 10:30am and at 4pm. This didn't apply to the pneumatic boxes outside the pneumatic stations; these were emptied on Sundays every half hour up to the end of service at the office.

The joint collection from ordinary and pneumatic boxes was performed by additional staff (Aushilfsdiener); the round was done either on foot or by using the trams, the horse-drawn collection carriage (Pferdesammelwagen), or [42] from 1906 to 1912 in some collection districts by using motor-cycles with sidecars.

¹⁴ Text drastically pruned from the verbose original!

III-4) Operation of the pneumatic stations

As mentioned in Part II-4, the regulations for the handling of pneumatic mail as laid down in 1883 remained in force until 1910 with only minor changes. However the “Service Instructions for the handling of telegrams and pneumatic mail” of 1 Sept 1910 abolished the “pad receipts” that had had to accompany every item from despatch to receiver; likewise abolished were the Streichbogen, the Verdienstverzeichnisse, and the ‘delivery messenger protocols’ at the arrival station.

By this, the entire handling service was considerably facilitated. To have some measure of control, a summary listing for incoming and outgoing telegrams and pneumatic mail, and a Bestellnachweisung, were introduced at the delivery stations. These were very similar to those in use in 1932.

For the operation of the apparatus, from 1896 Post Office clerks were used as well as the Manipulationsdiurnisten, although until WWI they were not allowed to serve at the public counters. The Manipulationsdiurnisten were reclassified as Postal Auxiliary Clerks in 1902 and again as Postoffizienten in 1906. [43]

III-5) Delivery

Under Circ V.BI 36/05, from 1 Nov 1905 delivery of telegrams and pneumatic mail to buildings outside the built-up areas had to be done without the collection of a special delivery fee provided the delivery location was marked with a street name and house number. For the delivery of mail to out-of-area places with only catastral numbers (*ie land register plot numbers*), a messenger fee (the Botenlohn) had to be paid, as well as for the night delivery (arranged by the TCS) of telegrams at distances of over 5km on the South side of the Danube or anywhere on the other side. These regulations were still valid in 1933 with minor changes; they were extended also to the night delivery of express letters (performed by the TCS) when in Autumn 1931 the handling of express letters was partially transferred to the TCS.

The 1 Sept 1910 Service Instructions had abolished receipts for telegrams and pneumatic mail; the delivery messengers now had to enter in the Bestellnachweisung the time of delivery of each piece, but a signature from the recipient was no longer necessary.

In September 1912, the first express delivery at most pneumatic stations was brought forward to 6:20am, so that the pneumatic mail collected the previous evening at 10pm and sent through the post to the pneumatic station could be delivered even before the first train of the day had arrived.

Deliveries were generally made on foot, but in the mid-1990s bicycles were introduced for this purpose. At first these were private bicycles, enabling the delivery man to earn as many 4Kr/8H per-piece delivery fees as possible. At the beginning of the 20th century lump sums for bicycle-purchase were granted, and shortly before WWI office-owned delivery bicycles were introduced in larger numbers.

This procurement of official bicycles was connected with the fact that after favourable trials at the TCS – and from 1914 at almost all the other pneumatic stations also – telegraph boys were hired for the deliveries instead of the messengers. The boys were paid a daily wage of 1Kr70, while the messengers received an 8H per-item fee. [45] The administration was thus interested more than ever in maximising the deliveries made by each deliverer, so permitted the purchase of bicycles. As well as their daily wage, the boys received a 1H payment per piece, corresponding to the 1¼ groschen paid in 1933 to the express telegram and letter delivery men. The service of the boys was regulated by decree PuTVBI 38/14.

In conclusion, some data about the delivery of ordinary letters. In 1914, the ordinary letter delivery on work days was made 7 times daily in District I; 6 times in Districts II-X; and 5 times almost everywhere else. Deliveries were between 7:30am and 6pm. From 1898, on Sundays there was only one delivery round, beginning between 8 & 8:30am. The number of delivery offices in Vienna was 80 in 1906, but because of gradual centralisation reduced to 63 in 1914 [and in 1933 was 36].

III-6) Operation of the pneumatic trains.

From 1896 to 1914, the pneumatic trains ran daily between approx 6:45am to 10pm. In 1900 the ten-minute interval of the Inner City [46] was extended to the other inner districts and even to some of the outer ones: so for instance in 1913 10-minute intervals applied to the lines Z-11-15-50-57; Z-2(=W1)-40-128-77; Z-66-71-110; Z-10-64-62-57; Z-57; 2-15; and 57-60-59-110. The lines Z-129-68-69, 129-24, and 110-111-69 had 10-minute intervals in the early and late hours. The remaining lines ran at 20-minute intervals, apart from the as-required service of the Stock Exchange.

On Sundays the trains ran on all lines at 20-minute intervals. From 1903, trains ceased at 7pm on those days at a number of branch lines and some connecting lines and the corresponding pneumatic stations were closed; their delivery service was performed by the neighbouring offices.

III-7) Results

The number of telegrams despatched by the pneumatic system increased continuously from 1896 up to the outbreak of war: for example 2,324,300 in 1896; 3,934,732 in 1906; and 5,337,290 in 1913.

The traffic in pneumatic postcards and letters showed a large increase up to 1906: in 1896 approx 440,000 letters and 1,680,000 postcards were sent; in 1906 1,528,000 letters and 2,707,000 cards (the 1906 data includes express letters and cards, which from 1899 were also transported pneumatically).

However, the rate changes on 16 Jan 1907 caused a set-back: in 1907 some 350,000 fewer letters and 520,000 fewer postcards were despatched compared with the previous year. The previous traffic levels were not reached again, right up to the outbreak of war, in spite of the increase in the population of Vienna from 1,875,000 in 1906 to 2,172,000 in 1914.

The proportion of official stationery in the pneumatic mail decreased almost continuously, letters even more than cards, as these data show.

