



**A TWO-ECHELON CAPACITATED FACILITY LOCATION MODEL FOR
SCHOOL LUNCH PROGRAM**

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A TWO-ECHELON CAPACITATED FACILITY LOCATION MODEL FOR
SCHOOL LUNCH PROGRAM

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STATEMENT OF NON-PLAGIARISM PAGE

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ABSTRACT

A TWO-ECHELON CAPACITATED FACILITY LOCATION MODEL FOR SCHOOL LUNCH PROGRAM

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National school lunch program (NSLP) is crucial for providing healthy, inexpensive, or free lunches to children and it has been practiced in many countries for years. In this thesis, the distribution network of the national school lunch program (NSLP) for public elementary schools has been designed. The proposed two-echelon network structure includes local farmers, distribution centers, and food preparation centers where the total demands of schools are aggregated. A multi-objective mixed integer linear mathematical model has been proposed to determine locations of the distribution centers and the number of heterogeneous vehicles dispatched between centers. Three objectives have been considered: minimization of total transportation and establishment costs, minimization of total delivery time, and minimization of carbon dioxide emission cost. K-Means Clustering method has been used to determine locations of food preparation centers. The model has been implemented in the Central Anatolian region of Turkey. First, the model has been solved for each objective and then a goal programming model has been presented for different weights of objectives. The results of the case study has shown that six distribution centers and thirty-one food preparation centers must be established in the studied region to satisfy the total demand of public elementary schools.

Keywords: School Lunch Program, Facility Location, Mixed Integer Linear Programming, K-Means Clustering Method.

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ÖZ

OKUL ÖĞLE YEMEĞİ PROGRAMI İÇİN İKİ KADEMELİ KAPASİTELİ TESİS YERLEŞTİRME MODELİ

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Ulusal okul öğle yemeği programı (NSLP) çocuklara sağlıklı, ucuz veya ücretsiz öğle yemeği sağlamak için çok önemlidir ve yıllardır birçok ülkede uygulanmaktadır. Bu tezde, devlet ilkokulları için ulusal okul öğle yemeği programının (NSLP) dağıtım ağı tasarlanmıştır. Önerilen iki kademeli ağ yapısı yerel çiftçileri, dağıtım merkezlerini ve okulların toplam talebinin toplandığı gıda işleme merkezlerini içerir. Dağıtım merkezlerinin konumlarını ve merkezler arasında gönderilen heterojen araçların sayısını belirlemek için çok amaçlı karma tamsayılı doğrusal matematiksel bir model önerilmiştir. Üç amaç dikkate alınmaktadır: toplam nakliye ve işletme maliyetlerinin en aza indirilmesi, toplam teslimat süresinin en aza indirilmesi ve karbondioksit emisyon maliyetinin en aza indirilmesi. Gıda işleme merkezlerinin yerlerini belirlemek için K-Ortalamalar Kümesi yöntemi kullanılmaktadır. Model, Türkiye'nin İç Anadolu bölgesinde uygulanmaktadır. İlk olarak, model her bir amaç için çözülmüş ve daha sonra amaçların farklı ağırlıkları için bir hedef programlama modeli sunulmuştur. Vaka çalışmasının sonuçları, devlet ilköğretim okullarının toplam talebini karşılamak için incelenen bölgede altı dağıtım merkezinin ve otuz bir gıda işleme merkezinin kurulması gerektiğini göstermiştir.

Anahtar Kelimeler: Okul Öğle Yemeđi Programı, Tesis yerleřtirme, Karma Tamsayılı Doğrusal Programlama, K-Ortalamlar Kümesi Yöntemi.

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LIST OF ABBREVIATIONS

NSLP	National School Lunch Program
TURKSTAT	Turkish Statistical Institute
DC	Distribution Center
FPC	Food Preparation Center
CFLP	Capacitated Facility Location Problem
SSCFL	Single Source Capacitated Facility Location
UFLP	Uncapacitated Facility Location Problem
SSCFLP	Single Source Capacitated Facility Location Problem
UFLP	Uncapacitated Facility Location Problem
GWA	Generalized Weiszfeld Algorithm
SCN	Supply Chain Network
CPK	Central Preparation Kitchen
LRP	Location Routing Problem
GP	Goal Programming

CHAPTER 1

INTRODUCTION

National School Lunch Program (NSLP) is a governmentally assisted meal distribution plan in public-private and non-profit schools and hospitals. Through NSLP, children have been offered a healthy, cheap, or free lunch at school every day.

Considering the information gathered from the New Hampshire Department of Education, NSLP was firstly signed by the 33rd President of the United States of America, Harry Truman, in 1946. This project was a lunch plan for approximately 30 million children, including more than 22 million children with reduced income, and offered nutritionally healthy, free, or reduced-cost lunch per day. The program requires schools to offer low cost, nutritious lunches to students every day. According to Candaş, 2011, Brazil's school lunch program aims to provide 20% of its daily nutritional needs for children. For this purpose, \$0.13 has been separated to spend for every student per day along 200 days. As of 2009, 43 million students have benefited from the program. In 2008, the budget was allocated \$1.1 billion for the school lunch program cycle in Brazil.

The school lunch programs have been effective in removing some persistent inequalities. Child poverty arises when basic needs cannot be met. Child poverty in rural areas is more common than in urban areas. As poor children cannot meet their nutritional needs, they usually cannot attend school. Not attending school will lead to poverty, and it will transfer permanent inequality from generation to generation. According to the Turkish Statistical Institute (TURKSTAT) data published in 2009, the poverty rate of elementary school students is 8.46% in Turkey (8.44 Male, 8.49 Female). According to the gender and education level of the household members in

urban areas, the rate of poverty among primary school students in rural areas is 37.98% (36.48 Male, 39.55 Female). The size of the household also affects child poverty. According to the latest information, while the poverty limit is 944 ₺ in a family of 5 people, it is calculated as 1423 ₺ in 10 people. Household size, parents' employment, and low-quality jobs are among the causes of child poverty. School lunch programs contribute to household spending on food.

Especially the poverty of immigrant households is higher than in other households. According to research conducted by TURKSTAT, in the years 2017 and 2018, the number of immigrated children to Turkey between the ages of 5-9 is 34.506 (17.893 males, 16.613 females) 41.556(21.493 Males, 20.063 Females), respectively. This increase causes more children to live in poverty.

Besides child poverty and hunger, obesity is another health problem that threatens children. Obesity is a health problem arising from unhealthy nutrition. According to the research of the Acibadem Hospital in Turkey in 2019, the prevalence of obesity has been increasing in almost all parts of the world, affecting not only adult women and men but also children and young people. Children who are unhappy due to their overweight tend to have psychological problems such as unhealthy eating habits, anorexia, and bulimia. Cardiovascular risk factors because of childhood overweight or obesity can cause medical problems such as heart disease, heart failure and stroke in adulthood. Unhealthy and artificial foods in school canteens significantly affect this ratio.

In the research of Ahmed, 2004, children in elementary schools are in a period of growth and development and therefore need more nutrition. Malnourished children are often caught with illnesses, and the processes of surviving the disease take long, and their success decreases due to absenteeism. Nutritional habits gained during this period can be sustained for life. In addition, the school lunch program provides food or treats that alleviate short-term hunger, allowing students to focus and learn better and encourage students to go to school continuously.

As a result, it is essential to raise a healthy generation and create equal education and nutrition rights for all children. Our motivation is to develop a school lunch program to provide healthy eating habits to public elementary schools in Turkey. The school lunch program has not been implemented in any region of Turkey before. Previously, milk has been distributed to six million students three days a week in primary schools and kindergartens. The Ministry of National Education is currently planning to give free school lunch to kindergarten, primary and high school students to 18.5 million students across the country. The gradual implementation of the school lunch program is planned for the 2020-2021 academic year.

According to Murugaswamy, 2011, the School Lunch Program provides wide ranges for developing a food supply chain with challenges in supplier choice, distribution network, location of facilities, logistics, etc. In this thesis, we have focused on determining the locations of food preparation centers (FPCs) and distribution centers (DCs) in the school lunch program network. For the solution methodology, a multi-objective mixed-integer programming model has been developed, and a goal programming approach has been used to obtain efficient solutions. Three objectives will be taken into consideration: The first objective is the minimization of the total cost, including total transportation and setup costs. Since the freshness of the food is crucial, the second objective is to reduce the delivery time to the minimum. The last one is the minimization of CO₂ emission by the number of vehicles to decrease the environmental effects like noise and emission. The formulation has been implemented in the Anatolian region of Turkey. The problem forms a two-echelon network, including suppliers, distribution centers (DCs), and food preparation centers (FPCs). We have determined the locations of FPCs by K-mean clustering method considering the demands and proximity of schools; thus, we have neglected vehicle routing decisions between schools.

This thesis has been organized so that, in Chapter 2, an overview of facility location problems has been presented. The literature review has been emphasized in Chapter 3. Chapter 4 has pointed out the problem definition and solution methodologies. Chapter 5 has indicated a case study of our problem. Chapter 6 has

consisted of a discussion of the case study results. Finally, the conclusion and future works have been given in Chapter 7.

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CHAPTER 2

SUPPLY CHAIN AND FACILITY LOCATION PROBLEMS

2.1. Supply Chain Problems

According to Kocaoğlu et al, 2018, supply chain management is an interconnected system in which a team of several companies operates together, including manufacturers, consumers, distributors, and retailers. Supply chain management covers subjects relating to sourcing, development, delivery, and demand planning. A supply chain is called a system that synchronizes a series of interrelated business processes to acquire raw materials and parts, adding value to these products, distributing and promoting these products to both retailers and consumers, and facilitating the exchange of information between different business entities (Min and Zhou, 2002). The primary stages of supply chain management have been given Figure 1:

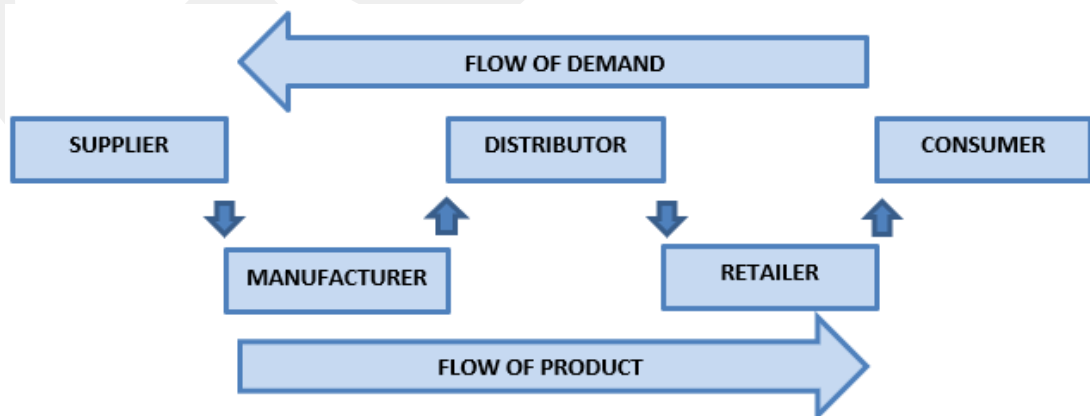


Figure 1: Supply chain management

The necessary five steps of supply chain management consist of suppliers, manufacturers, distributors, retailers, and consumers, as indicated in Figure 1. A supplier is a person or organization that provides a product or service that is needed. The aim of a supplier should be to provide high-quality products to manufacturers. In some cases, products are passing directly through to distributors. A manufacturer is a person or a company that manufactures finished raw material or semi-finished products in an offer to make a profit. Distribution is the preparation process for the consumer or business user in need of a product or service. Thus, a distributor is an agent or an organization that supplies goods to retailers. Retailers offer products and services to end consumers or markets whose purchase intent is not to make commercial profits. The last part of the supply chain is consumers. A consumer is a person who buys and uses economic goods and services for a specific value. The flow of demand should be passed from consumers to suppliers or from suppliers to consumers. The flow of information and money can be flow bidirectional.

According to Murugaswamy, 2008, the supply chain models can be classified under ten different subtitles;

- Location: Location is consisted of where to plant facilities, distribution centers, etc. Our problem locating the distribution centers is strategically crucial for the food distribution plan, and detailed information has been given in detail in the following sections.
- Allocation: Allocation means which distribution points will serve to which consumer, distribution center, or suppliers.
- Network Structuring: Network structuring involves decentralizing or centralizing the distributing network and determining which combination of suppliers, plants, depots, and distribution points should be used or not.
- The number of Facilities and Equipment: The number of facilities and equipment includes how many plants, facilities, distribution points, retailers should be needed to meet the demand.
- Number of Echelons (Stages): Echelons specify the number of stages the supply chain will contain.

- **Service Sequence:** The service sequence variable emphasizes delivery routes and schedules to consumers and suppliers.
- **Volume:** Supply chain volume includes determining the optimum purchasing, producing, and transporting volume at each node of the supplier chain.
- **Inventory level:** Inventory level represents a sufficient amount of material at every stage of the supply chain, such as raw material, work-in-process, finished goods.
- **Size of the Workforce:** Size of the workforce is vital for supply chain sustainability. It determines the number of labor required to meet the demand with minimum cost.

2.2. Facility Location Problems

In today's highly competitive business world, the facilities' location is critical and strategic for many companies. For the research of Wu et al., 2017, the leading companies' goal is to build a logistics network that transfers goods across depots and distribution centers effectively and efficiently from plants to consumers. Thus, networks should be designed to minimize costs, distances, and environmental damage when locating facilities. In the literature, the studies are generally considered to minimize the distance between the facilities and the distribution points. There are various types of facility location problems that are studied in the literature. There are some main differences among these facility location problems depending on their properties as listed here: (1) single stage or multiple stages, (2) capacitated or un-capacitated, (3) continuous or discrete, (4) single or multi-commodity, (5) deterministic or stochastic (6) static or dynamic.

- **Single and multi-echelon**

In a single-stage facility location problem, the product distribution includes one stage of the supply chain, i.e., the product flow between suppliers and customers. In a

multi-stage facility location problem, distribution activities include more than one stage. For example, distributors can send products to customers.

- **Capacitated and un-capacitated**

A facility without demand restriction is called capacitated. Depots or warehouses may have limitations on the number of products. If the capacity of a facility is infinite, then it is an un-capacitated facility location problem.

- **Continuous and discrete**

A continuous facility location problem considers any possible location along a space continuum. If potential locations of facilities can only be selected from a finite set of points, then it is called a discrete facility location problem.

- **Static and dynamic**

Static facility location models are solved for one dedicated time in the planning horizon. However, dynamic models are time-dependent. Location decisions involve where and when, i.e., in which period, the facilities are located.

- **Single and multi-commodity**

A single commodity facility location model consists of only one type of product—all of the distribution activities aggregated into one selected type of product, which is homogenous. In contrast, a multi-commodity facility location model, cost, demand, capacity, etc. should be considered individually for each product type.

- **Deterministic and stochastic**

In deterministic models, the data and outputs are entirely known or specified. On the contrary, in the stochastic models, inputs and outputs are uncertain, which needs to show appropriate probability distributions.

CHAPTER 3

LITERATURE REVIEW

In this study, we have focused on the two-echelon capacitated facility location problem and its implementation on the school lunch program. Therefore, we have reviewed the relevant literature using the keywords including multi-objective, facility location problems, fresh and perishable food distribution, and K-means clustering. Since the facility location problems have a wide range of studies, we have limited our literature review to the studies between 2002 and 2020. However, most of the papers that we consider were published earlier years than 2020. The summary of the literature is given in Table 1.

The literature review shows that location problems have been classified into two as capacitated and un-capacitated facility location problems. First, the relevant literature on capacitated facility location problems has been given below. Ayrim, 2006 has developed a relatively new model for single-source capacitated facility location problems (SSCFLP). In addition to typical facility location models with primary constraints, they have added a minimum supply requirement constraint as the main difference. In SSCFLP, while all demands must be met, in contrast, a dummy facility is built in to cover lost sales. Harris et al, 2011 have focused on facility location problems. They have used the Lagrangian Relaxation technique to assign customers to open facilities by taking into account their capacities. They have assumed that consumers have the exact demand for a single product type. They have solved a multi-objective CFLP for the minimization of financial cost and CO₂ emissions simultaneously. Öncan, 2013 has introduced heuristic approaches for single-source capacitated and continuous multi-facility location problems. The problem is concerned about the location of facilities with minimum shipping cost.

Also, the problem is single sourcing so that each customer meets their demands from only one facility. They have firstly presented an alternate location and allocation heuristic with enhanced neighborhood search. They have then developed a discrete approximation method for the single source multi-facility weber problem using Lagrangian relaxation.

Harris et al, 2014 have proposed a two-objective approach for the CFLP. Their studies include seller allocation considering flexibility at all seller assignment. They have proposed a modified Lagrangian Relaxation approach to reduce total cost and CO₂ pollution coming from transportation activities. Zhang et al, 2015 have developed a considerable approach to capacitated facility location models. They have established a multi-echelon distribution network that includes a single supplier, one or more capacitated distribution centers, and retailers/end consumers. The products can be transported back to suppliers for reworking operations. The study aims to minimize the fixed cost resulting from the establishment of DCs and minimize the inventory, transportation costs, and loss value of returned products. They have proposed a nonlinear mixed-integer programming formulation to find optimal locations for distribution centers and retailers. This study has proposed a conic quadratic program to find efficient solutions for significant scaled problems. Fischetti et al, 2016 have given a comprehensive study about capacitated facility location problems (CFL). They have customer sets and potential facilities to be located. Open facilities must serve customers, and the limited capacity of the open facilities must satisfy their demand. Therefore, they have aimed to minimize the total costs coming from opening facilities and customers' demands. In addition to this, they have developed a quadratic variant of CFLP, which includes production cost. Benders decomposition method has been used as the solution methodology. Wu et al, 2017 have studied the capacitated facility location problem with two echelons. The problem consists of the potential location of plants, potential location of capacitated depots, and customers' demands. Also, there are various products and costs associated with them. The main goal of the problem is to keep transportation and production costs at a minimum while satisfying all customers' demands. They have developed a mixed integer programming formulation, proposed a Lagrangian relaxation approach, and a hybrid simulated annealing tabu search for this problem.

