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## PREDPISY Č. 1 A 2 TÝKAJÚCE SA BALÍKOVÝCH ZÁSIELOK V ZMYSLE PODMIENOK UPLATŇOVANÝCH V EÚ

### INSPECTION NO. 1 AND NO. 2 OF POSTAL OBLIGATIONS CONCERNING MAIL PARCELS UNDER EU-REGULATED UNIVERSAL SERVICES

*Skúmanie možností dodávania poštových balíkov do hmotnosti 10 kg. Porovnanie súčasnej a predpokladanej úrovne. Predstavenie novej zásielkovej služby a podmienok pre jej zavedenie. Výčíslenie finančných nákladov v distribučných uzloch a prepravných úloh v podmienkach nového systému rozvozu zásielok. Kalkulácia nákladov na služby v zmysle predpisov EÚ.*

*The examination of the possibility of the nation-wide delivery of postal packets no larger than 10 kg. The comparison of the present and expected packet service level. The presentation of the new packet forwarding service and the conditions for its introduction. The putting into figures of the extra turnover at the distribution points and of the transportation tasks in the new packet delivery system. Cost calculation for the service according to the EU regulations.*

#### 1. Introduction

Uniform universal scope of services shall be defined in member states pursuant to planned EU regulations by taking into consideration the interests of consumers and the improvement of service quality.

The scope of universal services comprises addressed mail items below 2 kg in weight, addressed books, catalogs, papers and magazines. Moreover, addressed mail parcels below 10 kg in weight, as well as registered and insured services are included. The above-mentioned items shall be collected at collection points at least once on a minimum of 5 working days each week and delivered to natural and legal entity persons at the address location.

#### 2. Establishment of new parcel service for national door-to-door delivery of mail parcels below 10 kg in weight

##### Comparing the current level of services with expected levels

The inspection of conditions and a survey of the logistics system showed that in some areas in Hungary mail parcel services fulfill more and in some other areas less than what is expected under EU regulations.

Parcel services' level of compliance with EU requirements in Hungary:

- 100 % for availability of acceptance,
- 100 % for delivery and processing of items,
- in the field of delivery,
  - 5 % of settlements,
  - 71.5 % concerning the ratio of door-to-door delivery items.

It can be seen from the above that major changes are needed in the current system, specifically to increase the number of settlements involved in the door-to-door delivery of parcels. From another point of view problems are accumulating in the delivery service in close connection to the task to be solved at the present. Changes in the economic and social structure have caused a deep-down transformation in the structure of postal items (distribution, and dispersion as per type of posters, place of posting and destination, weight and size parameters, special services, local and re-forwardable, etc.). This causes some tension in demands for services and the slowly changing service structure.

This requires - among other things - repeated surveying of the overall delivery system and its transformation in accordance with current and expectable requirements.

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### Description of conditions for introduction of the new system

The most typical feature of the forwarding system of postal items is that it is a uniform whole. This means that - almost completely regardless of item type - the system has the same input (source) points, primary (local) collection (and processing), secondary (interurban) collection (and processing), exchange forwarding, primary (interurban) distribution (and processing), and secondary distribution (delivery) and is performed on the same routes and with the same means of transport.

The objective is not to develop a completely new system but to transform an operating systems with respect to the item forwarding network's transformation.

changes, elements that require changes, and what transformation is needed. Moreover, I will determine what qualitative, quantitative and cost parameters can be used to describe the transformations (innovations). You can see in Fig. 1 the elements of the mail parcel forwarding system.

The current system is concentrated in the centre with Budapest.

- Basically, the current elements of local collection and acceptance are available for utilization. However, it is undoubtable that the establishment of regional coverage door-to-door delivery of parcels also has an effect on the collection system.