Year	Total of cards transported	Official sales of cards	Sales/ total	Total letters transported	Official sales of lettercards	Official sales of envelopes	Sales/ total
1905	2,510,610	1,004,469	40%	1,315,562	210,154	58,320	20%
1907	2,185,014	1,042,100	48%	1,182,277	310,150	50,200	30%
1910	1,987,013	830,000	42%	1,176,763	315,000	---	27%
1913	2,347,627	813,700	35%	1,321,312	291,675	10,700	23%

[48] These numbers include the issues for Prague; it is not known how many were used there instead of in Vienna. The MinCom stats do not show it, and it was probably small. Between 1896 and 1914, as previously, only a few thousand reply-paid postcards were sold each year.

The per-kilometre utilisation of the system was:

Year	1896	1901	1904	1907	1910	1913
Pieces per km	93,700	102,300	115,900	120,100	125,900	136,300

Thus, the utilisation is generally a little better than in the decades up to 1895, an important contributing factor [49] being that after 1895 the system expanded only slightly whereas the amount of general mail traffic grew enormously.

Since the pneumatic traffic in this period was in strong competition with the telephone, some year-end data about the Vienna telephone system follows. Until 1901 the data is for Vienna, the later data is for Vienna combined with Lower Austria since the official statistics did not separate them. However it can safely be assumed that the bulk of Lower Austria's telephone traffic was in Vienna.

Year	Subscribers	Local calls	Long-distance calls
1899	11,999	43,824,010	636,000
1901	14,969	55,033,000	810,000
1904	23,023	89,275,000	1,320,000
1907	33,000	87,945,000	805,000
1910	50,488	155,511,000	1,332,000
1913	69,331	183,359,000	1,695,000

[50]

IV: 1914 – 1933 (War and postwar periods)

IV-1) Changes in the pneumatic stations

The expansion of the pneumatic system, which during the last pre-war years was continued although only to a somewhat lesser degree, was suddenly stopped by the World War; soon numerous pneumatic stations had to be closed.

During the war itself only the pneumatic station Wien 53 had to be closed (in 1914), and on account of the transfer of P.O. Wien 34 in 1917 the pneumatic station of that location. Also, during the first years after the war pneumatic station Wien 111, as well as a number of post offices without pneumatic stations, had to be closed temporarily during the winter months 1919-20 on account of a coal shortage.

But during the period from 1921 to 1924, the unfavourable financial situation of the government had a heavy impact, forcing the closing of nine pneumatic services at their post offices. These were the offices at Reichsrat, Wien 8, 10, 13, 25, 53, 68, 85 and 111. Office 53 had closed in 1914 and reopened in 1921. Only Wien 68 has regained its pneumatic services since then, in 1926.

At the present time the Vienna Pneumatic network comprises 42 pneumatic stations; the transportation tubes have a total length of 67,124 meters and the air pipes 14,100m. Compare Berlin, which at this time has 89 stations, 252,092m of transportation tube, and 112,123 m of air pipe.

2) Rule for the Utilisation

From 16 Jan 1907 till 1916, the uniform rate for pneumatic letters, letter-cards, and postcards posted in Vienna for destinations in Vienna was 45, 35 and 25 heller. Only when such pneumatic mail pieces went beyond Vienna was there an additional fee of the ordinary postal rates for the postal forwarding.

[52] This was changed with the first issue of the 1916 Postal Ordinance. Basically now the fee for an ordinary letter or an ordinary postcard plus a uniform additional pneumatic fee of 30h had to be paid. The different fees for pneumatic letter-cards and the other pneumatic letters was abolished. The sender was instructed, in accordance with §98 of the Postal Ordinance, to frank the mail with at least the pneumatic fee; in such a case in accordance with §48 & §50 of the Ordinance double the missing amount had to be paid by the addressee. After repeated increases during the inflation period between 1 Dec 1923 and the end of 1927, the pneumatic fee was 2000 Kronen, which on 1 Jan 1928 became 20 Groschen.

The second issue of the 1916 Postal Ordinance restored after a long interruption the compulsory full franking of pneumatic mail; insufficiently-franked mail could no longer be sent via the pneumatic tubes.

In 1925, the “half additional fee” was introduced for non-urgent letters posted in Vienna to addresses outside the city and sent through the tubes to a specified railway station post office. This only lasted until 1930, when a new change to §98 of the Postal Ordinance abolished the previous difference between express and pneumatic mail, and replaced both the half and the full pneumatic fees by the express fee. [53] From then on there existed a right for pneumatic transportation only when the full express rate had been paid – which at this time was as high as the former pneumatic additional rate, namely 30 groschen.

The difference between express and pneumatic mail was mainly this: express mail required only the express fee to be paid to the destination, but a sender’s demand for pneumatic mail in Vienna required the express fee and in addition the pneumatic fee. Nevertheless (as said above in Part III section 7), express mail which was suitable for pneumatic transportation had since 1899 been thus transported within Vienna. The abolition of the difference between express and pneumatic mail therefore legalised for the most part a pre-existing situation, and gave the sender of express mail so-to-say the right for free pneumatic transportation.

Nevertheless the abolition of the difference resulted in permission being granted that from 1 Jan 1930 express printed-matter, mixed-mail, merchandise-samples, and business-papers would if suitable for pneumatic transportation be sent via the tubes, bringing thereby a better utilisation of the system.

[54] Another change in SS 98 of the Postal Ordinance on 1 July 1931 raised the maximum measurements of accepted pneumatic letter mail from 155x110mm to 180x120mm; the maximum weight remained at 20 grams.

¹⁵ The original has ref PVBOB 35/22; this must be 1922 so will correspond to “1922 BGB 406”. It’s actually a new Postal Ordinance, not an amendment to the 1916 one.

The last decade brought also the first admission of registered mail by pneumatic tubes. From 1 August 1925, registered letters and postcards were accepted at the pneumatic stations on the mornings of Sundays and equivalent holidays, and had to be forwarded by pneumatic mail if addressed to places outside Vienna provided they were franked with the postal and registration rates plus half the pneumatic fee (or if sent express, plus the express fee). In 1927 it was further ordered that all incoming and local express and registered mail was in principle to be transported pneumatically on all days. That left only outgoing express and registered mail on weekdays, which from 1 Jan 1930 was also to be pneumatically transported.