Tran et al, 2017 have introduced a large-scale neighborhood search method for the solution of the SSCPPF. They have emphasized innovative multi-customer interchanges and allow customer clusters allocated to a single facility to be moved to various destination facilities. They use two kinds of hypergraphs to reflect these exchanges. The hypergraph of change has been continuously built, and the moving customers linked to each hyperlink have been chosen by solving a well-specified mixed-integer program. Jin et al, 2019 addressed a subject related to Tourism Logistics within the framework of facility location and allocation of capacity. They have defined tourism logistics as the spatial and time-dependent transformation of resources, individuals, information, energy, and capital, aiming to provide quality tourism services with minimum total cost. In this context, they have introduced a heuristic method and find where to locate the facilities and which facilities should be connected to achieve an active tourism service network. They have also determined the capacity levels of potential facilities, minimize the total cost, and increase customer service level.

Secondly, we have also reviewed un-capacitated facility location problems. Harris et al, 2009 has explained the multi-objective un-capacitated location problem with an environmental focus within the framework of green logistics planning. The model involves common objectives, such as minimizing costs and increasing consumer satisfaction rates, and sustainability objectives, such as reducing environmental effects coming from shipping and warehouse activities. A Non-Dominated Sorting Genetic Algorithm has been selected for implementation. Ghadge et al, 2016 have aimed to identify a sustainable multi-echelon facility location solution for a closed-loop distribution network in the unstable environment created by significant levels of online retail items returning with high greenhouse gas emission pressure. The goal is to identify the optimal position for a distribution center by reducing all the related transport and material handling costs and distances. A hybrid approach that combines gravitation center and mixed-integer programming has been developed. Atta et al, 2019, have developed a multi-objective uncapacitated facility location problem (UFLP) with customer preferences, thereby creating a group of facilities to serve all consumers to minimize overall opening and operating costs, as well as maximize total preferences. They have presented a Non-dominated

Genetic Sorting Algorithm II to solve this problem. Also, a UFLP solution based on a weighted sum genetic algorithm has been introduced.

According to product types, facility location problems can be classified into two categories, which are single and multi-product. In a single product type, one product should be considered in the distribution activities. On the other hand, in multi-product facility location problems, at least two products should be considered. When we have researched the facility location problems in terms of product types, there are significantly many articles studied in single product type. Firstly, we have emphasized the single product facility location articles in the literature.

Sourirajan et al, 2007 suggest a two-stage supply chain of production facilities that provide consumers with a single commodity. The goal is to locate DCs that reduces the overall costs of the location and product. The flow volume defines the refill time at the DCs through DC. They have allowed DCs to hold sufficient safety stock for distributors. They have built a Lagrangian heuristic to achieve nearly optimal solutions for a wide range of problems. Sourirajan et al, 2009 have developed a Genetic Algorithm for a double-stage supply chain with a manufacturing plant to supply single commodities in supermarkets. Shankar et al, 2013 have aimed at optimizing single-product four-echelon supply chain networks consisting of manufacturers, manufacturing facilities, and DCs and customer zones. The main decisions are quantity and location of plants within the network, the flows of raw materials from suppliers to factories, the number of products to be transported from plants to DCs, from DCs to customer zones. The heuristic method has been used to optimize two objectives simultaneously, i.e., minimize the total cost and maximize the filling rate. Shahabi et al, 2013 have introduced mathematical models to promote facility location and inventory management for a four-echelon supply chain structure consisting of multiple suppliers, distributors, warehouses, and retailers. By consolidating goods from several stores and directing the more significant shipments to the store, the warehouses help reduce transportation costs. The objective is to minimize the total cost of facility location and transportation. The combined models analyzed throughout this paper concurrently assess three sorts of decisions: 1) the amount and location of warehouses, 2) allocation of vendors to local warehouses and

distributors to local warehouses through the location hubs, and 3) inventory tracking at all located warehouse. Bilir et al, 2017 have aimed to examine the impacts of decisions on customer demand by developing a multi-objective network optimization model. The developed mathematical model has been based on the combined supply chain network optimizations and facility location model to solve multi-echelon, multi-commodity, and one period of supply chain problems. The objectives include maximizing profit and sales and minimizing supply chain risks. Ghezavati et al, 2015 have proposed a mathematical model for the multi-echelon distribution of the fresh tomato supply chain and freshness and ripeness of products taken into consideration. The freshness of agri-food (tomato) is a crucial point concerning distributing foods incorrectly time. The main goal of the model is to optimize the distributor's profit, which impacts the logistics decisions regarding the delivery of fresh goods in the agri-food supply chain.

Many studies focus on the multi-commodity facility location problem. Nezhad et al, 2013 have concentrated on the set-up cost of the uncapacitated single source multi-product manufacturing/distribution plant. The objective is to minimize the total cost of shipping and manufacturing costs. They have decided on the number of plants to be opened, the type of commodity to be manufactured at each plant (just one type of commodity), and the number of consumers to be covered by open facilities for a given commodity type. They have proposed Two Lagrangian heuristics to deal with this problem efficiently. Castro et al, 2017 have proposed a single objective mathematical model for the location of collection centers and companies that produce perishable foods, taking into account different fruit types and the three-stage transportation system. The model has been analyzed on fresh fruits sent to Bogotá, the capital of Colombia. The fruit is exposed to changes in temperature and relative humidity, as transport and packaging allow the product to be affected by altitude fluctuations. This process concerns the perishability and consistency of the product when it reaches the end consumer. The mixed linear programming model solved a problem for the supply and demand of seven fruits for seven million metropolitan populations. The mixed linear programming model has been developed and solved by considering the supply and demand of seven fruits. Srinivasan and Khan, 2018 have proposed a multi-stage and multi-commodity closed-loop supply chain system

to minimize total supply chain costs. The network also consists of reuse, rework, and recycling activities. It has been assumed that the demands of customers fluctuate. A scenario-based mixed-integer linear programming has been developed and implemented in a printer manufacturing industry to process unknown parameters. Scenarios have been created with demand shifting, return rate, rework rate, reassembly rate, and disposal rate.

Besides, our study covers food distribution problems, and the foods to be transported have perishable property. One of the primary purposes of handling perishable goods in food supply chains is to maintain their freshness while supplying them to the market. This issue has a significant effect on network sensitivity. As the goods are time-sensitive, their worth reduces in time. Considering these realities, the option of an active distribution network is a significant factor for logistics systems.

Furthermore, we have noted that most of the articles discussed below focused on the transportation of products between nodes without considering routing issues. There are few papers that consider transportation by vehicles. These articles divide the problems into two categories based on vehicle types: homogeneous and heterogeneous. Homogeneous vehicles have identical properties, and heterogeneous vehicle types show that they have different features in terms of the speed limit, capacity, and environmental effects. The studies that have focused on the distribution of fresh food and perishable items have been reviewed below.

Demirtaş and Tuzkaya, 2012 have stated that distribution center design should be perceived as a smart decision-making system that includes consumer numbers, market forecasts, commodity groups, inventory consumption status, warehousing, transport management, Etc. Decision support systems have been used in many aspects of the distribution center design that managed in its entirety. Their analysis takes place in two stages. The roles of the distribution center in the supply chain network have been described in the first stage of the analysis. In the second stage, hypotheses of the allocation models for the location of fruit and vegetable halls have been clarified for the distribution centers in urban areas. Drezner and Scott, 2013 have aimed to determine the optimal location of the distribution center for perishable

products. They have found a single location of distribution center servicing a limited number of sales outlets for perishable items. The main objective is to minimize the total transportation cost of distribution activities and the inventory cost of the sales stores. Also, they have examined how the location of distribution centers affects inventory activities. They have proposed two solution algorithms: a heuristic generalized Weiszfeld algorithm (GWA) and a heuristic-based approach. Wang et al, 2016 have dealt with multi-objective vehicle routing problems with time windows for constructing a valid distribution route for perishable food. A two-phase heuristic algorithm based on variable neighborhood search and the genetic algorithm has been developed that has aimed to minimize the overall costs and maximize the freshness of the delivered products. Musavi and Amiri, 2017 have developed a multi-objective mixed-integer linear programming formulation with three objectives: total shipping cost, delivery time, and total CO₂ emission. Hiassat et al, 2017 have presented a concept of location-inventory-routing for perishable goods. The model determines the number and position of the appropriate warehouses. The developed mixed-integer programming formulation includes minimizing transportation and inventory holding costs within a given period and minimizing the number of a homogeneous vehicle fleet with a specific capacity. Bartolini et al, 2016 have studied multi-commodity fresh food distribution from producers to retailers. They have presented a multi-objective linear programming formulation that includes the cost of operating, carbon footprint, and delivery time. They have developed an expert system that helps practitioners to plan their multimodal and multilevel fresh food distribution networks. Majd et al, 2018 have proposed a three-echelon supply chain and studied an interconnected inventory - location - routing problem. That way, perishable goods are distributed to customers within a limited time frame consisting of multiple periods of multiple time slots. Demands of the distributors are stochastic and meet normal distribution with precise mean and standard deviation. The fleet of vehicles is heterogeneous. The Lagrangian relaxation approach is used to find lower bound, and a heuristic algorithm is constructed to get a feasible solution and an upper bound of the problem. Govindan et al, 2014 have improved a two-echelon supply chain network (SCN) for fresh foods with heterogeneous vehicle types. The study aims to identify warehouses' locations, the number of products for each transport, and the most efficient vehicle routes to reduce total costs and environmental impacts in all

stages of the network. The environmental impacts of all SCN participants, including the most hazardous pollutants such as CO₂, CFC, and NO_x, have been considered. Besides, the environmental impacts of setting up factories and distribution centers have also been addressed. Wu et al, 2002 have investigated location routing problems (LRPs), where both optimal schedules and locations of DCs were determined, along with vehicle schedules and delivery routes, to reduce overall system costs. They have proposed a strategy based on the decomposition method to solve the LRP with various depots, multiple fleet forms, and a small number of vehicles for each different kind of vehicle.

Our study has neglected vehicle routing decisions among schools. However, we have addressed this issue as follows. We have predetermined locations of FPCs. FPCs are cluster centers that have been determined by considering both the demand and proximity of schools. It has been assumed that food has been delivered to schools in time from FPCs. As the demand for schools has been aggregated on FPCs, FPCs behave as demand points in the formulation. When aggregating the demand for schools, we have used the K-means clustering algorithm. According to Perez-Ortega et al, 2018, the majority of K-means clustering methods have been linked to initialization or classification steps. The criterion, by contrast, has been implemented in the convergence stage, that is, when a given threshold is below the number of objects that change the assigned clusters, the entire process stops. In the k-means clustering, choosing an appropriate k value relies on the instances taken into account and is indeed challenging. It generally depends on trial and error. There have also been many studies to assess the total number of k-clusters automatically. Many studies have also been conducted to evaluate the total number of total k-clusters automatically. Napoleon and Lakshmi, 2011 have introduced an advanced K-Means algorithm that can be used to classify the middle of the cluster. Study findings should address the time uncertainty of using various data sets. They have compared the K-means clustering algorithm and the improved algorithm in terms of time complexity. They have concluded that the K-Means algorithm is used in most studies, but provides results for smaller datasets. However, the improved approach can produce results for large data sets and requires less time. Scarlatache et al, 2018 have proposed a study about the distribution of electrical systems. They have proposed a

method for deciding the optimum position of distributed power sources in an electrical distribution network using a K-means clustering. Distributed generation has been built at varying power levels in the analyzed network's optimum nodes, taking into account the variations in time of the energy losses. The proposed approach has revealed that the technique effectively minimizes real power losses, increases the voltage values in the nodes, and decides on the optimal placement of distributed production in all conditions without violating any device constraints.

There is only one study in the literature that focuses on the food distribution for the school lunch program. Murugaswamy, 2011 has established a mixed-integer linear formulation to identify the locations of distribution centers for a food supply chain based on the concept of the school lunch program for Mexican Schools. FPCs have been classified by aggregating school demands based on their distance using the K-means clustering algorithm as our study. The facility location model has been then solved by the Benders Decomposition algorithm, with a limit of 50 farmers, 50 DCs, 50 CPKs, and ten commodities for different test values. This study has differed from ours as it deals with a multi-commodity uncapacitated facility location problem to optimize a single total cost objective. In our study, we have considered the problem of a two-stage single commodity capacitated facility location to optimize three objectives, total cost, time, and environmental cost. The case study conducted by Murugaswamy, 2011 includes more nodes in each echelon than ours. Since the problem size is more extensive, they have proposed the benders decomposition heuristic to reduce solution time.

Table 1: Summary table of the literature review

Author	Problem Type	Study Area	Commodity	Capacitated	Solution Method
Ayrim, 2006	Single Echelon FLP	Distribution	Single	√	Heuristic
Öncan, 2013	Single Echelon FLP	Weber	Single	√	Heuristic
Harris et al, 2014	Single Echelon FLP	Weber	Single	√	Heuristic
Zhang et al, 2015	Multi Echelon FLP	Distribution	Single	√	Math. Modeling
Fischetti et al, 2016	Single Echelon FLP	Location	Single	√	Heuristic
Wu et al, 2017	Multi Echelon FLP	Location	Single	√	Heuristic
Jin et al, 2019	Single Echelon FLP	Tourism Log.	Single	√	Heuristic
Harris et al, 2009	Single Echelon FLP	Green Log.	Single	×	Heuristic
Ghadge et al, 2016	Multi Echelon FLP	Greenhouse Gas Emission	Single	×	Heuristic
Atta et al, 2019	Single Echelon FLP	Distribution	Single	×	Heuristic
Sourirajan et al, 2009	Multi Echelon FLP	Location	Single	√	Heuristic
Sourirajan et al, 2007	Multi Echelon FLP	Location	Single	√	Heuristic
Shankar et al, 2013	Multi Echelon FLP	Distribution	Single	√	Heuristic
Shahabi et al, 2013	Multi Echelon FLP	Distribution	Single	×	Heuristic
Ghezavati et al, 2015	Multi Echelon FLP	Perishable Food Distribution	Single	√	Heuristic
Bilir et al, 2017	Single Echelon FLP	Distribution	Multi	√	Math. Modeling
Nezhad et al, 2013	Single Echelon FLP	Distribution	Multi	×	Heuristic
Castro et al, 2017	Single Echelon FLP	Perishable Food Distribution	Multi	√	Math. Modeling
Srinivasan and Khan, 2018	Multi Echelon FLP	Distribution	Multi	√	Math. Modeling
Demirtaş and Tuzkaya, 2012	Single Echelon FLP	Perishable Food Distribution	Single	√	Heuristic
Drezner and Scott, 2013	Single Echelon FLP	Perishable Food Distribution	Single	×	Heuristic
Wang et al, 2016	Single Echelon FLP	Perishable Food Distribution	Single	×	Heuristic
Musavi and Amiri, 2017	Multi Echelon FLP	Perishable Food Distribution	Single	×	Heuristic
Hiassat et al, 2017	Single Echelon FLP	Perishable Food Distribution	Single	×	Heuristic
Bartolini et al, 2016	Multi Echelon FLP	Perishable Food Distribution	Multi	√	Math. Modeling
Majd et al, 2018	Multi Echelon FLP	Perishable Food Distribution	Multi	√	Heuristic
Govindan et al, 2014	Multi Echelon FLP	Perishable Food Distribution	Single	√	Heuristic
Wu et al, 2002	Single Echelon FLP	Perishable Food Distribution	Single	×	Heuristic
Murugaswamy,	Multi Echelon FLP	Perishable Food Distribution	Multi	×	Heuristic

CHAPTER 4

PROBLEM DEFINITION AND SOLUTION METHODOLOGY

4.1. Problem Definition

In this thesis, we have aimed to develop a school lunch program by designing a network that includes farmers, FPCs, and DCs, and we have made location-allocation decisions. While designing our problem, three main objectives have been determined. The first is to reduce the total transportation and installation costs of DCs and the number of vehicles to be shipped, while the second is to maintain the freshness of food depending on the time. Our last objective is to minimize the carbon dioxide absorption cost of the vehicles. The National School Lunch Program is going to be implemented in Central Anatolia region of Turkey. In this context, it has been aimed to distribute fresh and organic lunches to a total of 2589 public primary schools in the Central Anatolia region.

In the following sections, we have presented the relevant definitions and flow structure of our main components to identify the problem. We have then given the solution methodology, starting from the implementation of the K-means clustering algorithm. Next, a MILP formulation of the facility location model has been presented. Finally, Non- Preemptive Goal Programming formulations of the problem have been given.

4.1.1. Facility Location Flow Structure

As shown in Figure 3, our supply chain flow structure consists of four parts, including schools. Transport is carried out with heterogeneous vehicles at every level

of the network. In the first echelon, vehicles with larger capacity, such as trucks, are used to transport between farmers and DCs, while in the second echelon, smaller vehicles, such as small vans, are used between DCs and FPCs. As a result, it is expected that the number of vehicles required in the second stage will naturally be higher. Farmers produce fresh and organic products to meet the demand of DCs. Thus, while providing healthy nutrition to students, local farmers are also supported. In our study, DCs are vital for the distribution and storage of products supplied from local farmers before shipment to FPCs. We have assumed that a single type of product could be supplied from all farmers to DCs and the product is always ready at all farmers. DCs have capacity limitations and more than one farmer can supply every DC. DCs transfer fresh food to FPCs, where pre-cooking and packaging are done.

FPCs are the centers where food is getting ready to be distributed to schools with specialized equipment that keep cooked food warm. The FPCs represent the school cluster centers where the demand for schools is aggregated. Thus, we have ignored the vehicle routing problem when distributing products from FPCs to schools, as it is assumed that FPCs can serve schools on time. The locations FPCs are determined according to distances between schools and demands of them by K-means clustering analysis. Therefore, FPCs perform as demand points in our network structure. Considering the flow structure, the problem can be concluded as a single commodity and two-echelon supply chain network, as shown in Figure 2.