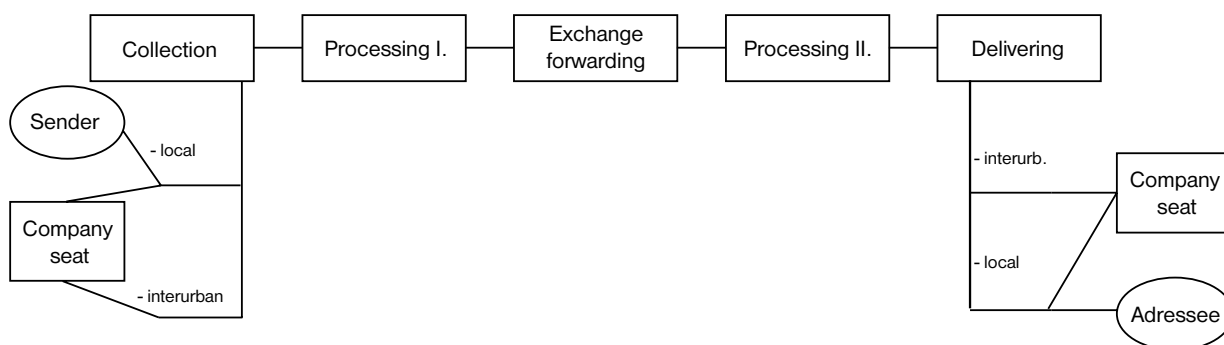


Fig. 1 Elements of the mail parcel forwarding system

It will be necessary to take into consideration traffic peculiarities of elements (fixed points), the size of traffic on such points, as well as their role in prevailing innovation plans. Outline maps are used to describe the key elements of the current parcel forwarding system and the one to be established. (Inset 1, 2, 3.) Twenty four % of the current parcel delivery post offices are processing post offices, 34 % of them are route starting post offices and 60 % of them regional post offices. Ninety % of the proposed regional centers are regional post offices and 83 % of them are planned in IPN.

Important standpoints concerning innovation include dispersion of parcel items, flow data and any possible alternative solution for flowing.

It is necessary to maintain the system's theoretical central management. It is also necessary to establish and, if needed, further develop the information system required for the same. One must make use of information gaining and forwarding facilities offered (to be offered) by the Integrated Postal Network. I think it is natural that the IPN innovation plans contain more points than the parcel forwarding network, but I believe that some points of the latter should be included for the IPN if these are taken into consideration as regional centers.

In the course of the audit I will determine the elements of the current system which can be utilized in the new system without

- Interurban collection demands no special tasks. At the same time the modification and expansion of the distribution system to be detailed hereunder will require changes in the processing system and in turn this will result in a transformation of interurban collection to a certain degree.
- The processing of parcels for interurban distribution will change to the extent that post offices involved in delivery and interurban distribution undergo changes. Both will change to some extent, because the national expansion of delivery requires designation of new post offices involved in delivery tasks. However, the number of parcels to be processed will not change, only the place of their processing and to a certain degree the content of dispatches, in other words the order of their management.
- Efforts should be made for exchange forwarding to avoid Budapest, or at least the Processing Center, and be made directly between processing points where quantity levels and the network allow for the same in an efficient manner. It is necessary to make possible direct exchange forwarding in an ad hoc manner between processing centers. The transportation of some items (e.g. newspapers) might become uncertain or even abolished. Thus, there is a great probability for moving exchange forwarding and interurban distribution of parcels to road routes. The parcel forwarding system as per EU requirements does not

make the above transformation obligatory because requirements can be fulfilled without it. However, it is evident that it would improve the parcel service, its flexibility and throughput times, and work conditions as well. The change would demand large one-time expenditures (automobiles) and some surplus operating costs on a temporary basis.

- Major changes will be needed in the item forwarding system in the second phase processing of parcels. In part, post offices participating in the door-to-door delivery of parcels will require transformations and in part, new ones will have to be developed. Important factors include the lowest possible number of transloading and low transportation distances. Efforts should also be made for such post offices to be accepting from the point of view of other postal requirements. These post offices

processing (regional) centers as well. Presently, there are a total of 128 settlements in Hungary designated for overall door-to-door delivery of parcels. In the future, 115 of these will be kept in business, 13 will be abolished (and their function transferred) and 28 new units will be created. Thus, a total of 143 post offices (not including Budapest) will be engaged in the door-to-door delivery of parcels. Demand for new tools differs at every location. At post offices to be transformed and expanded, the surplus requirements are expected for tools and sources, because of the function and traffic growing. With respect to delivery, I differentiate between local and interurban parcels.

Fig. 2 presents input and output of the regional centers.