[55] At the present time, non-express but registered mail regardless of destination must if suitable for pneumatically transportation be accepted at the pneumatic stations without any collection of additional fees and sent via the tubes. From 1922, air mail even if not franked as express was sent pneumatically; however railway avisos¹⁶ which had been sent pneumatically no longer were.

Nowadays special pneumatic stationery does not exist; the envelopes and reply-postcards were printed for the last time during the war, the postcards in 1921. The 1916 Ordinance abolished the acceptance-receipts for pneumatic mail; these had been introduced in 1875 but the public had made little use of them.

3) Collection

A few days after the outbreak of the war, collections changed from the pre-war half-hourly to hourly, with correspondingly enlarged collection areas. This freed half of the collectors, who were then used for other postal services or for military service. [56] While the change from half-hour to hourly collection was driven by lack of personnel – for instance from June 1915 even women had had to be used as collectors¹⁷ – the later and much further-reaching restrictions of the collection service were mostly caused by the shortage of coal. This had led to a severe restriction of the tram service especially in the evenings, and to earlier closing of Post Offices during the winter months.

The 10pm nightly collection was abolished in October 1915 and replaced by a 9pm collection, which in turn was abolished in February 1917 in Vienna Districts II-IX, leaving them with a last collection of 8pm. For the time being the 9pm collection in the Inner City (District I) was retained. The culmination of wintertime restrictions was in 1918-19 and 1919-20, when the first emptying of letterboxes was at 7am and the last at 6pm.

From then on, the letter collection was improved step by step: in March 1920 the last work-day collection became 7pm; from 1 Dec 1923 a special night collection at 9pm was reintroduced in streets where much mail was generated, and soon afterwards for all letter boxes in the Inner City. [57]

This favourable development, spoiled only by changing the 7pm collection to 6:30pm in Districts II-IX from April 1924, was ended by the new regulations for collections in District I (August 1926) and Districts II-XX (August 1928). These changed the start of the first collection from 7am to 6am and the last to 9pm in District I and generally 8pm elsewhere; the night collection was simultaneously abolished. Collection was centralised almost everywhere at the delivery offices. The combined collection from ordinary and pneumatic mail boxes was set on workdays at intervals of 60-90 minutes, occurring 14-15 times in District I and 11 times in Districts II-XX.

During the last period (September 1932) the forenoon collection in Vienna was restricted, forced by the unfavourable budgetary situation: those offices which had had 5 or more forenoon collections were reduced to 3. This applied to all letter-collection offices in the densely built up parts of Vienna. [58]

In order to avoid a deterioration of the collection of express mail deposited in the red letter-boxes, two “in-between collections” were introduced at the same time, which as a rule were to be made by the express delivery messengers during their 8am and 10am delivery rounds. This regulation partially restored the basic principle – valid up to 1904 – that pneumatic mail boxes were emptied more often than ordinary boxes.

As for the Sunday collections from the letter boxes, their number was greatly reduced compared with previous years to take account of the greatly improved Sunday rest ordered by the new social legislation. From Spring 1919 there were in Vienna only 2 Sunday collections, viz at 8am and 11am; and from January 1922 only one, at 9am. When it was found that the number of pieces of mail deposited in the letter boxes up to 9am was extremely small, the Sunday collection was changed to 5pm in the new organisation of letter-collection in 1926 & 1928. From September 1932, the Sunday letter collection was at 4pm.

¹⁶ “Your freight has arrived at railway station X” notices

¹⁷ Shock and horror!

When the term “pneumatic mail” (Rohrpostsendungen) was entirely abolished on 1 Jan 1930, there were no pneumatic letter boxes anymore, only “express letter boxes”. [59] It was suggested that such letter boxes be installed from now on outside the pneumatic system, for instance in Floridsdorf or in large provincial cities, provided that such installations could be considered an expedient measure and that there was money for the purchase of the boxes.

The collection personnel were classified under the salary regulations as Employment Group 1 as is the case today; moreover in most cases contract employees are used (the former non-classified auxiliary employees).

The use of horse-drawn carriages for the collection had been abolished during the war. There are no express letter boxes in the motorised letter collection area introduced on 1 Feb 1932 in part of Vienna’s XIII District.

4) Service at the pneumatic stations

Delivery

The instructions for the treatment of mail that is to be transported pneumatically have not changed much since the immediate post-war period. The instructions for registered mail are new; formerly it was not permitted to be sent pneumatically. The corresponding regulations may be found in Service Instruction Nr 10 for Pneumatic Mail Service, Part I.

As for delivery, it must first be mentioned that the numerous occurrences of robbing and embezzlement of pneumatic mail forced the administration to reintroduce the receipts [Empfangsbestätigung] of addressees of telegrams and pneumatic mail

In the organisation of pneumatic mail and telegram delivery, a change was introduced during the first post-war years that is still in force now. It stipulates that such mail is not to be delivered as a matter of principle immediately after arrival at the Pneumatic Stations, but in general only on the express delivery rounds, whose time has been fixed in advance at specified hours. This change which led to the rigid delivery sub-districts (Zustellunterbezirken) naturally brought a certain reduction of personnel

At the present time the express delivery rounds on weekdays between 7am and 9pm must be started every 40 minutes in the Inner City, in the remaining densely-built territory of Vienna every 60 minutes, and in the thinner-populated suburbs at even larger intervals under certain circumstances. On Sundays the express delivery rounds take place as a rule from about 8am till 7:30pm at intervals of 1½ to 2 hours. [61]

The express delivery men must deliver not only express mail and telegrams, but also under certain circumstances airmail not franked as express, in which case no separate fee is to be collected. Following the UPU Treaty of London¹⁹ the express delivery of airmail must always be carried out when airmail with recognisably-urgent contents arrives on Saturdays at the delivery office after the last ordinary delivery round. In addition, recent instructions have been issued on a trial basis that airmail not franked as express with the beginning of the 1933 aviation timetables must under similar suppositions be delivered also on the other weekdays by express messengers without collecting any additional fees.

It only remains to write briefly about the personnel of the Pneumatic Stations.