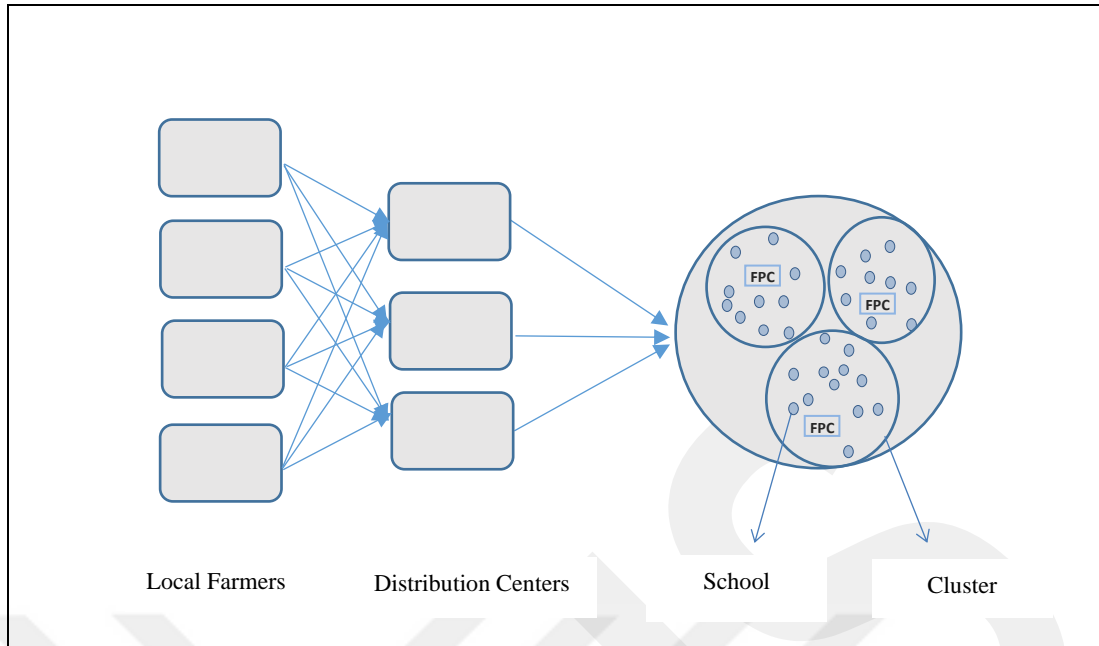


Figure 2: Facility location flow structure

4.2. Solution Methodology

4.2.1. K-Means Clustering Method

Jokinen et al, 2019 have indicated that clustering analysis is the primary exploratory statistic method for aggregating big data. The clustering analysis's major goal has grouped the big data called clusters based on similarities such as demands, density, distance, etc. Thus, the distinct cluster has the same feature between each other.

In our problem, the locations of the FPCs must be determined prior to the distribution centers' locations. There are 2589 public primary schools in the region studied. The real coordinates of the schools have been determined on Google Maps. The K-Means Clustering Method has been used to group individual school demands. The primary purpose of the K-Means Clustering Method is to determine the locations of FPCs and which school receives service from which FPC. SPSS Statistics Software has been used for cluster analysis. According to Murugaswamy, 2011, K-Means Clustering Algorithm consists of six steps;

Step 1: Determine the number of clusters based on logical inference.

Step 2: Determine the initial centers of clusters randomly.

Step 3: Classify all the items based on the closest clusters.

Step 4: Find the centers of each cluster. (Average distances from the appropriate cluster center for all items.)

Step 5: Examine the centroid for the new center of the cluster.

Step 6: The cycle is repeated until two consecutive repeat shows in a similar cluster

4.2.2. Mathematical Model

The multi-objective mathematical model has been developed considering some assumptions;

1. The multi-echelon facility location network includes farmers, DCs, and FPCs.
2. DCs are capacitated.
3. The single commodity distribution model is assumed.
4. Foods are distributed from FPCs to schools on time.
5. The demands of schools are precisely known.

The mixed-integer programming formulation of the problem is given below.

Sets:

- $I(i)$ Set of local farmers
 $J(j)$ Set of Distribution Centers (DCs)
 $K(k)$ Set of Food Preparation Centers (FPCs)
 $T(t)$ Vehicle types between local farmers and DCs
 $H(h)$ Vehicle types between DCs and FPCs

Parameters:

- d'_{ij} Distance from local farmer i to DC j , $i \in I, j \in J$
 d_{jk} Distance from DC j to FPC k , $j \in J, k \in K$
 A'_t Capacity of vehicle type t , $t \in T$

A_h	Capacity of vehicle type h , $h \in H$
p_i	Capacity of local farmer i , $i \in I$
Cap_j	Capacity of DC j , $j \in J$
D_k	Demand of FPC k , $k \in K$
F_j	Fixed cost per each unit of DC j , $j \in J$
C'_{ijt}	Unit transportation cost between local farmer i and DC j for vehicle type t , $i \in I, j \in J, t \in T$
C_{jkh}	Unit transportation cost between DC j and FPC k for vehicle type h , $j \in J, k \in K, h \in H$
V'_t	Speed of vehicle type t , $t \in T$
V_h	Speed of vehicle type h , $h \in H$
PCO_2	Average price per unit weight of CO_2
WCO_2	Weight of CO_2 emission per liter consumption of fuel
V_{eff}	Volume of fuel consumption per unit distance per unit vehicle weight
WP	Weight of each delivered product
O'_t	Operating cost of vehicle type t , $t \in T$
O_h	Operating cost of vehicle type h , $h \in H$
M	Big number

Decision Variables:

$$w_j = \begin{cases} 1, & \text{if DC } j \text{ is open} \\ 0, & \text{otherwise} \end{cases}$$

$$z_{jkh} = \begin{cases} 1, & \text{if FPC } k \text{ is supplied by DC } j \text{ with vehicle type of } h \\ 0 & \text{otherwise} \end{cases}$$

$$p_{ijt} = \begin{cases} 1, & \text{if vehicle } t \text{ is used between local farmer } i \text{ and DC } j \\ 0, & \text{otherwise} \end{cases}$$

x_{ijt} = Quantity carried from local farmer i to DC j with vehicle type t

y_{jkh} = Quantity carried from DC j to FPC k with vehicle type h

Objectives:

$$\begin{aligned} \text{Min TotCost} & \sum_j w_j F_j \text{Cap}_j + \sum_i \sum_j \sum_t d'_{ij} C'_{ijt} x_{ijt} \\ & + \sum_j \sum_k \sum_h d_{jk} C_{jkh} y_{jkh} + \sum_i \sum_j \sum_t p_{ijt} O'_t \\ & + \sum_j \sum_k \sum_h z_{jkh} O_h \end{aligned} \quad (1)$$

$$\text{Min Time} \sum_i \sum_j \sum_t \frac{d'_{ij}}{V'_t} p_{ijt} + \sum_j \sum_k \sum_h \frac{d_{jk}}{V_h} z_{jkh} \quad (2)$$

$$\begin{aligned} \text{Min CO}_2 \text{ Em. Cost} & \sum_i \sum_j \sum_t x_{ijt} \text{PCO}_2 \text{WCO}_2 V_{eff} d'_{ij} \text{WP} \\ & + \sum_j \sum_k \sum_h y_{jkh} \text{PCO}_2 \text{WCO}_2 V_{eff} d_{jk} \text{WP} \end{aligned} \quad (3)$$

Constraints:

$$\sum_j \sum_t x_{ijt} \leq p_i \quad \forall i \in I \quad (4)$$

$$\sum_i \sum_t x_{ijt} = \sum_k \sum_h y_{jkh} \quad \forall j \in J \quad (5)$$

$$\sum_i \sum_t x_{ijt} \leq w_j \text{Cap}_j \quad \forall j \in J \quad (6)$$

$$\sum_h \sum_j y_{jkh} \geq D_k \quad \forall k \in K \quad (7)$$

$$p_{ijt} \leq w_j \quad \forall i \in I; \forall j \in J; \forall t \in T \quad (8)$$

$$x_{ijt} \leq M p_{ijt} \quad \forall i \in I; \forall j \in J; \forall t \in T \quad (9)$$

$$z_{jkh} \leq w_j \quad \forall j \in J; \forall k \in K; \forall h \in H \quad (10)$$

$$y_{jkh} \leq M z_{jkh} \quad \forall j \in J; \forall k \in K; \forall h \in H \quad (11)$$

$$z_{jkh} \in \{0,1\} \quad \forall j \in J; \forall k \in K; \forall h \in H \quad (12)$$

$$p_{ijt} \in \{0,1\} \quad \forall i \in I; \forall j \in J; \forall t \in T \quad (13)$$

$$w_j \in \{0,1\} \quad \forall j \in J \quad (14)$$

$$x_{ijt} \geq 0 \quad \forall i \in I; \forall j \in J; \forall t \in T \quad (15)$$

$$y_{jkh} \geq 0 \quad \forall j \in J; \forall k \in K; \forall h \in H \quad (16)$$

The multi-objective mathematical model includes three objectives: (1) Minimizing the total cost, including the establishment costs of DCs, transportation costs between local farmers-DCs and DCs-FPCs, and operating costs of vehicles, (2) minimizing the total travel times, thereby maximizing the freshness of the product between the nodes, and (3) minimizing the total CO₂ emission cost resulting from the distance traveled and the amount of product carried between the nodes. The value of parameters PCO₂, WCO₂, V_{eff}, and W_P is set as given Jabir et al, 2017. Constraints (4) ensure that the quantity carried from a local farmer to DCs cannot exceed the capacity of the local farmer. Constraints (5) are flow balance constraints. They guarantee that the total inflow in each DC must equal the total outflow. Constraints (6) indicate that the amount transported from local farmers to a DC cannot exceed the capacity of DC. Constraints (7) provide that the total amount carried from DCs should be at least the demand of FPC k. In other words, the demand of each FPC must be met. Constraints (8) and Constraints (9) work together. Constraints (8) make sure that if a DC is established, then a vehicle can travel from a farmer to this DC. Constraints (9) allow the flow between the farmer and DC to be positive if the vehicle travels from the farmer to DC. Similarly, Constraints (10) and Constraints (11) work together. Constraints (10) make sure that if a DC is established, a vehicle can travel from DC to an FPC. Constraints (11) allow the flow between DC and FPC

to be positive if the vehicle travels from DC to FPC. Otherwise, it forces the total amount carried by that vehicle to be zero. Constraints (12) - (16) enforce binary integrality and non-negativity on the decision variables. This formulation allows multiple-sourcing of FPCs. If we assume that FPCs can supply products from only one DC, then Constraints (17) must be added to the above formulations. Constraints (17) are single-sourcing restrictions, and it requires vehicle capacities in the second echelon to be at least as much as the demand of FPCs, which makes it challenging to find a feasible solution to the problem.

$$\sum_j \sum_h z_{jkh} = 1 \quad \forall k \in K \quad (17)$$

4.2.3. Goal Programming

Decision-makers may sometimes face situations where there are multiple and yet contradictory goals. For example: in a logistics problem, customer satisfaction may increase, costs has been minimized, and service quality has been enhanced. For such a scenario, according to Taha et al, 2000, the only solution that has satisfied all of the objectives can be unlikely. In this case, Goal Programming (GP) can be used, which offers a programming opportunity to reduce multiple objectives to the same objective so that the decision-maker can decide at least at a certain level that meets all its objectives.

According to Kwak and Sniederjans, 1985, the key benefit of the developed GP models is that it concurrently has taken into account several different objective factors and allowed for resource exchange. It has helped find a compromise solution. There are two significant forms of GP. In Non-preemptive goal programming, the decision-maker assigns a value on each unit of deviation from the goal. In Pre-emptive GP, objectives have been prioritized according to their importance. The high priority goal is much more important than the next goal, and the lower level goal cannot be achieved unless a higher-level goal has been met. We have presented Non-preemptive GP formulations for our multi-sourcing mathematical model below.

4.2.4. Non-Preemptive Goal Programming

Additional Parameters

- α Target level of the first goal
 β Target level of the second goal
 γ Target level of the third goal
 w_p Priority weights for objectives , $p=1,2,3$

Deviation Variables

- S_n^+ positive deviation from the goal $n=1,2,3$
 S_n^- negative deviation from the goal $n=1,2,3$

Objective

$$\min w_1 S_1^+ + w_2 S_2^+ + w_3 S_3^+ \quad (18)$$

$$\sum_j w_j F_j + \sum_i \sum_j \sum_t d'_{ij} C'_{ijt} x_{ijt} + \sum_j \sum_k \sum_h d_{jk} C_{jkh} y_{jkh} + \sum_i \sum_t N_{it} O'_t + \sum_j \sum_h M_{jh} O_h + s_1^- - s_1^+ = \alpha \quad (19)$$

$$\sum_i \sum_j \sum_t \frac{d'_{ij}}{V'_t} x_{ijt} + \sum_j \sum_k \sum_h \frac{d_{jk}}{V_h} z_{jkh} + s_2^- - s_2^+ = \beta \quad (20)$$

$$\sum_i \sum_j \sum_t x_{ijt} PCO_2 WCO_2 V_{eff} d'_{ij} WP + \sum_j \sum_k \sum_h y_{jkh} PCO_2 WCO_2 V_{eff} d_{jk} WP + s_3^- - s_3^+ = \gamma \quad (21)$$

and (4) to (17).

Deviation variables, S_n^+ and S_n^- , are the non-negative variables. These variables have showed deviations below and above the right side value of the goal constraint. Positive and negative deviation variables cannot be basic variables simultaneously. Because all objectives have been developed as minimization, positive deviations which are S_1^+ , S_2^+ , and S_3^+ will be entered to the objective function.

When weighing the objective functions, each target's relative importance has been determined as positive weights that have reflected the preferences of decision-makers. These weights come before the decision variables as a product in the objective function. Thus, the objective function has been converted into a weighted sum of other functions representing the goals. According to developed Non-Preemptive GP, the weights of the goals have been represented by Wp , and the objective function (18) minimizes the positive deviations. While creating the GP model, the problem's goals have been added to the model as a constraint. However, the objective function will be reformulated to include deviations from the goals. In this context, all three models have solved individually, and objective function values of (1), (2), and (3) have been obtained and represented as α , β , γ and adapted to the GP model as indicated in constraints (19), (20), and (21). These constraints have specified the goal constraints for the total costs, time minimization, and CO₂ emission costs.

CHAPTER 5

CASE STUDY

In this thesis, we have aimed to create a school lunch distribution program for public elementary schools. Within this framework, the Central Anatolia region has been chosen as the application area. There are 13 cities in Central Anatolia. Table 2 shows the number of public primary schools in each province of the study area and the total number of students in these schools, according to the Ministry of Education Turkey official website in 2019. According to this table, 723,574 students studying in public elementary schools and also according to TURKSTAT, public elementary schools constitute 17,753% of the total population of the Central Anatolia region.

Table 2: Number of schools and students in Central Anatolia

No.	City	Number of Schools	Number of Students
1	Ankara	588	292,914
2	Konya	574	138,428
3	Kayseri	316	87,753
4	Eskişehir	119	39,506
5	Sivas	226	33,772
6	Kırıkkale	58	13,765
7	Aksaray	150	25,283
8	Karaman	66	13,161
9	Kırşehir	56	11,194
10	Niğde	140	22,427
11	Nevşehir	115	17,442
12	Yozgat	136	19,834
13	Çankırı	45	8,095
	Total	2589	723,574

The numbers of students studying in each of the 2589 public elementary schools and the locations of these schools have been obtained to find the locations of the FPCs through cluster analysis. The schools' coordinates have been determined on Google Maps, and the information about the number of students and coordinates has been listed in Appendix A.

We have determined the location of a total of 15 local farmers in the Central Anatolia Region, as given in Table 3. These places have been selected from the places where the agricultural areas in the region are dense. Thus, students will be provided with healthy and fresh food, and local farmers will be supported, as DCs cannot provide food from other cities outside of Central Anatolia. We have assumed that the capacity of local farmers was unlimited.

Table 3: Regions and coordinates of local farmers

No.	Cities	Region of Local Farmers	Coordinates (X, Y)
1	Eskişehir	Mihalgazi Sera	40.02, 30.56
2	Çankırı	Ayan	40.67, 33.59
3	Kırıkkale	Keskin	39.67, 33.61
4	Kırşehir	Kaman	39.30, 33.73
5	Konya	Akşehir	38.35, 31.41
6	Konya	Ereğli	37.51, 34.05
7	Aksaray	Merkez	38.36, 34.01
8	Nevşehir	Ürgüp	38.71, 34.84
9	Yozgat	Merkez	39.81, 34.80
10	Kayseri	Yeşilhisar	38.35, 35.08
11	Sivas	Suşehri	39.86, 36.60
12	Niğde	Bor	37.89, 34.56
13	Karaman	Ermenek Gülsu Vadisi	37.17, 33.26
14	Ankara	Gölbaşı	39.79, 32.80
15	Ankara	Ayaş	40.01, 32.26

Site selection is a strategic level problem. Therefore, potential locations of DCs have needed to be well-identified. The key factors in location decisions are accessibility, proximity to resources, land, and construction costs. Considering these factors, we have identified eight potential locations for DCs in industrial and logistics centers close to intercity highways. Table 4 has shown the coordinates of the DCs and the fixed cost required to install a DC in this area. Fixed costs have been obtained by researching the land prices for sale in the specified regions. The capacities of DCs have been fixed to 3.500.000 kg considering the demand of FPCs.

Table 4: Potential locations and fixed costs of DCs

No.	Cities	Region of DCs	Coordinates (X, Y)	Fixed Costs (per m ²)
1	Konya	Kayacık Logistics Base	37.98, 32.58	88 ₺
2	Kayseri	B. Köprü Logistics Base	38.75, 35.31	180 ₺
3	Sivas	Sivas Industry Zone	39.72, 37.00	412 ₺
4	Ankara	Ankara Logistics Base	40.11, 32.59	70 ₺
5	Çankırı	Çankırı Industry Zone	40.59, 33.63	65 ₺
6	Nevşehir	Nevşehir Industry Zone	38.61, 34.69	50 ₺
7	Yozgat	Yozgat Industry Zone	39.81, 34.78	110 ₺
8	Kırşehir	Kırşehir Industry Zone	39.11, 34.19	85 ₺

As we have identified the potential locations of DCs and local farmers, we have achieved real distances between points with the help of Google Map, as in Table 5.