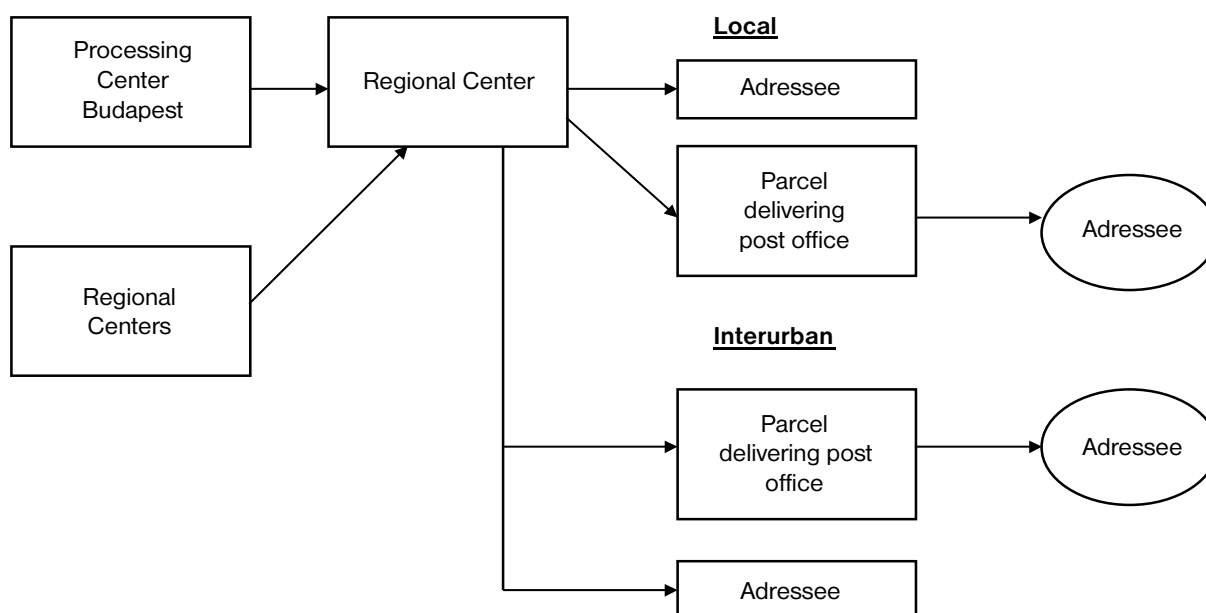


Fig. 2

become the “general” regional centers of the territory. In addition to the innovation of the parcel forwarding service, and ensuring its compliance with the requirements of the EU, these centers will play a key role in the postal network’s operation from other points of view as well. The number of post offices engaged in the delivery of parcels was calculated on the basis of parcel traffic data. I suppose that the workforce will be recruitable locally, processing will be operative and forwarding management decentralized. Thus, I suppose that it will be possible to establish “mixed” function (forwarding and delivering) routes, flexible use of assets and other sources, and to form local and central reserves. In determining the location of processing post offices and regional post offices connected to them, I put emphasis on their harmonious integration into the current system of the post.

- Parcels are delivered from selected post offices via automobile routes. The vast majority of post offices engaged in delivery are

### 3. Cost calculation for services pursuant to EU regulations

In this chapter I will determine the size of the one-time investment necessary for the planned innovation of the current delivery system and I will prepare calculations on the increase in operating costs caused by the new centralized delivery method. On the basis of delivery traffic data supplied for working out this topic I will first determine the traffic of regional centers and post offices involved in delivery, and then the increase in traffic in the new parcel service system. I will examine the size of the ground area required by the local and interurban parcel traffic increase of centralized delivery at distribution points.

I will determine the number of routes and vehicle needs for performing new delivery tasks.

I will estimate the increment in material movement tools and the volume of sources needed for innovation of the information system.

Finally, I will present the one-time expenditures necessary for services required under EU regulations and growth in operating costs.

#### **Determination of traffic increase at regional centers and parcel delivering post offices**

Calculations were prepared in local and distance breakdown for post office, directorate and overall post levels.

The calculations were performed on the basis of delivery traffic data broken down to each distribution point available.

Although parcel traffic has dropped back from the levels taken into consideration, it is expected to reach those levels again soon.

Delivery traffic of post offices proposed for regional centers can be local (within the settlement designated for delivery) and distance (outside the settlement designated for delivery). Twenty-one of the post offices engaged in post site delivery will be assigned with parcel door-to-door delivery function in the centralized distribution system.

The increment in items to be delivered is around 20,000 pcs/day.

The comparison of local and interurban delivery traffic of regional centers shows major differences at various centers. At large settlements (Tatabánya, Szolnok) local traffic is more than two-times higher than distance traffic. However, the opposite is true for small settlements (Encs, Vásárosnamény).

At the level of directorates door-to-door delivered traffic at present is generally higher than distance delivery traffic (with the exception of BUVI).

#### **Determination of delivery routes**

First of all I specified three types of routes for determination of the number of routes required for national door-to-door delivery of parcels having a maximum weight of 10 kg and calculation of miscellaneous costs related to these.