Because of the separation of the administrations for telegraphy, telephony and pneumatic mail from the postal administration, the pneumatic stations and their staff were in 1920 put under the newly-created Telegraph Direction of Vienna, where they remained until the end of 1923. On 1 January 1924 the reunification of almost all pneumatic stations with the Post Office was ordered; only the Telegraph Central Station and the Telegraph Office Wien 7 were unaffected by this and thus remain with their staff under the Telegraph Direction of Vienna. [62]

The personnel for the pneumatic apparatus, if they were Offizianten with [adequate] length of service, were at the beginning of 1919 appointed as government clerks (Staatsbeamten) and placed in Group D of the Dienstpragmatik. According to the Postal Salary Order they fell into employment group 5 if they were used only on the apparatus, otherwise into a higher group. When they came under the salary legislation, the apparatus-service employees fell into employment group 4, and those who also served at the counters into employment group 4 or 5 – in exceptional cases into group 7.

According to the postal salary order, the pneumatic mail delivery men were in employment group 3 and were then transferred into group 2. Often, contract-employed clerks were used for the delivery service. During the war, women were used for the delivery service, but never for the apparatus-service.

¹⁸ Guessing from the PVB references, the first classification was in 1920 and the ‘today’ one was in 1924.

¹⁹ Concluded 1929, effective 1930. Full German text at 1930 BGB154.

5) Traffic of the pneumatic trains

During the war years the pneumatic train traffic could generally be kept up fairly well, even though the 10-minute traffic was replaced by a 20-minute service and on some lines trains ran only when necessary. In 1917 the traffic on the line Wien 82 – Wien 127 was stopped permanently. [63]

In winter 1918-19 the shortage of coal became especially acute and forced the stoppage of all machinery driven by steam engines. The pneumatic trains could run only as long as air produced by electrically-driven machines was available to drive them. These were the lines Z-129; Z-66-71; Z-11-15; Z-57; Z-1-36; Z-10-64-62; Z-8; Z-7; Z-13-125; 1-25; 1-40; 1 and R-10. On the pneumatic lines that were still running, there was only 20-minute traffic, and hourly messenger journeys to the remaining pneumatic stations were introduced in order to keep up the telegram and pneumatic communications.

Only in autumn 1920 could the train traffic be generally resumed, although to a restricted extent in comparison with the pre-war period. The trains ran now between about 6:40am until 9pm, with a 10-minute interval between the Central Telegraph Station and the Laurenz building and a 20-minute interval on all other lines. The line Wien 82 – Wien 127 and the private lines to the Finance Ministry and the State Printing Works were not reinstated. The regulations for the train traffic as then set down are still in force today on weekdays and holidays.

A special regulation was introduced for Sundays because of the decreasing number of pieces of mail to be transported. Sunday train traffic had been stopped entirely from March 1922 until late autumn 1923, restarting in November 1923. Since then the trains run on Sunday mornings from 7:20am till 1pm at intervals of 40 minutes on almost all lines. Train traffic on Sunday afternoons has been abolished, and the dozen pneumatic stations remaining open are connected by messenger journeys.

It needs mentioning that in spite of the reunification of the pneumatic stations with the Post Office in 1924, the setting-up of exact pneumatic train timetables remains a matter for the Vienna Telegraph Direction, which moreover is responsible for the entire strictly technical side of the pneumatic mail service.

6) Pneumatic Apparatus and vehicles.

The “Model 1892” remained the last type of apparatus used in the Vienna pneumatic system. The construction of more modern pneumatic mail apparatus, which could economise the running expenses and personnel, could not be considered up to the present time because of the chronic shortage of money. At present the following are working: a ‘cannon’ apparatus at the Telegraph Office Wien 7; four Felbinger machines at Wien 64 & 104; and 69 Schwager machines.

For the pneumatic containers, there must be mentioned the introduction in 1927 of special Einschreibbüchsen constructed similarly to the drivers; and of Lochlederbüchsen [65] with circular number discs of vulcanised fibre used on a trial basis for the immediate redespach of ordinary local letter mail from Wien 62 to the appropriate delivery offices which is supposed to make possible a substantial improvement in the delivery of such mail.

The instructions as in force at the present time concerning the pneumatic apparatus service and the handling of pneumatic containers and drivers are contained in Service Instruction Nr 10 for Pneumatic Mail Service, Part II.

7) Traffic results.

From 1917 until 1923 no official statistics were kept for the Austrian Post Telegraph and Telephone communications, since the traffic was so irregular on account of the steadily-changing state political and economic conditions that any statistics would have furnished only a distorted picture. From 1924, the utilisation of the pneumatic system is marked by a constant decrease in telegram communications. In 1924, 3,923, 000 telegrams were sent out; by 1932 this had reduced to 1,264,000, furthermore by the efforts to use the system more and more for the transport of non-express mail.

With regard to the latter, one instruction must be specially stressed: to direct the “Schussmaterial” [20] and if possible also the ordinary local letter mail towards tube transportation to the delivery post office if by so doing the next delivery round can be caught. There was a plan designed in detail during the years 1930 and 1931 to direct all Viennese local letter mail collected in the 8am and 1pm rounds immediately to the delivery stations in special containers, for delivery with the 2nd and 3rd deliveries. This plan was wrecked because the necessary Büchsen could not be purchased for lack of credit. Nevertheless the number of non-express items of mail transported through the tubes is increasing steadily.

²⁰ Items deemed urgent?

The total number of items of mail transported by the pneumatic service has decreased steadily in the last years. The decrease however is not quite as great as it might appear when one looks at the corresponding figures in Appendix III, since between 1925 and 1932 several offices counted some items twice. In 1928 there were counted 9,237,000 pieces, more than in any of the best pre-war years.

(Moreover, the statistics of foreign postal administrations show also a strong decrease in pneumatic mail traffic. For instance, in 1928 the Berlin system had 9,413,000 items including 3,775,000 pneumatic letters & postcards, 4,568,000 telegrams and 1,070,000 express mail items, but in 1931 only 5,189,000 items including 2,030,000 pneumatic letters & postcards, 2,413,000 telegrams and 746,000 express mail items. [67] The decrease of pneumatic transportation of telegrams in Berlin can be partly explained by an increase in oral delivery of telegrams over the telephone network.