Table 5: Distance matrix between local farmers and DCs

Local Farmers	DCs							
	1	2	3	4	5	6	7	8
1	362	543	719	222	417	502	493	445
2	358	349	455	174	18	322	187	234
3	250	204	361	141	132	177	137	88
4	224	180	366	191	182	153	142	63
5	127	405	615	259	391	333	469	354
6	163	217	481	392	447	184	336	219
7	141	144	354	266	321	72	242	114
8	232	52	262	322	310	23	146	91
9	381	159	224	255	174	190	3	118
10	267	54	264	387	382	70	204	163
11	490	248	46	432	354	279	181	298
12	230	135	345	362	417	106	259	189
13	135	304	567	417	472	271	396	279
14	229	288	451	62	168	272	228	172
15	281	376	504	48	201	360	290	250

As mentioned before, we have considered heterogenous vehicles in this study. Since transportation is intercity between farmers and DCs in the first echelon, we have used larger vehicles such as trucks, and we have set three different capacities for trucks. On the other hand, in the second echelon, we have used pickup vehicles due to their lower capacity and lower carbon dioxide emissions to the urban area. Tables 6 and 7 show the characteristics of vehicles used in the first echelon and second echelon, respectively. Speed limits have been taken as 80, which is the upper limit for intercity bidirectional highways. Since the demand has been calculated on kilograms, vehicle capacities have also been given in kilograms.

Table 6: The characteristics of vehicles in first echelon

Types of Vehicles Local Farmers to DC	Fuel Consumption (lt.)	Capacity (kg)	Maximum Speed (km/hr.)	Variable Cost (₺)
1	1.2	15,000	80	1,000
2	1.4	17,000	80	2,000
3	1.5	20,000	80	3,000

Table 7: The characteristics of vehicles between in the second echelon

Types of Vehicles DC to FPC	Fuel Consumption (lt.)	Capacity (kg)	Maximum Speed (km/hr.)	Variable Cost (₺)
1	0.8	8,500	50	200
2	1	10,000	50	300
3	1.2	11,000	50	400

To get the distance matrix between DC's and FPCs, firstly, we have needed to determine the exact locations of FPCs; as mentioned before, FPCs are cluster centers determined by cluster analysis. This analysis has also provided information about the schools in each cluster, that is, which school receives service from which FPC. The demands for schools in each cluster have been aggregated at the cluster centers and as a result, the FPC demands to be used in the formulation should be obtained. The following Section explains how the K-Means clustering approach has been implemented by using SPSS software.

5.1. Methodology of K-means clustering in SPSS

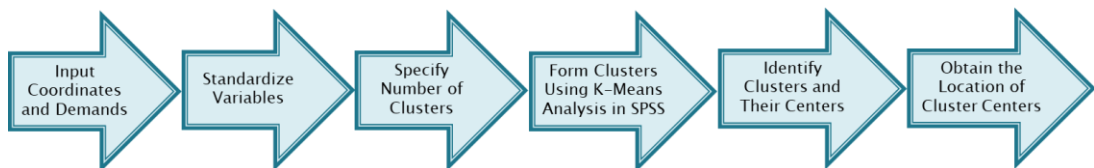


Figure 3: Process methodology of k-means clustering in SPSS

K-Means Clustering has been performed by using SPSS Statistics Software. The steps of approach performed in SPSS have been given in Figure 5. In the first step, the coordinates and demands of the schools have been determined as input variables. Since the schools' demands and coordinates are in different units, it is necessary to standardize these two variables according to each other. After standardization, the variables are ready to be clustered. Determining the number of clusters is an essential problem for cluster analysis and may differ for each problem. In our problem, the number of clusters has been determined, taking into account the number of schools in each city. When the Table in Appendix A has been examined, it has been seen that the number of schools in cities can be grouped in 5 different intervals. There are fewer than 75 schools in cities with the least number of schools, and more than 500 in cities with the most number of schools. While x gives the number of schools, information about the specified intervals, and how many cluster centers will be created in each interval has been given in Table 8.

Table 8: Number of clusters

Cities have 1 cluster if $0 \leq x \leq 75$
Cities have 2 clusters if $75 \leq x \leq 151$
Cities have 3 clusters if $151 \leq x \leq 251$
Cities have 4 clusters if $251 \leq x \leq 500$
Cities have 5 clusters if $x \geq 500$

After this process, SPSS Statistics has chosen the initial cluster center randomly. Lastly, the program has run all of the inputs and given the coordinates of cluster centers, cluster membership of schools, and schools' demands. Coordinates of cluster centers have been represented by FPCs of our problem, as shown in Table 9.

Table 9: SPSS clustering outputs

Cities	Cluster No.	Coordinates (X, Y)
ANKARA	1	39.40, 32.33
	2	40.11, 32.01
	3	39.98, 32.77
	4	39.95, 32.86
	5	39.20, 33.37
ESKİŞEHİR	6	39.41, 31.23
	7	39.78, 30.54
ÇANKIRI	8	40.60, 33.61
KIRIKKALE	9	39.84, 33.52
KIRŞEHİR	10	39.13, 34.16
KONYA	11	37.84, 32.45
	12	37.96, 32.02
	13	38.83, 32.55
	14	37.88, 32.55
	15	37.49, 33.23
AKSARAY	16	38.08, 33.70
	17	38.46, 33.99
NEVŞEHİR	18	38.57, 34.58
	19	38.77, 34.82
YOZGAT	20	39.36, 35.19
	21	39.82, 35.21
KAYSERİ	22	38.73, 35.46
	23	38.73, 35.50
	24	38.76, 36.08
	25	38.24, 35.49
SİVAS	26	39.88, 37.17
	27	39.19, 36.74
	28	39.74, 36.99
NİĞDE	29	37.98, 34.66
	30	37.95, 34.65
KARAMAN	31	37.17, 33.22

If we have marked the exact locations on the map; yellow signs are local farmers, black signs are DCs and blue signs are FPCs as it is emphasized in Figure 4.

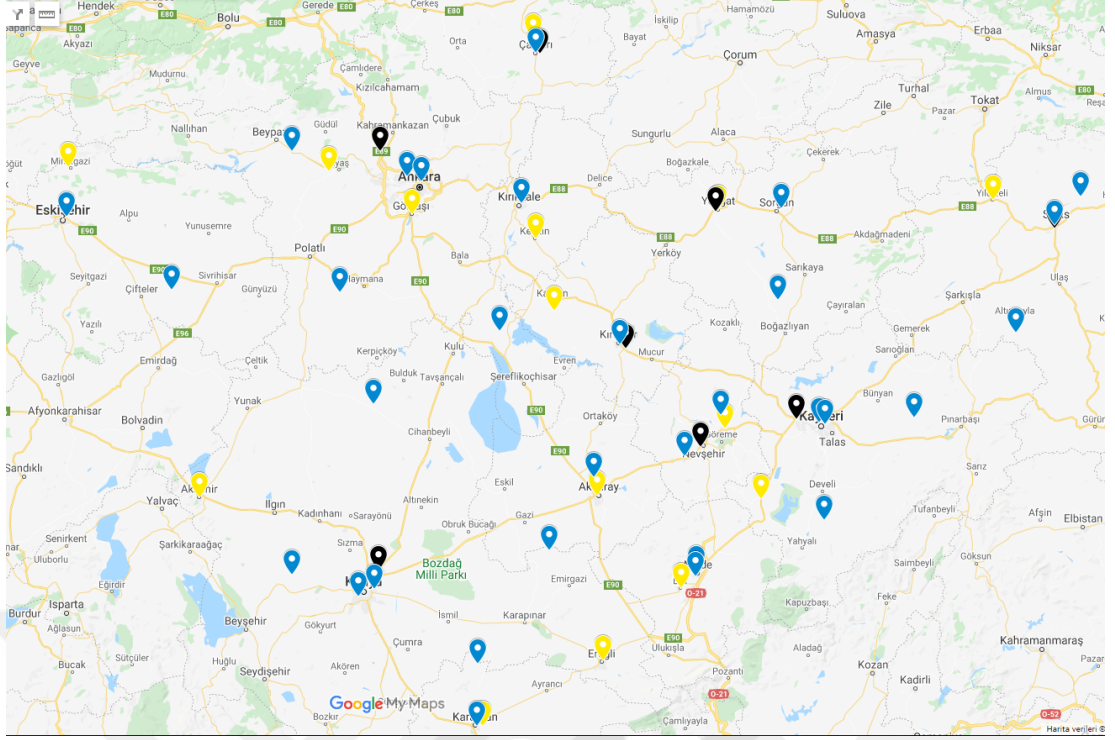


Figure 4: The locations of farmers, DCs and FPCs marked on the map

As we have got the exact locations of FPCs, distances between DCs and FPCs have been calculated with the help of Google Map and given in Appendix B.

It would make sense to calculate annual values for objective functions. However, up to this point, the demand has been calculated on the number of students. Also, all the capacities given above are in kilograms. Therefore, the demand should be calculated in kg./ time unit, but not the number of students. Students go to school every year, an average of 180 days in Turkey. Also, a meal of the student of primary school age is 125 grams. In this case, the meal to be given for 180 days in kilograms has been given in Table 10.

Table 10: Aggregate demand for clusters

Cluster No.	Aggregate Demand	Cluster No.	Aggregate Demand
1	219,262.5	17	511,222.5
2	121,567.5	18	107,752.5
3	3,006,833	19	284,692.5
4	3,189,848	20	58,702.5
5	53,055	21	387,562.5
6	52,492.5	22	838,642.5
7	836,392.5	23	865,957.5
8	182,137.5	24	117,540
9	309,712.5	25	152,302.5
10	251,865	26	170,662.5
11	1,217,003	27	134,752.5
12	556,560	28	454,455
13	202,252.5	29	290,925
14	756,607.5	30	213,666.5
15	382,207.5	31	296,122
16	57,645	TOTAL	16,280,400

CHAPTER 6

DISCUSSION OF THE CASE STUDY RESULTS

In this section, the results of the models have been analyzed. We have considered two versions of the problem. While the first version has allowed FPCs to be supplied by multiple DCs, the second version has allowed single-sourcing of FPCs. For these two versions of the formulation, we have discussed the results for each objective individually. As mentioned before, single-sourcing requires vehicle capacities in the second echelon to be at least as much as the demand of FPCs. To make a fair comparison between the two versions, we have set the DC capacities to 3.500.00 kilograms in both versions. However, different levels of capacity are actually satisfactory for a multi-sourcing formulation. For this reason, we have run the multi-sourcing version at three different capacity levels and have analyzed the results in Section 6.3. In addition, both Non-Preemptive Goal Programming formulations of the single and multi-sourcing models have been developed in this study. The results of goal programming approaches have been summarized in Section 6.4.

All the data collected in the case study part, as well as the coordinates of the FPCs that we have found with the help of SPSS, have been used as inputs in our solution methodology. In the light of these data, our real problem has been solved by using GAMS 24.1, which performs a high-level optimization program. Our three main objectives have been solved based on the real parameters and analyzed individually and in a compromised solution.

6.1. Results of the Mathematical Models for Multi-Sourcing

6.1.1. Cost Minimization Model

When we have analyzed the GAMS outputs, 5 of the 15 local farmers have served for the DCs, and there is a total of 16,280,400 kg of fresh food transported from local farmers to DCs as given in Table 11. For the food transported in local farmers to DCs, 6 type 1 vehicles have been used. Furthermore, 33 type 1 vehicles have been used for the food transported between DCs to FPCs. The reason for using only type 1 vehicles in both echelons is that the operating costs and fuel consumptions of the type 1 vehicles are the least.

Objective Function Value = 3,584,950,654 ₺

Table 11: Quantity transported from local farmers to DCs

From Local Farmers	to Dc	Total Foods Transported (kg)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,429,600
Akşehir/KONYA	Kayacık Logistics Base	3,180,800
Ürgüp /NEVŞEHİR	Nevşehir Industry Zone	3,495,100
Merkez/YOZGAT	Yozgat Industry Zone	2,774,700
Ayaş/ANKARA	Ankara Logistics Base	3,400,200
	TOTAL	16,280,400

In the cost minimization model, the establishment costs assigned to the locations of DCs are essential. 5 out of 8 DCs have been opened, and 16,280,400 kg of fresh foods have been transported from DCs to FPCs. The FPCs to be served by the DCs opened and the total amount of transferred foods have been given in Table 12.

Table 12: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (kg)
Kayacık Logistics Base	11,12,13,14,25,31	3,180,840
Ankara Logistics Base	1,2,3,6	3,400,222
Çankırı Industry Zone	4,8,16	3,429,585
Nevşehir Industry Zone	15,17,18,19,22,23,29,30	3,495,076
Yozgat Industry Zone	5,7,9,10,20,21,24,26,27,28	2,774,677
	TOTAL	16,280,400

6.1.2. Time Minimization Model

Considering the model outputs, 7 of the 15 local farmers have been put into service to DCs, and there are a total of 16,280,400 kg of fresh food shipped from local farmers to DCs, as given in Table 13. 4 first type vehicles, 3 second type vehicles, and 1 third type vehicle have been used between local farmers to DCs.

Objective Function Value = 524 hr. / 21.8 days / %12 of the total education time

Table 13: Quantity transported from local farmers to DC

From Local Farmers	to DCs	Total Foods Transported (kg)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,398,700
Keskin/KIRIKKALE	Kayacık Logistics Base	3,108,500
Centrum/AKSARAY	Kırşehir Industry Zone	3,400,000
Ürgüp/NEVŞEHİR	Nevşehir Industry Zone B. Köprü Logistics Base	4,074,400
Centrum/YOZGAT	Yozgat Industry Zone	446,260
Suşehri/SİVAS	Sivas Industry Zone	759,840
Ayaş/ANKARA	Ankara Logistics Base	1,129,700
	TOTAL	16,280,400

10 first type vehicles, 11 second type vehicles, and 11 third type vehicles have been used between DCs and FPCs. The time minimization model has aimed to minimize total transportation time in the network. Considering the problem has been designed for multi-sourcing, it has been expected that all DCs would be opened, and more local farmers have been served to DCs compared to the cost minimization model. All 8 DCs have been opened, and a total of 16,280,400 kg products have been transported from DCs to FPCs. Fresh food amounts transported from DCs to FPCs have also been given in Table 14.

Table 14: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (kg)
Kayacık Logistics Base	11,12,14,15,31	3,200,500
B. Köprü Logistics Base	22,23,24,25	1,373,440
Sivas Industry Zone	26,27,28	759,800
Ankara Logistics Base	1,2,6,7	1,177,200
Çankırı Industry Zone	3,8,9	3,498,650
Nevşehir Industry Zone	13,16,17,18,19,29,30	3,442,390
Yozgat Industry Zone	20,21	387,560
Kırşehir Industry Zone	4,5,10,17	2,441,660
	TOTAL	16,280,400

6.1.3. CO₂ Emission Cost Model

When we have considered the GAMS outputs, 7 of the 15 local farmers that we have determined have been put into service, and a total of 16,280,400 kg units of fresh foods have been transported from local farmers to DCs as it has been given in Table 15.

Objective Function Value =44,824,587.3 ₺

Table 15: Quantity transported from local farmers to DC

From Local Farmers	to DCs	Total Foods Transported (Unit)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,500,000
Keskin/KIRIKKALE	Kırşehir Industry Zone	251,860
Akşehir/KONYA	Kayacık Logistics Base	3,410,800
Ürgüp/NEVŞEHİR	Nevşehir Industry Zone B. Köprü Logistics Base	3,440,300
Centrum/YOZGAT	Yozgat Industry Zone	1,417,600
Suşehri/SİVAS	Sivas Industry Zone	759,840
Ayaş/ANKARA	Ankara Logistics Base	3,500,000
	TOTAL	16,280,400

In the time CO₂ emission cost model, it has only aimed to minimize the price for the weight of CO₂, vehicle, and product weight for unit distance from local farmers to DCs, and DCs to FPCs. There is no cost limitation for the number of vehicles in the objective function. As a result of this, the number of vehicles has been maximum between DCs to FPCs. Again there is no establishment cost limitation for locating the DCs in the objective function. Thus, all DCs have been opened. DCs have been opened, and a total of 16,280,400 kg products have been transported from DCs to FPCs. Fresh food amounts transported from DCs to FPCs have also been given in Table 16.

Table 16: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (kg)
Kayacık Logistics Base	11,12,13,14,15,31	3,410,750
B. Köprü Logistics Base	22,23,24,26,27,28	1,604,406
Sivas Industry Zone	26,27,28	759,860
Ankara Logistics Base	1,2,3,6,7	3,500,012
Çankırı Industry Zone	3,4,8	3,492,650
Nevşehir Industry Zone	16,17,18,19,25,29,30	954,685
Yozgat Industry Zone	4,5,9,20,21	58,002
Kırşehir Industry Zone	10	2,500,035
	TOTAL	16,280,400

6.2. Results of the Mathematical Models for Single-Sourcing

6.2.1. Cost Minimization Model

When we have analyzed the GAMS outputs, similar to the results of the cost minimization model for multi-sourcing, in the single-sourcing model DCs are established in the same locations. Also, opened local farmers are the same. Unlikely, for the food transported from local farmers to DCs, 5 first type vehicle have been used. Furthermore, 31 first type vehicles have been used for the food transported between DCs to FPCs.

When the objective function values have been examined, it has been seen that the objective function value of the single-sourcing cost minimization model is higher than the multi-sourcing cost minimization model. The main reason is that the distance traveled by the vehicles in both echelons in the multi-sourcing cost minimization model is longer than single-sourcing.

$$\text{Objective Function Value} = 3,666,153,114 \text{ ₺}$$

Table 17: Quantity transported from local farmers to DCs

From Local Farmers	to Dc	Total Foods Transported (kg)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,445,200
Akşehir/KONYA	Kayacık Logistics Base	2,978,600
Ürgüp /NEVŞEHİR	Nevşehir Industry Zone	3,385,500
Merkez/YOZGAT	Yozgat Industry Zone	3,070,900
Ayaş/ANKARA	Ankara Logistics Base	3,400,200
	TOTAL	16,280,400

5 of the 8 DCs have been opened and 16,280,400 kg fresh foods have been transported from DCs to FPCs. The FPCs to be served by the DCs opened and the total amount of transferred foods have been given in Table 18.