The first group contains routes located in a large city environment, the second routes outside the above at the headquarters of the delivering post office, and the third group contains routes which deliver regionally or fall outside the territory of the delivering post office (distance).

For local routes I calculated with 60 parcels and 30 km of route length per route and per day. I calculated with shorter parcel handover times for routes in the second group pursuant to delivery distance.

The following data was used for determination of the delivery route necessity of distance parcels: parcel item number, number of delivering post offices, number of settlements, average route length, average running speed, parcel handing in time, preparation and counting time. On the basis of the above, door-to-door delivery of parcels below 10 kg in weight (as per EU regulations) demands a total of 17 new local and 310 new distance that is, a total of 327 delivery routes.

#### **Determination of vehicle requirements at regional centers and post offices engaged in delivery**

Substantial increases will be needed in the vehicle fleet for the centralized delivery system required for the expansion of door-to-door delivery. I calculated using 8-hour delivery routes for both

local and distance door-to-door delivery, and the increase in routes number was used to calculate vehicle needs and the sum of the investment needed.

#### **Ground area requirements of the parcel distribution system**

The expansion of door-to-door delivery of parcels requires investments and expansions in the ground area at regional centers and a new post office engaged in the delivery of parcels.

I used the new ground area needs (for storing, placing in a row and processing) and calculated using 50,000 HUF/m<sup>2</sup> construction costs.

#### **Innovations in material movement machines**

The innovation involves material movement tasks at places and/or to the extent which has not had to be faced in the past. For this purpose I calculated using a durable hand-cart for each delivery route. Necessary volumes will be determined according to the increase in traffic; in other words, the increase in the number of parcel delivery routes.

#### **Innovation of the information system**

The expansion of door-to-door delivery of parcel items requires among other things operation of an information system higher in quality than the current one.

From this point of view I rank post offices engaged in delivery into four groups, and I am using identical sums for post offices in the same group. Table 1 presents the structure of the investment sum.

The structure of the investment sum

Table 1

The name of the innovation	Percent weight (%)
Vehicle	83.6
Grund area	14.1
Material movement machines	1.8
Information system	0.5
Total:	100.0

#### **Determination of operating costs in the centralized delivery system**

I also performed calculations to determine surplus fuel, payroll and vehicle amortization expenditures per year - required by higher delivery traffic and route number.

Calculations involved the "norms" of local and distance routes, as well as the average of the monthly mean base sum of post directorates.

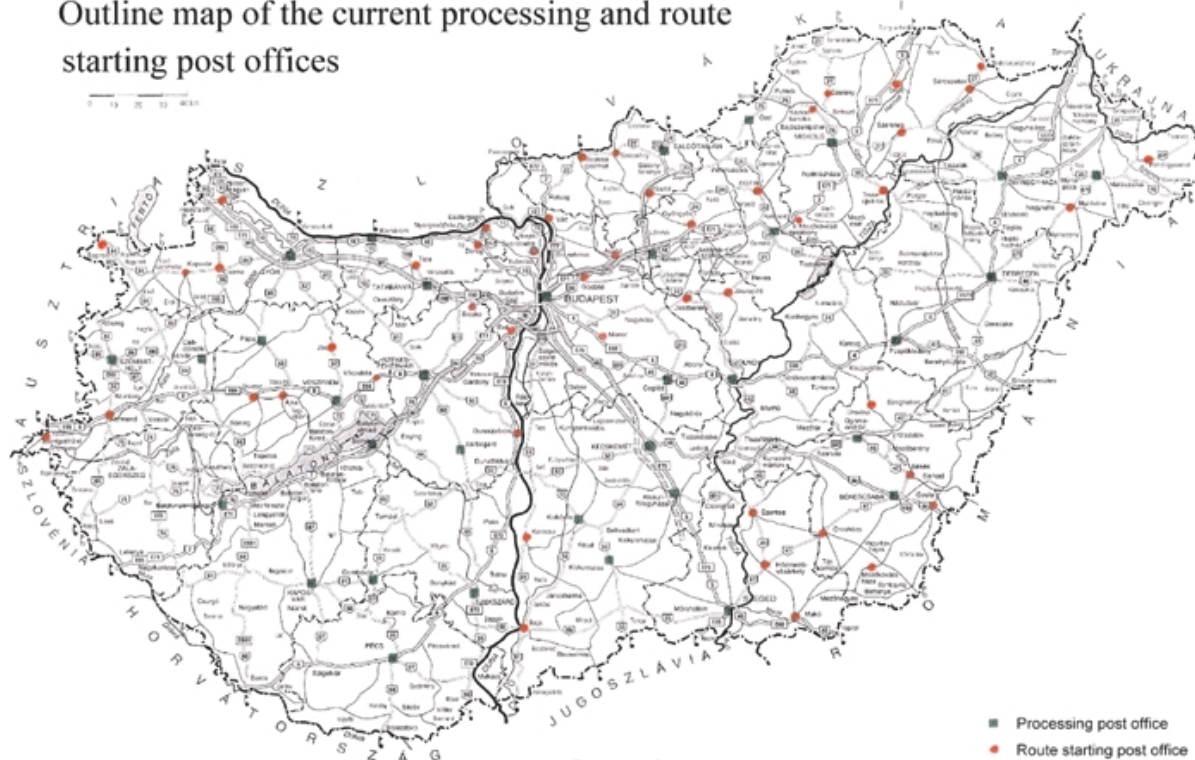
#### **Surplus costs originating from expansion in material movement tools**