The relative utilisation of the Vienna pneumatic system calculated for the kilometer-unit of the transportation tubes gives the following per-kilometer data.

Year	1924	1925	1926	1927	1928	1929	1930	1931	1932
Items	93,600	113,000	115,000	128,500	138,500	116,400	125,600	120,100	93,600

During the post-war period up to October 1932, no records were kept of the share of express letters, cards, printed matter etc amongst the total pneumatic traffic. The counts starting in January 1933 show the following picture:

Telegrams	83,474	20.5%
Express letters	153,950	37.8%
Express cards	105,524	26%
Express printed matter, samples, business-papers and mixed-mail	6,281	1.5%
Other non-official mail (Schuss etc)	45,266	11.1%
Official mail	12,646	3.1%
Total	407,141	100%

12,359 items of mail were registered, approx 3.9% of the transported letters.

At the present time many more express letters than express cards are sent through the tubes; thus the traffic figures of these two types of mail show a shifting in favour of express letters which began at the beginning of the 20th century but took off only from 1916 when the introduction of the additional pneumatic fee made the price difference between an express letter and an express card very minimal.

Finally, may I show the development of the Vienna Telephone network and traffic. According to the records department of the Vienna Telegraph Direction, the number of telephone subscribers in Vienna were: [69]

Y'end	E.A.	½ G.A.	¼ G.A.	sN	pN
1914	29,724	3,205	12,301	20,779	--
1916	31,837	3,909	12,650	22,893	--
1918	33,417	3,425	13,043	26,482	--
1920	35,489	4,010	14,567	29,364	--
1922	37,274	4,766	14,533	27,755	--
1924	41,792	6,324	15,829	29,708	--
1926	44,052	11,985	19,361	25,225	20,313
1928	46,367	15,463	24,337	24,739	28,024
1929	47,389	17,469	26,939	22,363	31,465
1930	46,826	19,041	31,583	21,012	33,812
1931	44,687	18,930	35,976	19,557	33,637
1932	43,303	18,669	37,954	17,363	36,428

Public telephones and "Dienstprechstellen" are not included. E.A. and G.A. are not defined in the original, but it is thought that E.A. = Einzel-Anschluss, probably a full telephone connection with a personal line, and G.A. = General-Anschluss, probably a 'party line' shared between 2 or 4 subscribers. sN = official "Nebenstellen"; pN = private "Nebenstellen", whatever these may be!

The Long Distance Telephone Office provided these figures:

Year	Minutes of speech	Number of connections
1920	7,654,063	--
1922	8,157,918	--
1924	9,099,345	--
1926	11,809,086	--
1928	15,973,877	4,097,575
1929	17,787,093	4,394,244
1930	18,576,688	4,468,703
1931	19,988,382	4,539,768
1932	17,093,488	3,923,431

[70]

Final Remarks

It is true that the use of the pneumatic mails has been displaced to an increasing degree by the use of the telephone. There is no point in arguing that the present Vienna Pneumatic System does not meet all the demands of a modern metropolitan rapid communication system, since with the present distribution of the air reservoirs in the network ten-minute-interval train traffic is only possible in some of the lines.

In spite of the fact that the communication is decreasing and that the system takes a somewhat second place in comparison with some very modern pneumatic mail systems of other cities, the pneumatic mail in Vienna is indispensable and will remain so for a long time yet. This will be understood even better when we think of the difficulties of rapidly transporting between the Vienna offices express mail which is unfit for pneumatic transportation; or if we try to examine the possible shutdown of pneumatic trains on Sunday mornings. Particular aspects include:

For express letter mail, the pneumatic system still permits the fastest transportation for incoming and outgoing mail; it makes handling possible in relatively short intervals; and it assures an uninterrupted trouble-free enterprise which cannot be said about any above-ground communication on account of exterior influences such as snow, ice, storms, traffic jams etc.

As far as the transport of telegrams in Vienna is concerned, it is true that the limited traffic is faster in most cases if they are sent by wire between the Central Telegraph Station and the suburbs. It is also less expensive because of the incomparably cheaper construction costs compared with pneumatic transportation in newly-constructed pipes. Expansion of the pneumatic network to such parts of the city is therefore out of the question for this very reason, especially considering that express mail traffic to those parts is also small. But when it comes to traffic with denser telegraph communications (so almost entirely in the territory of the present-day pneumatic system), pneumatic mail is much more efficient than telegraphy, because it permits the simultaneous despatch of a large number of telegrams. As has been found after calculations, pneumatic transportation here too is cheaper than by wire. Furthermore with pneumatic mail the possibility of making mistakes is evaded, which naturally exists when telegrams have to be relayed. Moreover the pneumatic system is in many respects independent of the willingness and intelligence of the apparatus operators and for this reason alone it should be welcomed.

[72] The necessity and the usefulness of the Viennese Pneumatic Mail system has thus been briefly proved.

In the future there will be above all the question of utilising the system for increased transportation of ordinary mail, thus greatly improving local mail traffic. The possibilities that this brings are shown by the fact that in 1932 the daily average was 17,000 pieces of mail via the pneumatic tubes, while according to a calculation by S.R. Ing. Schartel, at full utilisation of the system the tubes could transport about 225,000 pieces daily without any difficulties.

Only secondly should expansion of the system be considered, if and when the financial situation permits it. Here, the inclusion of P.O. Wien 141 (Floridsdorf) and a few other larger delivery offices (eg Wien 65, 107) should be considered first.

²¹ As we understand it, all telegrams arrived at the Central Telegraph Station and were printed out on paper tape. To relay these to a suburban delivery office, they would have to be retyped into a transmitter for re-printing at the delivery office.