Table 18: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (kg)
Kayacık Logistics Base	11,12,14,25,31	2,978,590
Ankara Logistics Base	1,2,3,6	3,400,134
Çankırı Industry Zone	4,5,13	3,445,105
Nevşehir Industry Zone	15,16,17,18,19,22,23,24,29,30	3,385,565
Yozgat Industry Zone	7,8,9,10,19,20,21,26,27,28	3,070,906
	TOTAL	16,280,400

6.2.2. Time Minimization Model

Considering the model outputs, 7 of the 15 local farmers that we have determined have been put into service to DCs, and there are a total of 16,280,400 kg of fresh food shipped from local farmers to DCs, as given in Table 19. For the food transported from local farmers to DCs, 5 type 1 vehicles, 1 type 2 vehicle, and 2 type 3 vehicle have been used.

When we have analyzed the objective function of the multi-sourcing time minimization model, there is a 40-hour difference comparing the single sourcing time minimization model. This difference has come from the number of travels from DCs to FPCs are higher in the multi-sourcing time minimization model comparing the single-sourcing time minimization model. The variety and number of vehicles used from DCs to FPCs are wider in the multi-sourcing time minimization model.

Objective Function Value = 484 hr. / 20.2 days / %11 of the total education time

Table 19: Quantity transported from local farmers to DCs

From Local Farmers	to DCs	Total Foods Transported (kg)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,498,700
Keskin/KIRIKKALE	Kırşehir Industry Zone	3,494,800
Akşehir/KONYA	Kayacık Logistics Base	3,410,800
Ürgüp/NEVŞEHİR	Nevşehir Industry Zone B. Köprü Logistics Base	3,440,300
Centrum/YOZGAT	Yozgat Industry Zone	446,260
Suğehri/SİVAS	Sivas Industry Zone	759,850
Ayaş/ANKARA	Ankara Logistics Base	1,229,700
	TOTAL	16,280,400

30 first type vehicle and 1 third type vehicle have been used between DCs and FPCs. All 8 DCs have been opened. The amount of fresh food transported from DCs to FPCs have also been given in Table 20.

Table 20: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (Unit)
Kayacık Logistics Base	11,12,13,14,15,31	3,410,016
B. Köprü Logistics Base	22,23,24,25	1,602,440
Sivas Industry Zone	26,27,28	755,860
Ankara Logistics Base	1,2,6,7	3,500,012
Çankırı Industry Zone	3,8,9	3,498,650
Nevşehir Industry Zone	16,17,18,19,29,30	954,685
Yozgat Industry Zone	20,21	58,702
Kırşehir Industry Zone	4,5,10	2,500,035
	TOTAL	16,280,400

6.2.3. CO₂ Emission Cost Minimization Model

Considering the model outputs, 6 of the 15 local farmers that we have determined have been put into service to DCs, and there are a total of 16,280,400 kg of fresh food shipped from local farmers to DCs, as given in Table 21. 3 first type vehicles, 3 second type vehicles and 1 third type vehicles have been used between local farmers and DCs.

When the objective function values have been examined for both single and multi-sourcing CO₂ emissions cost models, it has been seen that the objective function value of the single-sourcing cost minimization model is higher than the multi-sourcing cost minimization model. The main reason is that the distance traveled by the vehicles in both echelons in the multi-sourcing time minimization model is longer than that in the single-sourcing model.

$$\text{Objective Function Value} = 47,476,975,62 \text{ ₺}$$

Table 21: Quantity transported from local farmers to DC

From Local Farmers	to DCs	Total Foods Transported (Unit)
Ayan/ÇANKIRI	Çankırı Industry Zone	3,310,500
Keskin/KIRIKKALE	Kırşehir Industry Zone	3,410,800
Ürgüp/NEVŞEHİR	Nevşehir Industry Zone B. Köprü Logistics Base	3,440,300
Centrum/YOZGAT	Yozgat Industry Zone	1,897,330
Suşehri/SİVAS	Sivas Industry Zone	759,870
Ayaş/ANKARA	Ankara Logistics Base	3,461,600
	TOTAL	16,280,400

7 first type vehicles, 23 second type vehicles and 1 third type vehicles have been used between DCs and FPCs. All DCs have been opened. The amount of fresh food transported from DCs to FPCs have also been given in Table 22.

Table 22: Quantity transported from DCs to FPCs

From DCs	to FPCs	Total Foods Transported (kg)
Kayacık Logistics Base	11,12,13,14,15,31	3,410,750
B. Köprü Logistics Base	22,23,24	1,822,140
Sivas Industry Zone	26,27,28	759,860
Ankara Logistics Base	1,4,6	3,461,552
Çankırı Industry Zone	2,3,8	3,310,510
Nevşehir Industry Zone	16,17,18,19,25,29,30	1,618,205
Yozgat Industry Zone	2,7,9,10,20,21	1,897,183
	TOTAL	16,280,400

6.3. Results of the Multi-Sourcing Mathematical Models with Different Capacities

Cost, time, and CO₂ emission cost models have been solved and analyzed separately for both multi-source and single-source situations where the capacities of DCs have been set to 3,500,000 kg. In this section, we have solved multi-source mathematical models for different capacity levels of DCs and analyzed the results, and compared them with the results of those models at different capacity levels.

Firstly, we have considered three capacity levels of DCs: 2,500,000 kg., 3,000,000 kg. And 3,500,000 kg. The results of models for these capacity levels have been shown in Table 23. It has been seen that the objective function value of the cost minimization model decreases as the DC capacities increase. The main reason for this is that as the DC capacities increase, the number of opened DCs decreases as it has been emphasized in Table 24, and as a result, the total cost decreases.

In the time minimization model, as the capacity of DCs increases, total distribution time in the network decreases. The main reason for this is that as the capacities increase, the travels from DCs to FPCs decrease, so the total time spent in the network decreases. Finally, the cost of carbon dioxide emissions also decreases as the DC capacities increase.

The cost of carbon dioxide emission depends mainly on the parameters of the weight of CO₂ emission per liter consumption of fuel, the volume of fuel consumption per unit distance per unit vehicle weight, and also the unit distance between echelons. These parameters generally depend on the length of the roads from local farmers to DCs and from DCs to FPCs in our problem. As we have emphasized before, the increase in capacities reduces vehicle travels due to multi-sourcing. Therefore, a decrease in CO₂ emission cost has been observed.

Table 23: Objective function values at different capacity levels

Objectives	Capacity Levels of DCs (kg)		
	2,500,000	3,000,000	3,500,000
Cost Minimization	4,043,563,403.5 ₺	3,745,622,472 ₺	3,584,950,654 ₺
Time Minimization	722 hr.	728 hr.	524 hr.
CO ₂ Emission Cost Minimization	50,315,515.1 ₺	47,153,679.1 ₺	44,824,587.3 ₺

The cost minimization model for both single and multi-sourcing has taken into account the establishment cost of the DC, which has been calculated per kilogram unit of DC. Naturally, the model minimizes the number of DCs to be opened to minimize the total establishment cost. However, in the model of time and CO₂ emission cost minimization model, there are no parameters or variables that take into account the establishment costs of DCs. Therefore, as seen in Table 24, DCs have been opened at their maximum in these two models.

Table 24: Opened DCs at different capacity levels

Objectives	Opened DCs		
	2,500,000 kg	3,000,000 kg	3,500,000 kg
Cost Minimization	7	6	5
Time Minimization	8	8	8
CO ₂ Emission Cost Minimization	8	8	8

6.4. Results of the Non-preemptive Goal Programming in Multi-Sourcing Mathematical Models

We have assigned 8 different weight values in the GP formulation of our multi-sourcing mathematical model (see Table 25) to see the changes in the positive deviation values. DC capacities have set to 3.500.000 kg. The obtained positive and negative deviations for eight scenarios have been summarized in the Table 26.

- Goal for the cost minimization model: 3,584,950,654 ₺
- Goal for the time minimization model: 524 hr.
- Goal for the CO₂ emission cost model: 44,824,587.3 ₺

The given goal values above have been obtained from individually solved objective function values for our three models.

Table 25: Generated weights

Scenarios	1	2	3	4	5	6	7	8
w_1	0.25	0.25	0.6	0.3	0.8	0.1	0.7	0.2
w_2	0.5	0.25	0.3	0.1	0.1	0.8	0.2	0.1
w_3	0.25	0.5	0.1	0.6	0.1	0.1	0.1	0.7

When the results have been analyzed, it has been clearly seen that the positive deviation of the total cost minimization model is zero in all scenarios. So we have concluded that the total cost minimization model has been satisfied in all scenarios.

In the 1st scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 188.2 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 4,064,100 ₺.

In the 2nd scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 224.2 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 4,095,800 ₺.

In the 3rd scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 184.1 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 4,067,600 ₺.

In the 4th scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 205.8 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 4,063,500 ₺.

In the 5th scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 203.4 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,988,600 ₺.

In the 6th scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 185.8 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,989,600 ₺.

In the 7th scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 195.9 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 4,064,100 ₺.

Eventually, in the 8th scenario, for our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 254.4 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,993,400 ₺.

Table 26: Solutions of multi-sourcing mathematical models

Scenarios	S_1^+ (₺)	S_2^+ (hr.)	S_3^+ (₺)
1	0	188.2	4,064,100
2	0	224.2	4,095,800
3	0	184.1	4,067,600
4	0	205.8	4,063,500
5	0	203.4	3,988,600
6	0	185.8	3,989,600
7	0	195.9	4,064,100
8	0	254.4	3,993,400

When we have examined the GAMS outputs of our multi-sourcing mathematical model based on generated weights, it has been seen that the goal of the cost minimization has reached for all scenarios. Since our aim is to minimize positive deviations, it has been seen that the positive deviation of the time minimization model is the least in the 3rd scenario. The positive deviation of the CO₂ emission model appears to be the least in the 5th scenario. Comparing the 3rd and 5th scenarios, there is a difference of 19.3 hr. for the time minimization model and 79,000 ₺ for the cost of CO₂ emission. At this point, it is up to the decision-maker to choose appropriate one between these scenarios.

6.5. Results of the Non-preemptive Goal Programming in Single-Sourcing Mathematical Models

As in the section 6.4, our single sourcing mathematical model has been solved by the method of non-preemptive GP with the capacity of 3,500,000 kg and GAMS solutions have been interpreted. The same weights have been used as given in Table 25. The positive and negative deviations obtained for eight scenarios have been summarized in the Table 27.

- Goal for the cost minimization model: 3,666,153,114 ₺

- Goal for the time minimization model: 484 hr.
- Goal for the CO2 emission cost model: 47,476,975.62 ₺

Table 27: Solutions of single-sourcing mathematical models

Scenarios	S_1^+	S_2^+	S_3^+
1	66,782,000 ₺	231.7 hr.	3,663,700 ₺
2	67,791,000 ₺	203.2 hr.	3,508,900 ₺
3	65,889,000 ₺	338.1 hr.	3,640,800 ₺
4	65,509,000 ₺	234.3 hr.	3,631,200 ₺
5	65,176,000 ₺	262.3 hr.	3,698,100 ₺
6	66,745,000 ₺	227.8 hr.	3,671,100 ₺
7	65,177,000 ₺	339.5 hr.	3,698,100 ₺
8	65,175,000 ₺	230.4 hr.	3,698,100 ₺

The given goal values above have been obtained from individually solved objective function values for our three models.

In the 1st scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 66,782,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 231.7 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,663,700 ₺.

In the 2nd scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 67,791,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 203.2 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,508,900 ₺.

In the 3rd scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 65,889,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 338.1 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,640,800 ₺.

In the 4th scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 65,509,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 234.3 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,631,200 ₺.

In the 5th scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 65,176,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 262.3 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,698,100 ₺.

In the 6th scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 66,745,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 227.8 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,671,100 ₺.

In the 7th scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 65,177,000 ₺. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 339.5 hr. For the third model, the CO₂

emission cost goal cannot be reached, and there is a positive deviation of 3,698,100 £.

In the 8th scenario, for the first model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 65,175,000 £. For our second model, it has been observed that the time minimization goal cannot be reached, and there is a positive deviation of 230.4 hr. For the third model, the CO₂ emission cost goal cannot be reached, and there is a positive deviation of 3,698,100 £.

When the outputs of our single-sourcing mathematical model have been examined based on generated weights, it has been observed that the goals could not be reached for any model. It has been seen that the positive deviations of time minimization and CO₂ emission cost minimization models are the least in the 2nd scenario. At the same time, the cost minimization model yields the best solution in the 8th scenario. When comparing the 2nd and 8th scenarios, there is a difference of 2,616,000 £. If this difference can be ignored by the decision-maker, the 2nd scenario in a single-source mathematical model can be chosen as the best solution.

In general, GP formulations of multi-sourcing mathematical models yield less positive deviations in cost and time compared to single sourcing mathematical model. In contrast, this deviation is higher in the CO₂ emission cost model. Better results have been obtained in our multi-sourcing mathematical model with respect to cost and time, and also better results have been obtained in our single-sourcing mathematical model with respect to CO₂ emission cost.

CHAPTER 7

CONCLUSION AND FUTURE WORK

Continuous population growth, urban growth, and migration in cities increase the number of households and students accordingly. Also, increasing unemployment and the variable economy causes poverty in households. As a result, child poverty increases. All these factors cause the need for a school lunch program to increase day by day in our country.

School Lunch Program provides low budget or free lunch opportunities for the students who need help. The school lunch program, which will be implemented in public elementary schools, has three main components. The first one is the local farmer. Local farmers have been selected from the points having the most agricultural activities in the studied region. Thus, it has been aimed at elementary school students are fed by fresh and organic foods; on the one hand, agricultural activities have been supported. The other component is the distribution center. Distribution centers have a specific capacity, and their location presents importance as a cost, time, and environmental sustainability. Distribution centers should be placed in optimal locations to provide fresh fruits and vegetables and deliver them to students on time. The last component is the FPCs. In FPC, cooking and packaging operations are done, and fresh foods are made prepared for distribution to schools. The vehicle routing problem during distribution from FPCs to schools has been ignored. Schools are aggregated according to their coordinates and demands by the K-means clustering method in SPSS programming, and it has been assumed that the distribution is carried out from FPCs to schools on time.

The problem described above has been formulated as a mixed-integer linear programming model and implemented in a real-life case study. The implementation area has been selected as the Central Anatolia region of Turkey, and all relevant data have been gathered. Three different objectives have been considered while determining DCs' locations. These are cost minimization, time minimization, and CO₂ emission cost minimization. We have solved two versions of the problem with single and multiple sourcing of FPCs. For each version, the three objectives have been analyzed individually. According to our case study results, we have concluded that total cost and CO₂ emission costs are higher in single-sourcing models due to the distance traveled. Nevertheless, it has been found that the total transportation time in the network is lower in the single-sourcing model. The multi-sourcing model has been solved for three different DC capacity levels. As expected, we have observed that as the DC capacity increases, the total cost decreases due to the decrease in the number of DCs installed. Simultaneously, the objective function value of time minimization and CO₂ emission cost have decreased as total travel distance in the network decreases. Since our problem is a multi-objective capacitated facility location problem, we have developed a non-preemptive goal programming model for single and multi-sourcing problems with eight different generated weights to get compromised solutions. In different weights, all GP outputs have been analyzed. We expect that the results of GP approaches provide valuable information for decision-makers and authorities, and they would help authorities to set their priorities.

Locations of DCs and FPCs are the most substantial information in this study provided by the model. The ability to estimate total cost is another critical output. Thus, the needs of establishing a school lunch program can be identified, and action plans can be prepared accordingly.

As a future study, a multi-commodity distribution model may be developed. In addition, intercity and urban traffic densities can be taken into account. The vehicle routing problem can be included in the modeling to select locations for FPCs.