Twenty % annual amortization was used in calculations of the increment in operating costs.

#### **Surplus costs originating from expansion of the information system**

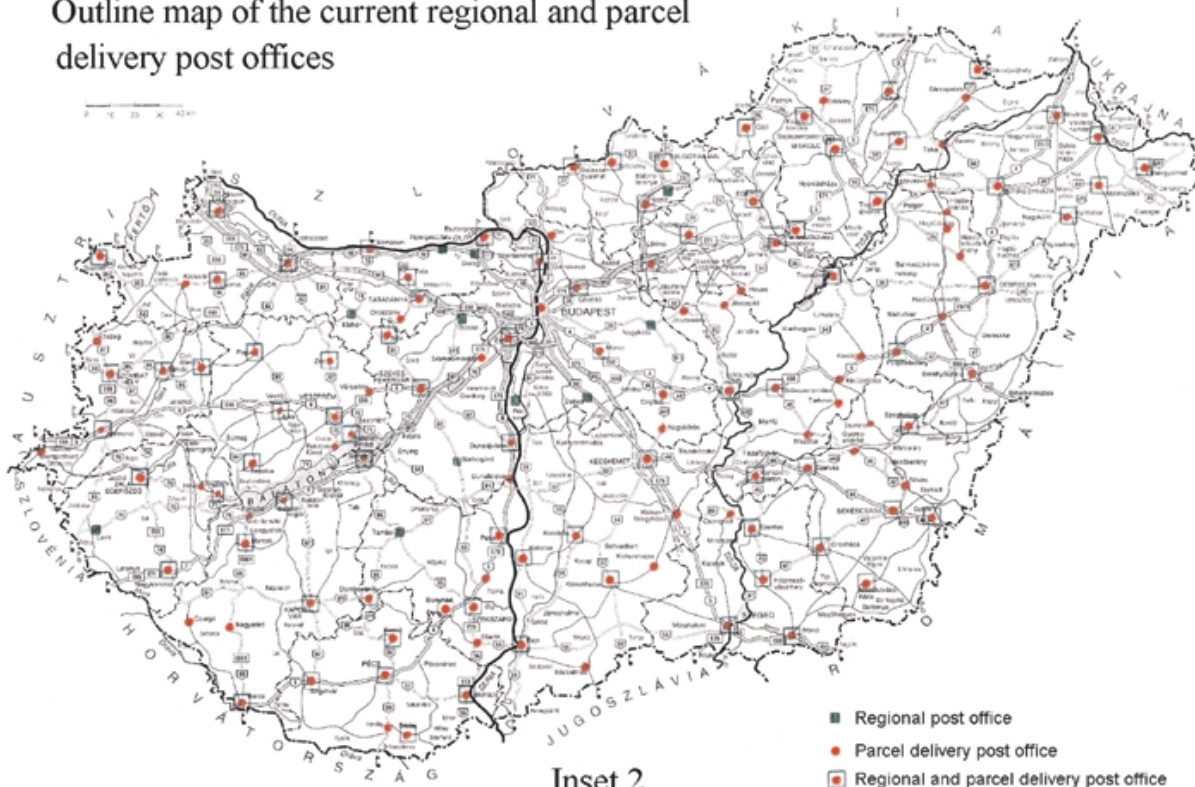
Thirty-three % annual amortization was used in calculations of the increment in operating costs.