Finally, the question may arise whether it would be recommendable for Vienna – in case of a dramatic improvement in the economic situation – to consider constructing a modern Rapid Pneumatic Mail System, similar to that in Berlin, whereby all stations would be directly in communication with each other by using automatic switch-steering

While in the old system the containers have always to be sent to the next station, [73] there to be reloaded for the next line, the modern system requires two transportation tubes (one for each direction) which connect to each other all stations of the line. Each container carries a coding showing its destination; each station has a code-detector. A container can pass several stations until arriving at its destination, where the code-detector diverts it through a connecting tube into the apparatus. Transportation from the despatching station to the destination is thus effected rapidly, all the more so since the containers can be despatched at very short intervals, one after the other, without the observation of any timetables – as is done in almost all modern systems.

Since in Vienna the pneumatic transportation of telegrams between the Telegraph Central Station and the farthestmost situated pneumatic station takes at the most only 22 minutes, one really cannot speak of any necessity for the construction of such rapid lines in Vienna.

However, seen from the point of view of efficiency, it would be extremely desirable when normal economic conditions return again if the 10-minute-train traffic were re-introduced as it existed before the war and on a larger number of lines; and if we could return to the former delivery system which did not permit any temporary storing of telegrams and express mail that had arrived at the delivery station.

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Deutsche Telephonwerke und Kabelindustrie A.G., “Die Entwicklung und der heutige Stand der Stadtrohrposttechnik” ca.1929.

²² Did Berlin have this? We think it was Paris.

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Dienstanweisung Nr 10 für den Rohrpostverkehredienst, II Teil, 1932: “[Vorschriften für den Rohrpostzugsverkehr und den Rohrpostapparatdienst](#)” [the mechanics of operating the apparatus, with diagrams & maps - suited to the equipment operators].

See also the 1913 maps in the Maps section.

zur Zeit seiner grössten Ausdehnung, d. i. im Jahre 1913.
(Aus „Rohrpost-Fernanlagen“ von Dr. Ing. Schwaighofer.)

zur Zeit seiner grössten Ausdehnung, d. i. im Jahre 1913.
(Aus „Rohrpost-Fernanlagen“ von Dr. Ing. Schwaighofer.)

● **Maschinenstoffe**

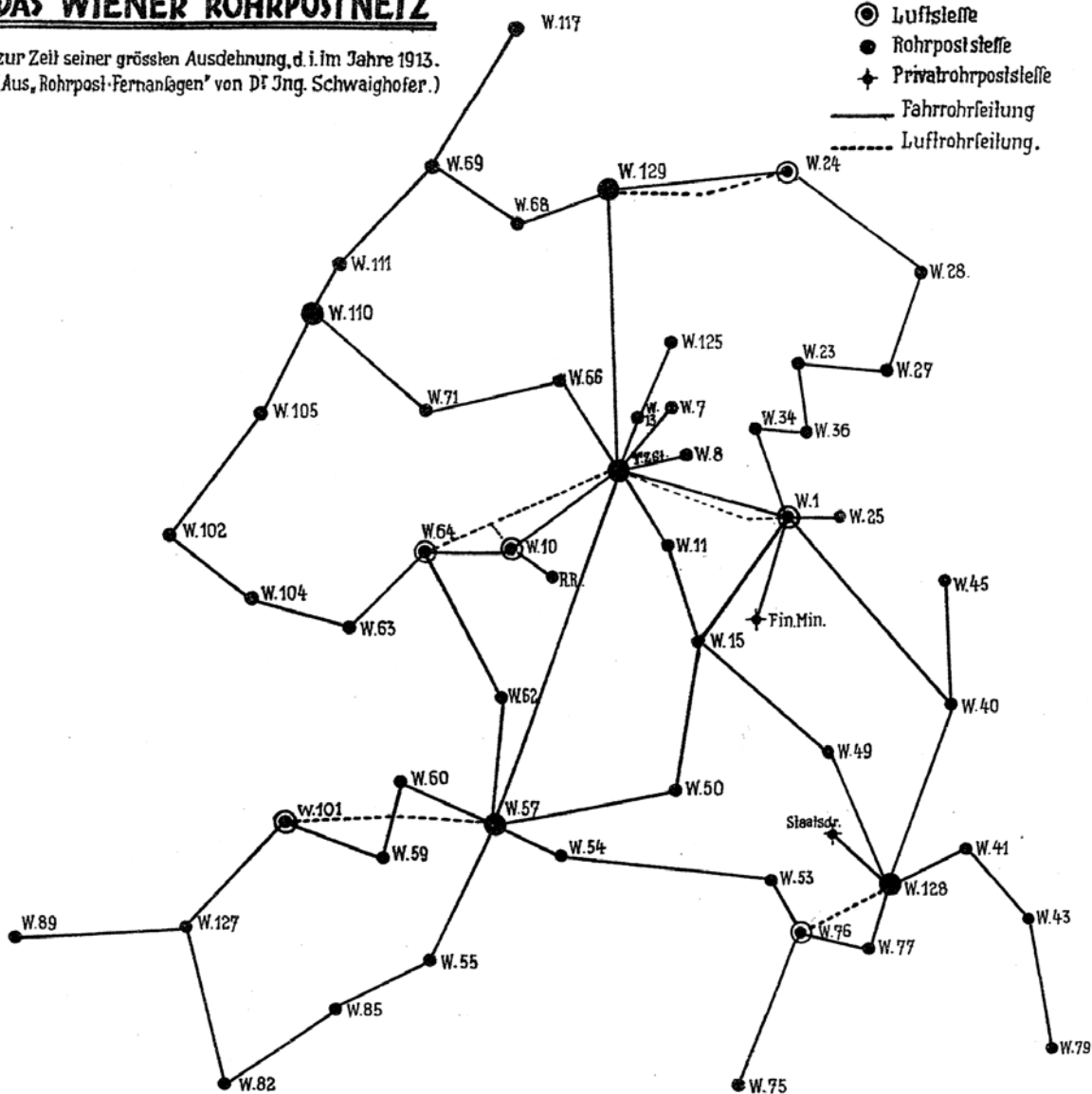
● Luftstrome

- Rohrpoststelle

✱ Privatrohrpoststelle

____ Fahrrohrleitung

..... Luftrohrleitung.



Appendix 2: Tabulation of the changes in stations, pipe lengths, staff numbers etc.