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APPENDICES

Appendix A: Number of students and coordinates of schools

School Name	Number of Students	Coordinates	
		x	y
Akyurt Yıldırım Beyazıt İlkokulu	961	40,235058	33,033909
Kızık İlkokulu	36	40,118713	33,121023
Saracalar İlkokulu	71	40,084922	32,964133
Barmek İlkokulu	85	40,101804	33,002357
Kozayağı Köyü İlkokulu	37	40,13465	33,260029
ELECİK İLKOKULU	21	40,189252	33,277801
BÜĞDÜZ İLKOKULU	75	40,117627	33,044052
Yakupoğlu İlkokulu	94	40,153842	33,095286
İhsan Sungu İlkokulu	404	39,95288	32,864964
Milli Müdafaa İlkokulu	227	39,949467	32,875589
Özdemir Gürocak İlkokulu	1950	39,979783	32,964384
Sıdıka Kınacı İlkokulu	128	39,998793	32,91492
Solfasol İlkokulu	203	39,980101	32,906076
Şehit Albay İbrahim Karaoğlanoğlu İlkokulu	262	39,971904	32,901419
Türkerler İlkokulu	299	39,985168	32,921062
Göreneller Görme Engelliler İlkokulu	38	39,958122	32,878126
KAŞGARLI MAHMUT İLKOKULU	810	39,969547	32,925697
KATİP ÇELEBİ İLKOKULU	265	40,013696	32,907952
Karacaören İlkokulu	643	40,023887	32,92112
Telsizler İlkokulu	505	39,954438	32,876239
Uluğbey İlkokulu	453	39,96388	32,906881
Yenihayat İlkokulu	186	39,93792	32,865696
İnönü İlkokulu	117	39,938504	32,866107
24 Kasım İlkokulu	387	39,977104	32,932706
Şehit Mustafa Yiğitalp İlkokulu	541	39,961841	32,887563
Peyami Safa İlkokulu	668	39,964581	32,93846
Nazım Akcan İlkokulu	416	39,972665	32,914259
Halil Naci Mihçioğlu İlkokulu	405	39,984215	32,900394
Aydınlıkevler İlkokulu	873	39,964166	32,872782
Sakalar İlkokulu	128	39,934782	32,860481

Cumhuriyet İlkokulu	232	39,936252	32,869163
Hüseyin Güllü Ceylan İlkokulu	970	39,969061	32,932699
Taşça İlkokulu	464	39,962492	32,928715
Hayme Hatun İlkokulu	2192	39,968567	32,969026
Yıldırım Beyazıt İlkokulu	326	39,953072	32,872145
Nihat Başakar İlkokulu	189	39,981724	32,930645
Şili İlkokulu	264	39,96926	32,907643
TOKİ Malazgirt İlkokulu	406	39,949882	32,880764
Peyamitepe Şehit Mehmet Kocakaya İlkokulu	1332	39,975601	32,945226
Abdullah Tokur İlkokulu	299	39,95747	32,917475
Atilla İlkokulu	319	39,942825	32,881825
Nazife Hatun İlkokulu	437	39,961157	32,913729
Fikri İnal İlkokulu	130	40,034916	32,919636
Çalışkanlar İlkokulu	209	39,952672	32,884811
Gülpınar İlkokulu	908	39,973251	32,890184
Atam İlkokulu	396	39,980453	32,892602
Çocuk Sevenler Derneği İlkokulu	1392	39,968462	32,950811
Mehmet Memişoğulları İlkokulu	192	39,958646	32,859325
Fatih Sultan Mehmet İlkokulu	747	39,962552	32,921463
KEMAL YURTBİLİR İŞİTME ENGELLİLER İLKOKULU	40	39,956578	32,880609
Tandoğan Şehit Celalettin İbiş İlkokulu	389	39,95301	32,876517
Kavaklı İlkokulu	88	40,002083	33,046169
SEYMENLER İLKOKULU	100	39,942269	32,867782
YUKARI PEÇENEK İLKOKULU	40	40,015532	33,005057
Karapürçek Şehit Ferhat Muratoğlu İlkokulu	1973	39,966156	32,982953
Yeni Turan İlkokulu	684	39,952622	32,846884
Ali Ersoy İlkokulu	311	39,964055	32,898048
Öğretmen Abdullah İlkokulu	437	39,974121	32,902634
POLİS AMCA İLKOKULU	165	39,946951	32,873699
ALTINDAĞ PİRİ REİS İLKOKULU	160	40,006658	32,90973
KUZEYKENT İLKOKULU	64	40,003421	32,903471
Bahri Hacıahmetoğlu İlkokulu	75	40,021211	32,328909
Gençali İlkokulu	13	39,893885	32,001582
BÜNYAMİN İLKOKULU	100	40,016416	32,33364
Çanlı İlkokulu	55	40,162798	32,416029
İLİCA İLKOKULU	23	40,05763	32,258374
Gazi İlkokulu	191	40,018453	32,314538
BAHRİ HACIAHMETOĞLU İLKOKULU	95	40,021063	32,328919
Büyükboyalık İlkokulu	34	39,55804	33,242317
Tuna İlkokulu	110	39,555423	33,119455
Ergin İlkokulu	0	39,649473	33,152598
Beynam Emine Erişen İlkokulu	75	39,688777	32,895711
Afşar İlkokulu	64	39,451385	33,073099

İbrahim Gürbüz İlkokulu	79	39,311559	33,422028
Suyuguzel İlkokulu	10	39,317218	33,203853
Alparslan İlkokulu	86	39,106891	33,080315
Tınaztepe İlkokulu	43	39,550073	33,124897
Kekliceek İlkokulu	10	39,648022	33,264905
Sofular Musa Ünal İlkokulu	42	39,302095	33,095222
Kesikköprü İlkokulu	75	39,393246	33,402036
Bektaşlı İlkokulu	11	39,298636	33,434837
Büyük Davdanlı İlkokulu	11	39,706137	33,224433
Küçükcamılı İlkokulu	0	39,331271	33,411673
Yörelî İlkokulu	0	39,521155	32,952797
K.davdanlı İlkokulu	0	39,708331	33,22406
Aydoğan İlkokulu	10	39,605043	33,175414
Cumhuriyet İlkokulu	820	40,151871	31,90883
Faruk Kefeliođlu İlkokulu	309	40,159574	31,950895
Kemal Milaşlı İlkokulu	325	40,156623	31,906515
Beypazarı İlkokulu	540	40,165759	31,920916
Atatürk İlkokulu	140	40,161183	31,933629
Kızılcaşöđüt İlkokulu	10	40,192868	32,026633
Kırşehler İlkokulu	9	39,918641	31,856874
Çayırliođlu İlkokulu	120	40,168343	31,917149
Gazipaşa İlkokulu	525	40,153	31,907747
Rüstempaşa İlkokulu	216	40,170712	31,920917
KIRBAŞI İLKOKULU	16	40,012992	31,829871
Merkez Atatürk İlkokulu	158	40,489922	32,472667
Osmansin İlkokulu	42	40,43206	32,251009
Süleyman Uyar İlkokulu	651	39,850052	32,81507
Türkan Yamantürk İlkokulu	704	39,89466	32,847116
Ulubathı Hasan İlkokulu	415	39,922148	32,827354
Şehit Ahmet Yetiş İlkokulu	353	39,864187	32,830255
Reşit Turgut İlkokulu	219	39,878472	32,664498
Mesa Kuru Sitesi İlkokulu	529	39,890852	32,680016
Ahmet Andiçen İlkokulu	531	39,879194	32,869574
Ahmet Haşim İlkokulu	448	39,886906	32,838374
Akşemsettin İlkokulu	365	39,866688	32,839195
Arjantin İlkokulu	584	39,903773	32,804188
Şehit Bülent Albayrak İlkokulu	206	39,905314	32,886405
Cebesoy İlkokulu	177	39,910913	32,800153
Çankaya İlkokulu	834	39,893529	32,861258
Dr.Reşit Galip İlkokulu	198	39,896578	32,870823
DSİ İlkokulu	333	39,915532	32,783823
Gökçe Karataş İlkokulu	551	39,876282	32,846843
Kılıçalı Paşa İlkokulu	370	39,908466	32,817164
Kıymet Necip Tesal İlkokulu	101	39,851129	32,840116

Kurtuluş İlkokulu	758	39,928411	32,868275
Mehmet Hikmet Ayberk İlkokulu	336	39,833166	32,946524
Mithatpaşa İlkokulu	132	39,920754	32,873228
Özbirlik İlkokulu	95	39,901366	32,897144
Özyurt İlkokulu	580	39,895425	32,880003
Reşatbey İlkokulu	222	39,888229	32,829449
Türkkonut İlkokulu	280	39,995438	32,632849
ÖZBİRLİK İLKOKULU	82	39,901341	32,897144
YUNUS EMRE İLKOKULU	0	39,969536	32,811801
KIYMET NECİP TESAL İLKOKULU	125	39,851137	32,840127
Türkiye Noterler Birliği İlkokulu	337	39,893324	32,708464
Dedeman İlkokulu	507	39,895851	32,840447
Hamdullah Suphi İlkokulu	534	39,918373	32,817827
Süheyla-Sıtkı Alp İlkokulu	871	39,881549	32,817121
Türk-İş Blokları İlkokulu	228	39,894329	32,802934
Bahçelievler Nebahat Keskin İlkokulu	647	39,928736	32,823618
Nurçin Sayan İlkokulu	426	39,872981	32,86173
Fatma-Yaşar Önen İlkokulu	333	39,923982	32,880668
ALACAATLI İLKOKULU	13	39,847762	32,67465
İltekin İlkokulu	659	39,933808	32,874866
Gökay İlkokulu	215	39,875766	32,854737
Sokullu Mehmet Paşa İlkokulu	440	39,890854	32,835255
Yüce-tepe İlkokulu	753	39,918571	32,842967
Seyranbağları İlkokulu	355	39,917002	32,867308
Milli Eğitim Vakfı Gökkuşığı İlkokulu	236	39,889929	32,69163
Nenehatun İlkokulu	257	39,887235	32,815846
FEVZİ ÖZBEY İLKOKULU	283	39,883767	32,711438
ŞAHİNBEY İLKOKULU	76	39,921048	32,877834
Mohaç İlkokulu	275	39,918055	32,875401
Ahmet Barındırır İlkokulu	380	39,882155	32,802665
Öğretmen Hüseyin Hüsnü Tekişik İlkokulu	378	39,893926	32,87554
Ahmet Vefik Paşa İlkokulu	385	39,900008	32,855039
Şehit Battal İlgün İlkokulu	446	39,877538	32,822814
Ayten-Şaban Diri İlkokulu	381	39,890782	32,720316
Turhan Feyzioğlu İlkokulu	816	39,875637	32,840274
Hürriyet İlkokulu	219	39,923091	32,844179
Muazzez Karaçay İlkokulu	604	39,876725	32,86703
Şehit Mustafa Karasakal İlkokulu	482	39,876618	32,831689
Rauf Orbay İlkokulu	1039	39,847626	32,849267
Gülten Kösemem İlkokulu	296	39,903154	32,875122
Köy Hizmetleri İlkokulu	212	39,900432	32,745088
Teğmen Kalmaz İlkokulu	653	39,904263	32,865816
Beytepe İlkokulu	665	39,864473	32,737772
Yeşilkent İlkokulu	16	39,861963	32,872392

Mustafa Kemal İlkokulu	239	39,902036	32,817087
Avni Akyol İlkokulu	499	39,874398	32,675015
İmrahor İlkokulu	2	39,893605	32,900665
Göktürk İlkokulu	371	39,894242	32,695123
Kemal Atatürk İlkokulu	367	39,877576	32,826676
KIRKKONAKLAR İFFET GÜNEŞOĞLU İLKOKULU	328	39,892133	32,88611
AKGÜL ULUSOY İLKOKULU	513	39,850692	32,6446
TSK MEHMETCİK VAKFI HAFİZE İHSAN PAYAZA İLKOKULU	252	39,841315	32,725999
Agılcık İlkokulu	7	40,225295	32,980692
Barbaros İlkokulu	443	40,243245	33,024284
Güldarpi İlkokulu	56	40,166627	33,014242
Sabiha Şaşmaz İlkokulu	71	40,134278	32,989246
Yukarı Çavundur İlkokulu	86	40,384621	33,057146
KURUCAY İLKOKULU	13	40,366685	32,961325
Atatürk İlkokulu	311	40,2334	33,019585
ÇUBUK SÜLEYMAN ŞAH İLKOKULU	207	40,21602	33,023369
Yıldırım Beyazıt İlkokulu	633	40,234747	33,033904
Akkuzulu İlkokulu	228	40,207119	33,133914
Çubuk İlkokulu	978	40,230521	33,027111
Cumhuriyet İlkokulu	937	40,220765	33,044989
Şehit P Üst Muharrem Kaleli İlkokulu	173	40,239573	33,024178
Aşağı Cavundur İlkokulu	143	40,264497	33,016147
Yavuz Selim İlkokulu	1084	40,24031	33,03361
ŞEHİT SELAHATTİN ŞİŞMAN İLKOKULU	97	40,190441	33,031749
Atatürk İlkokulu	167	39,91658	33,239264
Cumhuriyet İlkokulu	431	39,947028	32,584181
Gümüşpala İlkokulu	367	39,925132	33,236129
Hasanoğlan Mareşal Çakmak İlkokul	234	39,998076	33,183975
Hasanoğlan Öğretmenler İlkokulu	358	39,986384	33,173442
Şehit Çetin Sarıkaya İlkokulu	264	39,910516	33,237098
Şehit Şener Gündem İlkokulu	189	39,955974	33,185763
Üçevler İlkokulu	46	39,931607	33,233817
Barut İlkokulu	189	39,920369	33,21835
Fatih İlkokulu	123	39,991032	33,2509
Karacahasan İlkokulu	41	39,879311	33,223107
Dr.Ahmet Kazım Mihçioğlu İlkokulu	354	39,975662	33,164143
ŞEHİT ERSİN UTLU İLKOKULU	102	39,906415	33,227619
Fatin Rüştü Zorlu İlkokulu	542	39,840626	32,542124
Ağa Ceylan ilkokulu	1340	39,957237	32,608563
Eryaman Türkkent İlkokulu	757	39,97244	32,624539
Layika Akbilek İlkokulu	1414	39,946794	32,648048
Nasreddin Hoca İlkokulu	1408	39,949091	32,626528

Zekiye Gdllođlu İlkokulu	1441	39,947651	32,655127
Dumlupınar İlkokulu	1592	39,938241	32,656581
Ruhiye Hilmi Atlıođlu İlkokulu	1208	39,9445	32,613065
Ayşegl Tuna İlkokulu	562	39,974097	32,605331
İlhan Gerim İlkokulu	227	39,972063	32,61647
Şehit İzzet zkan İlkokulu	1349	39,951612	32,64855
Bađlıca ilkokulu	523	39,894822	32,639666
Mahir Başer İlkokulu	1794	39,945594	32,63248
Şehit Erhan Ar İlkokulu	1791	39,938169	32,662431
Eryaman Şehit Rifat Çelik İlkokulu	860	39,988666	32,631212
Pir Sultan Abdal İlkokulu	355	39,811625	32,573892
Kadri Suyabakan İlkokulu	755	39,955406	32,669507
Bilge Kađan İlkokulu	514	39,849858	32,562395
Abdurrahim KARAKOÇ İlkokulu	2614	39,933003	32,639093
Cahit Zarifođlu İlkokulu	852	39,980484	32,630261
Samime Talat İlkokulu	336	39,966058	32,660764
Şehit Mehmet Çetin İlkokulu	605	39,971742	32,640102
Seyit Onbaşı İlkokulu	247	39,94458	32,722496
Şehit Erkan Tmer İlkokulu	1258	39,99257	32,612756
Şehit Murat Bek İlkokulu	777	39,940824	32,677894
Atatrk İlkokulu	766	39,942155	32,603268
Şehit Ferhat Koç İlkokulu	769	39,983983	32,650442
Şeyhşamil İlkokulu	1071	39,954212	32,61689
Evren İlkokulu	72	39,022915	33,807321
Atatrk İlkokulu	691	39,795808	32,808568
Enver Bektaş İlkokulu	164	39,571855	32,798162
Gndz Alp İlkokulu	672	39,791643	32,814915
Glbaşı Şehit mer Halisdemir İlkokulu	145	39,804818	32,697292
Sevgi Çiçeđi İlkokulu	969	39,784607	32,809099
Şahin Sevin İlkokulu	556	39,797121	32,791663
Taşpınar İlkokulu	20	39,827493	32,758571
Şehit Komando Onbaşı Mkremin Başaran İlkokulu	146	39,537652	32,611904
Glbaşı İlkokulu	630	39,791351	32,80557
Hacılar İlkokulu	89	39,770398	32,723191
Bezirhane İlkokulu	50	39,481687	32,857283
Dr.Ahmet-Filiz Gđş İlkokulu	52	39,753351	32,654389
Baldudak İlkokulu	101	39,796249	32,800118
T.E.K. İlkokulu	769	39,797271	32,819288
İncek T.E.K. İlkokulu	87	39,830231	32,716915
Velihımmetli İlkokulu	0	39,690514	32,654696
Hakan lger İlkokulu	49	39,485033	32,808801
Yavrucak İlkokulu	0	39,697547	32,743254
Gkçehyk İlkokulu	61	39,665075	32,730842

İhsan Köksal İlkokulu	51	39,686832	32,826385
Adem-Bilhan Uysal İlkokulu	791	39,794263	32,85402
Şehit Bülent Göçer İlkokulu	730	39,792771	32,840291
Ballıkpınar İlkokulu	0	39,734438	32,714605
Hacı Hasan İlkokulu	27	39,747434	32,74871
YURTBEYİ İLKOKULU	22	39,751647	32,874274
AHIBOZ İLKOKULU	11	39,605674	32,849242
ŞEHİT MERİÇ ALEMDAR İLKOKULU	96	39,782771	32,822412
Cağa İlkokulu	0	40,123371	32,211899
Güneyce İlkokulu	55	40,068646	32,203676
Atatürk İlkokulu	112	40,212379	32,241428
Hacı Mehmet Uçar İlkokulu	62	40,246919	32,228433
Yeşilköy İlkokulu	9	39,148291	32,750675
12 Eylül İlkokulu	207	39,435548	32,497032
Şehit İsmail Benli İlkokulu	40	39,204571	32,743174
Atatürk İlkokulu	113	39,435481	32,501436
İstiklal İlkokulu	159	39,434241	32,49552
Kerpiç İlkokulu	66	39,068851	32,578944
Katrancı İlkokul	9	39,278871	32,550799
Alahacılı İlkokulu	40	39,000089	32,43514
Tepeköy İlkokulu	23	39,081873	32,502192
Emirler Kesikkavak İlkokulu	59	39,051386	32,343198
Karapınar İlkokulu	11	39,303817	32,404011
Çaldağ İlkokulu	188	39,43225	32,496609
Bumsuz İlkokulu	15	39,169625	32,687336
Balçıkhisar İlkokulu	22	39,264112	32,764629
Bahçecik İlkokulu	22	39,260089	32,444207
Evliyafakı İlkokulu	5	39,309645	32,350265
Yenice İlkokulu	72	39,275242	32,679264
Catak İlkokulu	20	39,00798	32,476811
Ataköy İlkokulu	39	39,275028	32,51731
Sinanlı İlkokulu	31	39,170949	32,624269
DEMİRÖZÜ İLKOKULU	8	39,260581	32,365151
KUTLUHAN İLKOKULU	23	39,202184	32,688251
Atatürk İlkokulu	1547	40,203383	32,672508
Gazi İlkokulu	782	40,201162	32,670935
İbrahim Bitik İlkokulu	592	40,231214	32,683827
Hamdiye Unlu ilkokulu	406	40,195426	32,693219
İmrendi İlkokulu	54	40,134328	32,667399
Şehit Alper Kocaman İlkokulu	473	40,086996	32,551206
Hasayaz İlkokulu	33	40,238519	33,336144
Dumrupınar İlkokulu	123	40,092466	33,41437
Cumhuriyet İlkokulu	141	40,099008	33,409479
Ahiler İlkokulu	154	40,10633	33,414721