## Outline map of the current processing and route starting post offices



Inset 1

## Outline map of the current regional and parcel delivery post offices



Inset 2

## Outline map of the proposed regional centers and parcel delivery post offices

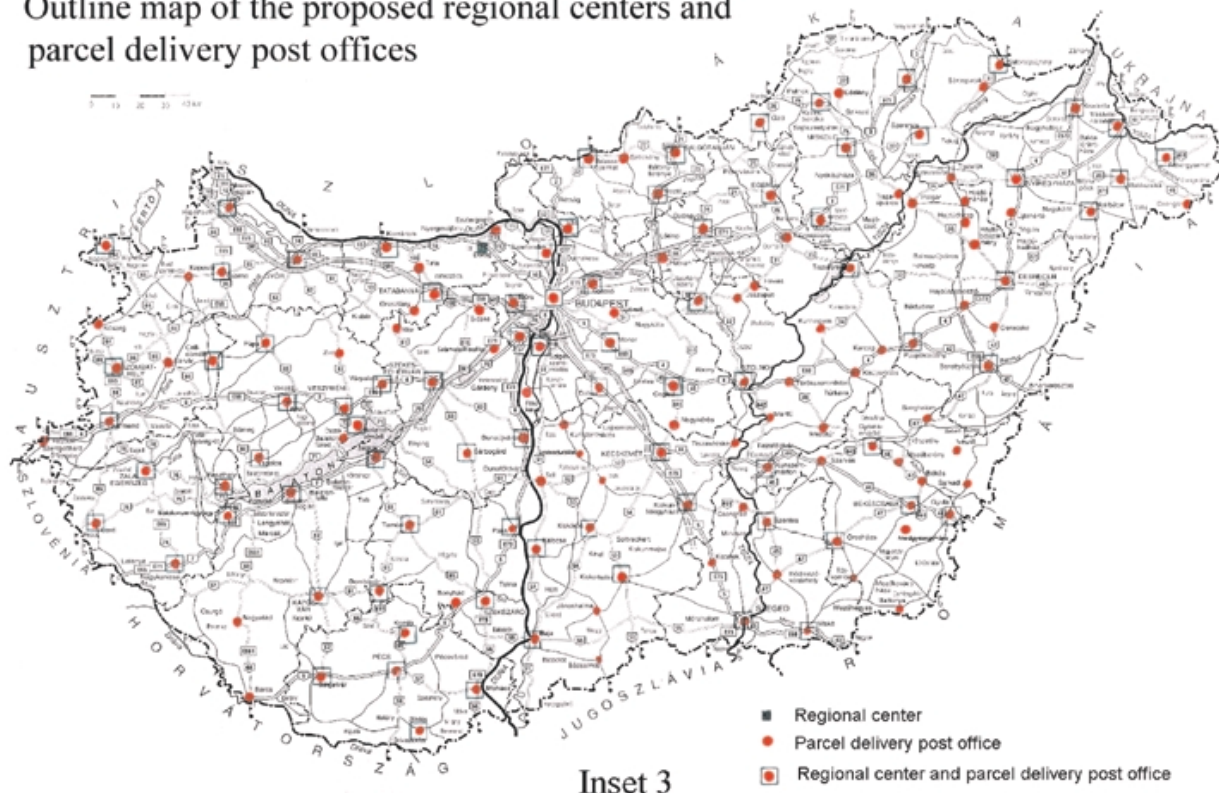


Table 2 presents the structure of the annual operating surplus costs.

The structure of the annual operating surplus costs Table 2

The name of the costs		Percent weight (%)
Fuel:	local	0.50
	interurban	16.60
Payroll:	local	2.30
	interurban	41.20
Vehicle amortization:	local	2.00
	interurban	36.20
Material movement tools:	local	0.04
	interurban	0.76
Information system		0.40
Total:		100.00

## Conclusions

The implementation of national door-to-door delivery of postal parcels below 10 kg in weight demands substantial developments in the current system of distribution. Trouble-free operation makes it necessary to coordinate the previous system's transformation - under the innovation project under way at the Post - with the Integrated Postal Network. Regional centers will have a special role in the centralized delivery system in the field of tasks, responsibility, scope of authority and as a communications center. The centers will have key importance in the operation of the postal network for other factors as well. The time schedule of the new system's implementation should be coordinated on the one hand with other elements of the system, and on the other hand the time requirement of the task to be solved and expenditures to be made. Expansion of door-to-door delivery of parcel to nation-wide service will have an effect on parcel fees as well.

*Reviewed by: M. Chytil, T. Čorejová*

## References

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