Year	Opening of new offices	Length of transport tubes (air pipes), m	Train running times	Number of mail-		Mailbox collection times
				boxes	collectors	
1875	Tel. Central Station, Laurenzergebäude (W1), P.A.Leopoldstadt (W23), P.A.Landstrasse (W40), T.A.Kärntnerring (W15), P.A.Wieden (W50), pneu.Stat.Gumpendorf (W57), P.A.Neubau (W62), P.A.Josefstadt (W64), pneu.Stat. Effektenbörse (W7)	11,802 (2,209)	8-21	-	-	-
1876 1877 1878	-	11,802 (2,209)	8-21	-	-	-
1879	Fruchtbörse (Börsegasse)	12,000 (2,209)	8-21	-	-	-
1880	P.A.Zieglergasse (W60), P.A.Fünfhaus (W100)	14,253 (2,209)	8-21	?	?	8-20.30 every 30 mins
1881 1882	-	14,253 (2,209)	8-21	36	?	8-20.30 every 20 mins
1883	P.A.Reichsrat P.A.Rathaus (W10)	14,878 (2,273)	8-21	100	49	8-20.30 every 20 mins
1884	-	14,878 (2,273)	8-21	104	49	8-20.30 every 20 mins
1885	-	14,878 (2,273)	8-21	126	?	8-20.30 every 20 mins
1886	P.A.Lazarettgasse (W73)	16,614 (2,273)	8-21	187	83	7.40-20.30 every 20 mins
1887	P.A.Währing (W110) P.A.Hernals (W105)	19,051 (2,273)	8-21	218	96	7.40-20.30 every 20 mins
1888	P.A.Hundsturm (W55) Privatstation-Effektenbörse	20,196 (2,273) [1]	8-21	256	114	7.30-20.30 every 20 mins
1889	P.A.Westbahnhof (W101) P.A.Ottakring (W102) P.A.Neulerchenfeld (W104) P.A.Stephaniestrasse (W34)	25,201 (2,273)	8-21	320	134	7.30-20.30 every 20 mins
1890	P.A.Gaudensdorf (W85) P.A.Meidling (W82) Move of the Fruchtbörse pneumatic office to W36 at the new Taborstrasse location	28,628 (2,273)	8-21	377	182	7.30-20.30 every 20 mins
1891	Dec 1891: Post Office Renumbering decree.	28,628 (5,613)	6:45-22	387	193	6.30-21 every 20 mins
1892	Wien 59 Wien 63 Wien 66	29,848 (5,613)	6:45-22	406	199	6.30-21 every 20 mins
1893	Wien 24 Wien 28 Wien 68 Wien 76 Wien 77 Wien 128 Wien 129 Move of W100 to Wien 127 Private stations at Finanz- ministerium and Staatsdruckerei	38,434 (10,173) [2]	6:45-22	415	206	6.30-21 every 20 mins
1894	Wien 13 Wien 27 Wien 41 Wien 54	43,876 (10,173)	6:45-22	418	214	6.30-21 every 20 mins

Year	Opening of new offices	Length of transport tubes (air pipes), m	Train running times	Number of mail-		Mailbox collection times
				boxes	collectors	
1895	Wien 45 Wien 49 Wien 53 Wien 74	48,263 (10,091)	6:45-22	427	214	6.30-21 every 20 mins
1896	-	50,888 (10,262)	6:45-22	429	209	6.30-21 every 20 mins
1897	-	51,477 (10,872)	6:45-22	432	209	6.30-21 every 20 mins
1898	-	51,733 (10,872)	6:45-22	439	209	7-20.30 every 20 mins
1899	-	52,550 (10,872)	6:45-22	447	209	7-20.30 every 20 mins
1900	Wien 43 Wien 69 Wien 79	58,944 (10,872)	6:45-22	521	217	7-20.30 every 20 mins
1901	-	58,944 (10,872)	6:45-22	540	217	7-20.30 every 20 mins
1902	Wien 111 Umbenennung [4] of W13 to W11	58,972 (10,872)	6:45-22	566	223	7-20.30 every 20 mins
1903	Wien 117	60,078 (10,872)	6:45-22	590	223	7-20.30 every 20 mins
1904	-	60,894 (10,876)	6:45-22	598	-- [3]	6-20 every 30 mins
1905	Wien 125 Wien 13 (Polizeidirektion)	61,090 (10,876)	6:45-22	596	-	6-20 every 30 mins
1906	-	64,019 (10,876)	6:45-22	596	-	6-20 every 30 mins
1907	Move of pneu office W74 to W75	65,744 (10,876)	6:45-22	596	-	6-20 every 30 mins
1908	-	64,995 (14,497)	6:45-22	609	--	6-20 every 30 mins
1909	-	64,995 (14,497)	6:45-22	617	--	6-20 every 30 mins
1910	-	65,584 (14,497)	6:45-22	620	--	6-20 every 30 mins
1911	Wien 8	65,179 (14,497)	6:45-22	629	--	6-20 every 30 mins
1912	Wien 89	66,837 (14,497)	6:45-22	662	--	6-20 every 30 mins & at 22
1913	Wien 25 (Kriegsministerium)	68,010 (14,497)	6:45-22	696	--	6-20 every 30 mins & at 22

Jahre	Changes to Pneumatic Offices	Length of transport tubes (air pipes), m	Train running times	Nr. of mail-boxes	Mailbox collection times
1914	Wien 53 closed	68,010 (14,497)	6:45-22	704	6-20 every hour & at 22
1915	-	68,010 (14,497)	6:45-22	696	6-20 every hour & at 22
1916	-	68,010 (14,497)	6:45-22	696	6-20 every hour & at 22
1917	Wien 34 given up	--	6:45-22	--	6-20, & some at 21
1918	-	--	6:45-22	--	It varied
1919	Wien 111 closed Finanzministerium and Staatsdruckerei given up	--	teilweise eingestellt	728	It varied
1920	Wien 111 reopened	--	teilweise eingestellt	727	7-19
1921	Wien 8 given up Wien 53 reopened	--	6.40-21	725	7-19
1922	Given up were: Reichsrat Wien 10 Wien 13 Wien 25	--	6.40-21	632	7-19
1923	Wien 68 closed Wien 53 & Wien 85 given up	--	6.40-21	635	7-19 & some at 21
1924	Wien 111 given up	67,000 (14,100)	6.40-21	635	7-18.30 & some at 19 & 21
1925	-	67,000 (14,100)	6.40-21	635	7-18.30 & some at 19 & 21
1926	Wien 68 reopened	67,000 (14,100)	6.40-21	635	7-18 & some at 6, 19, 19.30, & 21
1927	-	67,000 (14,100)	6.40-21	642	7-18 & some at 6, 19, 19.30, & 21
1928	-	67,000 (14,100)	6.40-21	642	6-20 & some at 21
1929	-	67,600 (14,100)	6.40-21	633	6-20 & some at 21