Çandır İlkokulu	71	40,257662	33,467153
Eskiköy İlkokulu	23	40,130112	33,304268
Gölköy İlkokulu	14	40,085248	33,33986
Karahoyuk İlkokulu	13	40,197653	33,336555
Degirmenkaya İlkokulu	18	40,227782	33,340406
19 Mayıs İlkokulu	826	39,983734	32,829892
29 Ekim İlkokulu	502	39,973111	32,880438
Ankara Ticaret Odası İlkokulu	814	40,010746	32,8673
Keçiören Şehit Fırat Bulut İlkokulu	1695	40,0065	32,84733
Barışyolu İlkokulu	588	39,98271	32,840562
Çizmeci İlkokulu	1984	40,000149	32,863297
Dumlupınar İlkokulu	648	39,98899	32,850193
Faik Erbağı İlkokulu	894	39,982336	32,849486
Fevziathloğlu İlkokulu	1030	39,988167	32,864006
Hayri Erişen İlkokulu	658	39,994565	32,813976
Karacaoğlan İlkokulu	796	39,986796	32,891127
Kocatepe İlkokulu	822	39,977441	32,857788
Mehmet Akif İlkokulu	708	39,969703	32,868543
Melek Özen İlkokulu	1430	39,997522	32,887276
Necip Fazıl İlkokulu	1205	40,014277	32,870539
Nuh Eskiyan İlkokulu	765	39,985877	32,871593
Orhangazi İlkokulu	1160	40,015054	32,850433
Önder Ata İlkokulu	747	39,994728	32,895094
Paşalı Necati İlkokulu	585	40,006428	32,869129
Satuk Buğra İlkokulu	851	39,984607	32,816817
Şehit Hakan Kabil İlkokulu	656	39,977177	32,821931
Şehit Mehmet Altanlar İlkokulu	670	39,974839	32,848051
Şenlik İlkokulu	1347	39,994721	32,870138
Şinasi İlkokulu	2149	39,992877	32,831553
Talia Yaşar Bakdur İlkokulu	790	39,977714	32,838138
Talip Yener İlkokulu	359	39,986017	32,823375
Tevfik Ünsal İlkokulu	1019	39,995078	32,82098
Ufuktepe İlkokulu	1047	40,009702	32,854573
Ulviye Fenmen İlkokulu	141	39,962252	32,857771
Yalçın Eskiyan İlkokulu	950	39,970216	32,840055
Sancaktepe İlkokulu	550	40,001856	32,80393
Hacı Mustafa Tarman İlkokulu	1219	39,971285	32,827736
Keçiören Şehit Fatih Erdoğan İlkokulu	584	39,975168	32,821965
Vildan Nurettin Demirer İlkokulu	1703	40,035084	32,851277
İbrahim Akoğlu İlkokulu	2526	40,019745	32,863597
Şehit Ahmet Kabukçu İlkokulu	1608	39,9863	32,879844
Türkiye Sağlık İşçileri Sendikası İlkokulu	734	39,969629	32,859596
Mehmet Örucü İlkokulu	660	40,026931	32,860796
İhsan-Selatın Aras İlkokulu	1357	39,996876	32,879763

Danişment Çiçekli İlkokulu	608	39,983711	32,855246
Mecidiye İlkokulu	1190	39,9791	32,87681
Toygar Börekçi İlkokulu	1 ??	39,970825	32,872573
Şehit Hüseyin Köksal İlkokulu	474	40,013999	32,893243
Osman Hamdibey İlkokulu	1162	40,006729	32,86436
Osmangazi İlkokulu	643	39,997988	32,85206
Gazi Ahmet Muhtar Paşa İlkokulu	569	40,00617	32,80274
Keçiören Yunus Emre İlkokulu	784	39,993168	32,848445
İbn-i Sina İlkokulu	1760	39,9806	32,827004
Nebahat Taşkın İlkokulu	584	40,004599	32,887645
Halide Ömer Uncuoğlu İlkokulu	1006	40,003804	32,876962
İbni Haldun İlkokulu	740	39,988035	32,84279
Halit Fahri Ozansoy İlkokulu	1084	39,997384	32,843734
Bağlum İlkokulu	1411	40,049569	32,836718
Kalaba İlkokulu	777	39,975444	32,865769
Şehit Kubilay İlkokulu	679	39,998755	32,810506
Keçiören İlkokulu	849	39,993513	32,855636
Mehmet Emin Yurdakul İlkokulu	828	40,004573	32,882723
Hacı Ayşe İlik İlkokulu	1071	39,991179	32,802003
Keçiören Mevlana İlkokulu	1661	40,003733	32,837625
Cumhuriyet ilkokulu	94	40,467187	32,649329
Perihan Erdogan İlkokulu	151	40,470516	32,650231
Akdoğan İlkokulu	17	40,399279	32,67835
Çağatay İlkokulu	192	40,473403	32,651115
Güvem İlkokulu	29	40,590719	32,659317
Çeltikçi İlkokulu	41	40,326095	32,450343
Şafaktepe İlkokulu	354	39,937864	32,889524
LALAHAN SERDAR TOSUN İLKOKULU	161	39,96602	33,107213
75. Yıl İlkokulu	1256	39,919415	32,897223
Ayşe-Zeki Sayan İlkokulu	593	39,927672	32,89486
Büyükşehir Anfa İlkokulu	62	39,927964	32,941237
Emine Taşkent İlkokulu	420	39,913192	32,934606
Çocuk Sevenler İlkokulu	1888	39,962161	32,949437
Fatma Tarman İlkokulu	54	39,921357	32,92466
Kazım Karabekir İlkokulu	141	39,913799	32,972696
Mehmet Rıfat Börekçi İlkokulu	1408	39,962154	32,962903
Piri Reis İlkokulu	501	39,93743	32,909362
Şehit Cihan Yıldız İlkokulu	630	39,928716	32,914703
Tepecik Dostlar İlkokulu	131	39,921387	32,948315
Toki İlkokulu	526	39,941699	32,902995
Zafer İlkokulu	214	39,931763	32,918899
TUZLUÇAYIR İLKOKULU	757	39,925143	32,907142
KIBRİSKOYU İLKOKULU	142	39,87737	33,001004
Çiğiltepe İlkokulu	461	39,952593	32,911157

Oğuz Kaan İlkokulu	442	39,919819	32,885766
ŞEHİT ÖĞRETMEN NESRİN ÜNÜGÜR İLKOKULU	252	39,94973	32,898495
Gökçeyurt Yibitaş İlkokulu	59	39,951473	33,042319
ALPER TUNGA İLKOKULU	538	39,888485	32,988445
Ortaköy İlkokulu	25	39,931595	33,021183
Boğaziçi İlkokulu	669	39,914277	32,929765
Hamdi Bulurlu İlkokulu	357	39,91204	32,884665
Naşide Halil Gelendost İlkokulu	665	39,91455	32,923304
Saimedanın İlkokulu	253	39,932585	32,896975
Mehmetçik İlkokulu	320	39,944994	32,900125
Yenimutlu İlkokulu	1109	39,911471	32,899731
Barbaros Hayreddin Paşa İlkokulu	34	39,927523	32,957331
Ege İlkokulu	812	39,905599	32,927876
Metehan İlkokulu	262	39,898277	32,909009
Gülveren İlkokulu	605	39,94228	32,895014
Demirlibahçe İlkokulu	628	39,935213	32,880606
Şehit Teğmen Ertuğrul Pilatin İlkokulu	263	39,916709	32,939623
Gazeteci Hasan Tahsin İlkokulu	1442	39,908441	32,976866
Hurin Yavuzalp İlkokulu	551	39,916923	32,907989
SIDIKA HATUN İLKOKULU	54	39,924386	32,958018
Nedim İnal İlkokulu	1387	39,906021	32,964811
Ahmet Hızal İlkokulu	460	39,925186	32,886145
Misket İlkokulu	601	39,924315	32,917092
Abidinpaşa İlkokulu	634	39,928522	32,888234
Kazım Orbay İlkokulu	1100	39,917287	32,895113
ERGENEKON İLKOKULU	895	39,899216	32,930914
Şair Nedim İlkokulu	1437	39,969278	32,961748
Refet Bele İlkokulu	84	39,922865	32,941551
Ali Kuşçu ilkokulu	1551	39,910626	32,911064
Büyükelçi Nazım Belger İlkokulu	809	39,931472	32,890407
Emine Rasim Özkaya İlkokul	602	39,935742	32,898141
Lalahan İlkokulu	147	39,975739	33,115552
Köşklüdere İlkokulu	143	39,911359	32,971363
Açıkalin İlkokulu	849	39,910736	32,918608
KAYAŞ İLKOKULU	346	39,914192	32,967365
Vehbi Dinçerler İlkokulu	580	39,907544	32,950333
Mehmet Yetkin İlkokulu	603	39,904843	32,981897
Süleyman Nazif İlkokulu	758	39,921778	32,908881
Cengizhan İlkokulu	554	39,910143	32,888803
Athioğlu İlkokulu	760	39,910712	32,955875
Oruç Reis İlkokulu	369	39,901003	33,030679
Şh.Py.Er Murat Eroğlu İlkokulu	863	39,9061	32,93319
Zeki Tartaç İlkokulu	43	39,928361	32,998907

Fatih Sultan Mehmet İlkokulu	678	39,940764	32,918252
Türkoğlu İlkokulu	400	39,920195	32,919224
Korgeneral Ömer Keçecigil İlkokulu	123	39,917733	32,952636
Ahmet KABAKLI İlkokulu	346	39,851925	32,968569
Kınık Şehit Murat Yatarkalkmaz İlkokulu	775	39,899509	32,92381
Şehit Arslan Kulaksız İlkokulu	316	39,948233	32,891811
SELÇUKLU İLKOKULU	970	39,907531	32,904549
KUSUNLAR İLKOKULU	104	39,889994	32,972703
Çayırhan Gazi Mete Okuducu İlkokulu	366	40,094209	31,66504
Çayırhan Cumhuriyet İlkokulu	418	40,098832	31,672137
Tuğrulbey İlkokulu	139	40,189107	31,340513
Dumlupınar İlkokulu	113	40,189568	31,357974
Nasuhpaşa İlkokulu	296	40,186081	31,348222
Bedriye Halil Naci Mihciroğlu İlkokulu	613	39,98396	32,900362
Beylikköprü Şh.Yzb.Nazmi Elmas İlkokulu	62	39,600736	31,952502
Karahamzalı İlkokulu	101	39,445295	32,124749
Sakarya İlkokulu	670	39,580597	32,143078
Şehit Yaşar Çetinkaya İlkokulu	173	39,549309	32,22109
Yavuz Selim İlkokulu	401	39,570012	32,137957
SAKARYA İLKOKULU	711	39,580589	32,143068
Sevim Aras İlkokulu	848	39,584416	32,122508
İnkılap İlkokulu	1098	39,577368	32,136565
Poyraz İlkokulu	39	39,718685	32,287651
Cumhuriyet İlkokulu	320	39,593689	32,138939
İnönü İlkokulu	285	39,57757	32,15212
Mehmet Akif Ersoy İlkokulu	83	39,598666	32,151808
Atatürk İlkokulu	1159	39,586438	32,141442
Tarım İşletmesi İlkokulu	72	39,155543	32,131179
İMKB İlkokulu	371	39,561775	32,14659
Hikmet Uluğbay İlkokulu	42	39,723991	32,097218
Yenimehmetli İlkokulu	13	39,421715	32,167173
Inler İlkokulu	21	39,26816	32,250858
Uzunbey İlkokulu	56	39,087082	32,001251
Sarıoba İlkokulu	10	39,869832	32,081526
Karaahmet İlkokulu	8	39,818949	32,158576
Adatoprakpınar İlkokulu	10	39,133572	32,0075
Çanakçı İlkokulu	10	39,444287	32,080548
Karapınar İlkokulu	18	39,621781	32,17514
Ömerler İlkokulu	1	39,764242	31,834911
Sinanlı İlkokulu	1	39,117038	32,011618
Sıhahmetli İlkokulu	1	39,095626	32,235785
Yuzukbası İlkokulu	15	39,003857	32,048685
Polatlı Şehit Abdullah Erkmen İlkokulu	262	39,577988	32,125776
Basri İlkokulu	35	39,605804	32,124608

POLATLI ŞEHİTLİK İLKOKULU	260	39,581964	32,134058
15 TEMMUZ DEMOKRASİ ŞEHİTLERİ İLKOKULU	572	39,574238	32,119745
Altınova İlkokulu	323	40,068318	32,969357
Ayyıldız İlkokulu	750	40,027581	32,891287
Faik Hızıroğlu İlkokulu	536	40,031458	32,880561
Hakan Akbıyık İlkokulu	945	40,040486	32,887351
Pursaklar Satı Öztürk İlkokulu	1009	40,035492	32,892718
Sirkeli İlkokulu	94	40,141018	32,846584
Azmi Ertuğrul İlkokulu	2034	40,042781	32,902121
Ülker İlkokulu	1528	40,035614	32,901558
Saray İlkokulu	2056	40,071589	32,92103
Gümüşoluk İlkokulu	118	40,085125	32,927981
ŞEHİT FURKAN DOĞAN İLKOKULU	621	40,044062	32,883085
Nedred Arif İlkokulu	548	39,97758	32,600009
Şehit Evren Ayyarkın İlkokulu	135	40,021891	32,498449
Beyhan Elbir İlkokulu	1334	39,953694	32,589426
Gaziosmanpaşa İlkokulu	537	39,984115	32,580911
Korkut Ata İlkokulu	853	39,949449	32,579184
Sincan İlkokulu	1749	39,953129	32,598613
BURAK REİS İLKOKULU	797	39,950734	32,573258
Özkent Akbilek İlkokulu	878	39,953155	32,578742
Atatürk İlkokulu	602	39,990229	32,584074
Ulubatlı Hasan İlkokulu	475	39,992868	32,596725
Mareşal Fevzi Çakmak İlkokulu	1293	39,957672	32,591819
Türkoğlu İlkokulu	327	39,727776	32,349179
Sincan İMKB İlkokulu	977	39,946438	32,591829
Beyobası İlkokulu	33	39,653016	32,340176
Fatih İlkokulu	404	39,994337	32,593386
Osman Ünyazıcı İlkokulu	791	39,990222	32,576867
Mehmet Akif Ersoy İlkokulu	1840	39,965118	32,598546
Bucuk İlkokulu	1248	40,008023	32,513479
Yenikent İksan İlkokulu	1448	40,012012	32,531442
Melikşah İlkokulu	519	39,994024	32,582493
Çökören Satılmış Yılmaz İlkokulu	54	39,659651	32,439877
Tuna Üçer İlkokulu	613	39,953837	32,552515
Yenikent İlkokulu	1720	40,00382	32,522321
Sincan İl Genel Meclisi İlkokulu	1758	39,943589	32,575562
Kazım Karabekir İlkokulu	975	39,960082	32,594761
Ahi Evran İlkokulu	1046	39,97253	32,57529
Cemal Yüksel İlkokulu	1866	39,959335	32,559974
Sincan Akşemsettin İlkokulu	1670	39,967845	32,590557
Altınordu Layika Akbilek İlkokulu	1343	39,972027	32,582772
Adnan Menderes İlkokulu	682	39,988222	32,590603

Koç İlkokulu	944	39,945351	32,589851
İMKB Sincan Kayalıboğaz İlkokulu	2501	39,95183	32,565412
Yılmaz Balaban İşitme Engelliler İlkokulu	36	39,993774	32,577202
Temelli Toki İlkokulu	196	39,701757	32,358078
Taylan Araslı İlkokulu	1545	39,962856	32,575808
Mehmet-Sündüs İçli İlkokulu	936	39,991124	32,557976
MALİKÖY ELEKTRİK SANTRALI İLKOKULU	0	39,782558	32,390244
BUCUK ORTAOKULU	1088	40,007723	32,513603
DR YILDIZ YALÇINLAR İLKOKULU	37	39,936148	32,588716
ÇOĞLU VURAL BAYLAN İLKOKULU	470	40,016342	32,538838
ALİ ÜNYAZICI İLKOKULU	0	39,971294	32,55963
YAVUZ SULTAN SELİM İLKOKULU	751	40,006897	32,527296
Emek İlkokulu	149	38,925632	33,545291
Fatih İlkokulu	43	38,949526	33,53494
Mehmetçik İlkokulu	35	38,944542	33,541954
Mustafa Üstündağ İlkokulu	179	38,934655	33,52995
Mustafacık İlkokulu	60	38,928032	33,559856
Tuzgölü İlkokulu	267	38,940484	33,541155
Zafer İlkokulu	640	38,935167	33,543899
Atatürk İlkokulu	86	38,935815	33,550901
Akın İlkokulu	29	39,12583	33,25955
GÜLHÜYÜK İLKOKULU	16	39,094751	33,56293
ŞEHİT VOLKAN ALICI İLKOKULU	41	38,940434	33,53585
ŞEREFLİKOÇHİSAR TOKİ İLKOKULU	158	38,9444	33,541887
SANLIKISLA İLKOKULU	9	39,162291	33,451666
Atakent İlkokulu	556	39,955187	32,796099
KAYALAR İLKOKULU	570	39,980737	32,794391
Yahyalar Durali Bezci İlkokulu	647	39,982152	32,776761
Kürşad Bey İlkokulu	532	39,975222	32,70154
Onuncu Yıl İlkokulu	107	39,939132	32,799261
Abdi İpekçi İlkokulu	642	39,968488	32,794447
Afşin Bey İlkokulu	272	39,964486	32,733967
Anadolu İlkokulu	698	39,971203	32,795903
Aselsan İlkokulu	168	39,962542	32,759629
Ayşe Tokur İlkokulu	685	39,976151	32,797118
Barbaros İlkokulu	680	39,965509	32,815013
Celayir İlkokulu	344	39,972046	32,790401
Emin Sağlamer İlkokulu	1198	39,965838	32,787286
Ergazi Şehit Adil Yurtoğlu İlkokulu	553	39,95559	32,714144
Faruk Verimer İlkokulu	486	39,979413	32,807065
Fatih İlkokulu	624	39,966749	32,806654
İsmet Kurtuluş İlkokulu	797	40,041386	32,765511
İstiklal İlkokulu	414	39,96865	32,704177