Jahre	Changes to Pneumatic Offices	Length of transport tubes (air pipes), m	Train running times	Nr. of mail-boxes	Mailbox collection times
1930	-	67,800 (14,100)	6.40-21	644	6-20 & some at 21
1931	Umbenennung of W71 to W73	67,794 (14,100)	6.40-21	648	6-20 & some at 21
1932	Wien 11 and Wien 23 given up	67,124 (14,100)	6.40-21	651	6-20 & some at 21

[1] The private line to the Börse (171m) isn't included.

[2] The private lines to the Finance Ministry (1043m) and the Staatsdruckerei (800m) aren't included.

[3] Numbers of Rohrpostsammler no longer given – had they been abolished?

[4] “Umbenennung” means “change of designation with or without a new location”. Sometimes it can be connected with a change of location, but properly that would be described as “Umbenennung und Verlegung”.

Appendix 3: Statistics on the mailings

2: Telegrams to the Telegraph Central Station; 3: Telegrams from ditto; 4: Local telegrams; 7: Official mail

Year	2	3	4	Letters	Cards	7	Total
1875	170,483	366,539	--	5,301	--	--	542,323
1876	227,119	465,903	--	6,303	--	--	699,325
1877	245,880	508,650	--	6,915	--	--	761,445
1878	234,613	507,307	--	7,092	--	--	749,012
1879	274,646	486,535	--	7,875	10,731	--	779,787
1880	355,757	538,859	--	12,884	67,846	--	975,346
1881	437,467	608,030	--	22,847	167,862	--	1,236,206
1882	404,905	617,860	--	27,167	261,074	--	1,311,006
1883	408,067	602,971	--	31,346	388,677	11,170	1,442,231
1884	387,530	678,002	--	35,320	478,916	14,901	1,594,669
1885	386,164	654,221	--	38,792	543,755	22,333	1,645,265
1886	446,020	676,470	--	43,842	631,784	41,610	1,839,726
1887	466,557	701,987	--	56,234	684,374	47,479	1,956,631
1888	724,135	802,388	--	99,138	821,147	65,967	2,512,775
1889	875,191	666,456	--	135,493	947,907	67,705	2,692,752
1890	846,379	587,433	--	176,374	1,081,564	74,439	2,766,189
1891	1,407,571		--	226,656	1,149,116	91,064	2,874,407
1892	1,574,688		13,022	269,177	1,280,632	107,743	3,245,262
1893	1,756,603		11,125	300,270	1,378,851	131,757	3,578,606
1894	2,163,696		12,882	348,830	1,476,757	219,949	4,222,114
1895	1,030,980	1,356,248	19,700	411,362	1,642,249	277,527	4,738,066
1896	940,331	1,383,969	20,186	441,660	1,681,804	302,688	4,770,638
1897	1,013,824	1,396,860	28,451	489,260	1,782,625	319,721	5,030,743
1898	1,106,792	1,455,577	37,181	579,319	1,961,085	320,788	5,460,742
1899	1,177,635	1,499,406	44,818	640,835	2,128,067	316,195	5,806,956
1900	1,205,358	1,500,471	60,841	657,785	2,181,515	305,431	5,911,401
1901	1,210,293	1,518,904	77,452	758,047	2,150,304	319,915	6,034,915
1902	1,253,977	1,616,742	87,260	834,758	2,055,514	338,853	6,187,104

Years	Telegrams	Letters	Cards	Official	Total
1903	3,101,399	870,417	2,115,962	346,537	6,434,315
1904	3,638,230	910,061	2,154,068	357,160	7,059,519
1905	3,787,130	1,315,562	2,516,610	355,019	7,974,321
1906	3,934,732	1,528,298	2,707,677	375,629	8,546,336
1907	4,233,851	1,182,277	2,185,014	289,603	7,890,745
1908	4,333,401	1,258,526	2,223,781	275,363	8,091,071
1909	4,619,838	1,237,296	2,183,587	262,071	8,302,792

Years	Telegrams	Letters	Cards	Official	Total
1910	4,854,886	1,176,763	1,987,013	300,889	8,319,551
1911	5,180,018	1,138,586	2,001,762	272,894	8,593,260
1912	5,473,345	1,386,219	2,078,145	310,778	9,248,487
1913	5,337,290	1,321,312	2,347,627	264,541	9,270,770
1934	5,997,445	1,185,090	1,853,474	253,979	9,289,988
1915	3,056,980	1,675,107	1,979,220	288,181	6,999,488
1916	3,400,495	1,927,349	2,113,637	442,211	7,883,692

1917-23: No data available

Years	Telegrams	Letters	Official	Total
1924	3,923,000	2,348,000	--	6,271,000
1925	3,106,466	4,350,797	120,000	7,577,263
1926	2,827,643	4,682,919	195,708	7,706,270
1927	2,829,031	5,513,436	266,507	8,608,974
1928	2,655,812	6,047,099	594,517	9,297,428
1929	2,542,425	4,943,992	402,486	7,888,903
1930	2,247,853	5,698,362*	573,619	8,519,834
1931	1,727,007	5,702,026*	717,891	8,146,924
1932	1,264,490	4,267,021*	753,377	6,284,888

The column 'Official' also includes mail originating from mistakes and faults in the operation of the pneumatic mail system (eg misdirected items).

* Includes express mail