Kent Koop İlkokulu	905	39,964902	32,726795
Mitat Enç Görme Engelliler İlkokulu	18	39,942285	32,820491
Müjgan Karaçalı İlkokulu	349	39,968496	32,69889
Nasrettin Hoca İlkokulu	644	39,955901	32,80194
Orhangazi İlkokulu	383	39,949463	32,778521
Susuz Şehit Tamer Kılıç İlkokulu	78	40,018899	32,651706
Şehit Mahmut Özdemir İlkokulu	1427	39,987941	32,797862
Şehit İbrahim Çoban İlkokulu	863	39,985567	32,760769
Türkan Azmi Köksoy İlkokulu	291	39,96302	32,693832
Yahya Çavuş İlkokulu	606	39,975634	32,726355
Zehra Önder İlkokulu	620	39,971898	32,804712
Ziya Gökalp İlkokulu	439	39,958379	32,829743
Gazi Osman Paşa İlkokulu	179	39,958948	32,815882
Mehmet Akif Ersoy İlkokulu	783	39,977248	32,8106
Harzemşahlar İlkokulu	272	39,954499	32,785479
Necmi Şahin İlkokulu	628	39,977124	32,689812
Haydar Aliyev İlkokulu	655	39,95977	32,735676
Orhan Cemal Fersoy İlkokulu	759	39,966284	32,773853
İsmail Erez İlkokulu	1020	39,959028	32,793706
Ostim İlkokulu	680	39,984294	32,74991
Sofuoğlu İlkokulu	304	39,927004	32,81299
Şehit Yunus Emre Duran İlkokulu	494	39,984964	32,793643
Refika Aksoy İlkokulu	970	39,973431	32,721456
Yuva İlkokulu	9	40,020057	32,726584
Ali Rıza Bey İlkokulu	0	39,969778	32,774182
Şehit Yavuz Başayar İlkokulu	985	39,972562	32,780145
Şehit Savaş Bıyıklı İlkokulu	529	40,034628	32,793881
Dede Korkut İlkokulu	404	39,988838	32,789728
Mehmet Akif İnan İlkokulu	1401	39,993977	32,692918
Memlik İlkokulu	62	40,064578	32,749577
Şehit Mehmet Bora Tayfur İlkokulu	420	39,944381	32,818941
Oğuzlar İlkokulu	736	39,970746	32,787407
Hacı Bektaş - 1 Veli İlkokulu	906	39,987985	32,719595
Batıkent Orhan Eren İlkokulu	612	39,953355	32,720147
Şehit Aytaç Usta İlkokulu	938	39,995034	32,790087
Yunus Emre İlkokulu	392	39,969427	32,811852
MÜRÜVET-BEKİR ELMAĞAÇLI İLKOKULU	539	39,980054	32,786583
Osmaniye İlkokulu	65	39,845493	30,91391
Sakarıkaraçören Şehit Zeynel Gülgen İlkokulu	26	40,030209	30,93294
Atatürk İlkokulu	128	39,771157	30,96093
Bozan Bey İlkokulu	129	39,791855	31,0958
Atatürk İlkokulu	63	39,771742	30,96013
Mehmet Avdan İlkokulu	104	39,69282	31,20464

Yeniyurt İlkokulu	48	39,72434	31,31726
Cengiz Dağcı İlkokulu	61	39,254795	31,25454
17 Eylül İlkokulu	83	39,383008	31,02884
Sakarya İlkokulu	153	39,36707	31,04201
Zaferhamit İlkokulu	12	39,802507	30,51082
Eminekin İlkokulu	9	39,802696	30,51104
Şehit Özcan Karabacak İlkokulu	110	39,376646	31,03422
Körhasan İlkokulu	27	39,381661	31,19408
Gazi İlkokulu	224	39,786549	30,52673
Şehit Mücahit Top İlkokulu	109	39,386442	31,81165
Şehit Melih Özcan İlkokulu	48	39,329578	31,82816
Kayakent Cumhuriyet İlkokulu	39	39,304771	31,80299
Kavuncu İlkokulu	6	39,400852	31,93005
Şehit Osman Gazi Altınoluk İlkokulu	55	39,159877	30,86256
Oklubalı Sabri Kahvecioğlu İlkokulu	65	39,817128	30,25254
Şehit Ali İhsan Aydın İlkokulu	203	39,815932	30,14253
İsmet Paşa İlkokulu	120	39,790771	30,54426
Mevlüt Sıdık Gündoğan İlkokulu	50	39,416277	30,88775
Necatibey İlkokulu	144	39,503766	30,97864
Mihalgazi İlkokulu	66	40,027746	30,5716
Alpagut İlkokulu	40	40,014883	30,50233
Yunusemre İlkokulu	26	39,76699	30,52535
Hürriyet İlkokulu	180	39,790257	30,52039
24 Kasım İlkokulu	781	39,745756	30,56983
Ağapınar İlkokulu	49	39,802947	30,77035
Dr, Safa Halaç Özel Eğitim İlkokulu	27	39,739627	30,52819
Mareşal Fevzi Çakmak İlkokulu	622	39,755665	30,55053
Mehmet Ali Yasin İlkokulu	931	39,763443	30,54783
Metin Sönmez İlkokulu	398	39,714639	30,61867
Milli Zafer İlkokulu	1340	39,766879	30,51404
Osmangazi İlkokulu	384	39,770713	30,49156
Yunusemre İlkokulu	308	39,766981	30,52538
Zübeyde Hanım İlkokulu	172	39,748689	30,54777
Erdal Abacı İlkokulu	63	39,756714	30,5829
Hacı Feride Koruyucu İlkokulu	288	39,708883	30,61491
Meserret İnel İlkokulu	945	39,768166	30,4973
Süleyman Havva Kamışlı İlkokulu	345	39,751533	30,51126
Şehit Yalçın Baykuş İlkokulu	466	39,739498	30,54603
Şehit Onur İkhhan İlkokulu	630	39,751389	30,53522
Kurtuluş İlkokulu	243	39,76351	30,5317
Adalet İlkokulu	705	39,768909	30,51999
Ahmet Hamdi Bayraktar İlkokulu	518	39,742704	30,53714
Şeker İlkokulu	693	39,771514	30,54263
Sevinç Behiç Akaydın İlkokulu	106	39,781838	30,68893

Yıldırım Beyazıt İlkokulu	956	39,756441	30,56794
Şehit Yusuf Tuna Güzey İlkokulu	1065	39,7685	30,5515
Cengiz Topel İlkokulu	371	39,760551	30,51797
Eti Maden İşletmeleri İlkokulu	460	39,743033	30,59259
İlhan Ünügür İlkokulu	637	39,749662	30,58191
Vali Sami Sönmez İlkokulu	549	39,764145	30,57346
Kılıçarslan İlkokulu	547	39,755071	30,50013
Halil Yasin İlkokulu	633	39,760325	30,51054
Sücaaddin Veli İlkokulu	222	39,746271	30,51079
İbrahim Karaoğlanoğlu İlkokulu	1016	39,770481	30,5286
İsmet İnönü İlkokulu	355	39,74169	30,55697
Şehit Mehmet Taş İlkokulu	293	39,749415	30,45967
Vali Münir Raif Güney İlkokulu	665	39,752273	30,51588
Kireç Sedat Buhuma İlkokulu	70	39,76911	30,78974
Aziz Bolel İlkokulu	118	39,75374	30,46703
23 Nisan İlkokulu	281	39,748871	30,50357
Türkmentokat İlkokulu	21	39,677361	30,78052
Vali Ali Fuat Güven İlkokulu	781	39,749791	30,55944
Fatih İlkokulu	112	39,384282	31,04306
Kırka Atatürk İlkokulu	217	39,279183	30,52859
Şehit Mustafa Akbaş İlkokulu	195	39,447414	30,69501
Doğançayır 70, Yıl İlkokulu	14	39,534607	30,82836
Şehit Ekrem Saygı İlkokulu	40	39,21098	30,60723
Cevizli İlkokulu	40	39,365151	30,73697
İlören İlkokulu	22	39,662387	31,77831
Hasan Karacalar İlkokulu	280	39,442386	31,53196
Cumhuriyet İlkokulu	112	39,450296	31,52748
Ertuğrul Yavuz Gülerce İlkokulu	56	39,285171	31,58895
Dümrek İlkokulu	64	39,582168	31,55266
Kaymaz İlkokulu	89	39,773014	30,53041
Hızırbey İlkokulu	144	39,436307	31,52409
NASRETTİN HOCA İLKOKULU	26	39,751708	30,53046
Ahmet Yesevi İşitme Engelliler İlkokulu	23	39,778469	30,4648
Barbaros İlkokulu	1131	39,787449	30,48774
Cumhuriyet İlkokulu	405	39,776766	30,52148
Gündüzler İlkokulu	121	39,885797	30,78909
Mithat Paşa İlkokulu	465	39,784041	30,51549
Ziya Gökalp İlkokulu	428	39,799299	30,50748
Ertuğrulgazi İlkokulu	95	39,777572	30,48605
İsmet Paşa İlkokulu	323	39,790788	30,54425
Pilot Binbaşı Ali Tekin İlkokulu	836	39,7768	30,52861
Satılmışoğlu Şükrü Sever İlkokulu	57	39,810292	30,348
TOKİ Şehit Emre Bolat İlkokulu	315	39,820039	30,44397
Suzan Gürcanlı İlkokulu	635	39,782131	30,52574

Yarbay Mehmet Yaşar Gülle İlkokulu	351	39,794434	30,47089
Reşat Benli İlkokulu	704	39,770129	30,46851
Muttalip Atatürk İlkokulu	247	39,78098	30,51546
75.Yıl Özel İdare İlkokulu	439	39,77687	30,4521
Ülkü İlkokulu	883	39,786312	30,51021
Çukurhisar İlkokulu	216	39,827766	30,32518
Mualla Zeyrek İlkokulu	517	39,776382	30,47789
Yavuz Selim İlkokulu	430	39,793547	30,52647
Şehit Mustafa Türker İlkokulu	611	39,800132	30,49555
Ticaret Borsası İlkokulu	1001	39,791346	30,45131
Korgeneral Lütfü Akdemir İlkokulu	298	39,803425	30,5086
Tepebaşı Sekiören İlkokulu	35	39,766642	30,52692
Dumrupınar İlkokulu	900	39,779698	30,51086
Kızılcacören İlkokulu	51	39,872406	30,76214
Çamlıca Ticaret Odası İlkokulu	464	39,778881	30,46439
Ali Rıza Efendi İlkokulu	192	39,793008	30,55181
Hürriyet İlkokulu	1180	39,79027	30,52045
Cevat Ünügür İlkokulu	630	39,780755	30,45428
Ahmet Olcay İlkokulu	387	39,792603	30,47934
Cahit Kural İlkokulu	419	39,788175	30,46017
Kozkayı İlkokulu	18	39,880551	30,49624
Avukat Şahap Demirer İlkokulu	695	39,797023	30,48917
Avukat Mail Büyükerman İlkokulu	535	39,787916	30,46883
İstiklal İlkokulu	232	39,786183	30,48193
MİLLİ İRADE İLKOKULU	379	39,820638	30,54102
Atkaracalar Cumhuriyet İlkokulu	121	40,810523	33,076277
Çardaklı İlkokulu	38	40,808896	33,118845
Bayramören Nevzat Ayaz İlkokulu	50	40,944589	33,199012
Çerkeş Atatürk İlkokulu	215	40,80855	32,8959
Çerkeş Toki İlkokulu	80	40,826319	32,877068
Çerkeş Gaziosmanpaşa İlkokulu	97	40,822624	32,89479
Eldivan 100.Yıl İlkokulu	129	40,528963	33,499954
Ilgaz Atatürk İlkokulu	258	40,925074	33,62835
Ilgaz Yavuz Sultan Selim İlkokulu	103	40,930537	33,62197
Kızılırmak Şehit Remzi Aslan İlkokulu	185	40,347465	33,987151
Hacılar İlkokulu	9	40,34168	33,873962
TIMARLI İLKOKULU	21	40,339746	33,947122
KARALLI İLKOKULU	10	40,347937	33,993077
Korgun İlkokulu	132	40,733459	33,514995
Kurşunlu Şehit Ekrem Aygen İlkokulu	147	40,842858	33,259825
Kurşunlu Tefvik Fikret İlkokulu	100	40,842914	33,259771
Kurşunlu Şehit Teğmen Korhan Kuruçay İlkokulu	95	40,842971	33,258569
Cumhuriyet İlkokulu	141	40,810556	33,076302

Dr.Refik Saydam İlkokulu	888	40,596294	33,623871
Orgeneral İsmail Hakkı Karadayı İlkokulu	357	40,602985	33,632302
Ünür Şehit İlyas Aldağ İlkokulu	79	40,588883	34,008227
Adnan Menderes İlkokulu	250	40,596228	33,605947
M.K.E.Tophane İlkokulu	59	40,61497	33,63795
Karadayı İlkokulu	30	40,60301	33,632366
Güneş İlkokulu	1169	40,598536	33,615334
Mehmetçik İlkokulu	647	40,592125	33,616165
İlker Tuncay İlkokulu	705	40,602997	33,604981
Akçavakıf İlkokulu	10	40,694864	33,563573
Ovacık Şehit Necdet Demirel İlkokulu	18	40,547781	33,849007
Hazım Dağlı İlkokulu	346	40,592309	33,605547
Atatürk İlkokulu	219	40,925065	33,62835
Çatalelma İlkokulu	16	40,325322	33,753277
Karatekin İlkokulu	244	40,60873	33,609881
Çankırı Toki İlkokulu	123	40,650732	33,682709
Mareşal Çakmak İlkokulu	105	40,620186	33,607357
Hasakça İlkokulu	20	40,662995	33,767674
Tüney Şehit Mehmet Demir İlkokulu	58	40,358028	33,525685
Kalfat İlkokulu	21	40,628977	33,104276
Yaylakent İlkokulu	61	40,590438	33,096118
Dodurga İlkokulu	12	39,80238	29,917695
Şabanözü Şehitler İlkokulu	486	40,478664	33,282333
Büyükakalı İlkokulu	24	40,484792	33,208303
Gümerdiğin İlkokulu	75	40,442394	33,254669
Yapraklı İlkokulu	99	40,755124	33,778621
YUKARIÖZ İLKOKULU	43	40,812019	33,841401
Atatürk İlkokulu	157	39,672171	33,613467
Karaahmetli İlkokulu	13	39,66266	33,415835
Barbaros İlkokulu	161	39,811089	33,466861
Şehit Sezai Ergül İlkokulu	206	39,911677	33,721153
Kulaksız Şehit Doğan Yerlikaya İlkokulu	46	40,003207	33,724469
Yeniyapan İlkokulu	31	39,479284	33,421216
Çelebi İlkokulu	30	39,468695	33,528575
Çerikli Atatürk İlkokulu	119	39,896584	33,999931
Cumhuriyet İlkokulu	125	39,83558	33,54986
Karakeçili İlkokulu	206	39,594148	33,379607
Atatürk İlkokulu	222	39,841567	33,501286
Ceritmüminli İlkokulu	28	39,676569	33,620571
Bilge Kaan İlkokulu	107	39,668845	33,606974
Köprü İlkokulu	13	39,673021	33,613482
Çalış İlkokulu	32	39,666283	33,555789
Mehmet Arifoğlu İlkokulu	100	39,678072	33,622503
Konur Danacıobası İlkokulu	7	39,676586	33,620571

Konur İlkokulu	97	39,677585	33,617685
Şehit Cezayir Çalışkan İlkokulu	87	39,852533	33,614723
Cumhuriyet ilkokulu	148	39,835555	33,549828
Çullu İlkokulu	44	39,847277	33,515079
Gürler Şehit Mustafa Sağlam İlkokulu	632	39,841685	33,512265
İsmail Üstüner İlkokulu	369	39,825799	33,519953
Mehmet Akif Ersoy İlkokulu	227	39,825099	33,53536
Şehit Ahmet Duman İlkokulu	503	39,854698	33,503094
Mustafa Necati İlkokulu	685	39,837025	33,49682
Tınaz İlkokulu	1148	39,846844	33,503046
Yunus Emre İlkokulu	325	39,855949	33,514942
İsmet Aydın İlkokulu	256	39,842746	33,525983
Evliya Çelebi İlkokulu	256	39,835591	33,530635
Geraldine Saran İlkokulu	195	39,860179	33,510533
Hasan Ali Yücel İlkokulu	280	39,861427	33,517264
Mehmet Ali Eren İlkokulu	293	39,833684	33,536784
Ahmet Sümer İlkokulu	396	39,846746	33,484933
Zübeyde Hanım İlkokulu	441	39,8539,3 6	33,522872
Şehit Ramazan Akçadağ İlkokulu	111	39,851628	33,532947
Türk Metal Mustafa Özbek İlkokulu	406	39,834481	33,489961
Kazmaca İlkokulu	13	40,052535	33,587013
Ahılı İlkokulu	33	39,80433	33,51614
Gazi İlkokulu	268	39,67875	33,610672
Şehitler İlkokulu	1115	39,846582	33,497289
Yüzüncü Yıl İlkokulu	231	39,842182	33,488391
İstiklal İlkokulu	725	39,846501	33,51188
Mustafa Kemal ilkokulu	257	39,830077	33,484819
Seher Vuslat Aytemiz İlkokulu	184	39,840,12 9	33,525323
Yavuz Selim İlkokulu	275	39,85678	33,493811
Hoca Ahmet Yesevi İlkokulu	58	39,86998	33,592402
Hasan Dede Orhan Demirhan İlkokulu	34	39,763416	33,513449
Gündoğdu Manas İlkokulu	270	39,843638	33,532939
ŞEHİT RAMAZAN BEKAR İLKOKULU	383	39,83640, 3	33,519391
KALE ŞEHİT FERHAT BOZKURT İLKOKULU	306	39,855736	33,510163
Güzelyurt Şehit İsa Nazlım İlkokulu	22	40,250019	33,846393
Namık Kemal İlkokulu	144	39,84840, 3	33,498814
TOKİ Şehit Piyade Onbaşı Murat Sıtkı İlkokulu	179	39,844537	33,466851
Yenişehir İlkokulu	125	39,867929	33,457719
TOKİ Şehit Jandarma Er Osman Öden İlkokulu	251	39,869061	33,472724

Irmak Atatürk İlkokulu	64	39,850378	33,453496
Şehit Osman Yıldırım İlkokulu	326	39,870685	33,475614
Şeyh Şamil İlkokulu	115	39,628288	34,09686
Dr. Bektaş Türkkani İlkokulu	157	39,447552	33,96566
Fatih Sultan Mehmet İlkokulu	115	39,447817	33,96806
Mehmetcik İlkokulu	138	39,276632	34,26313
Yenidoğanlı İlkokulu	49	39,306437	34,34712
İMKB Atatürk İlkokulu	130	39,603326	34,41903
Cumhuriyet İlkokulu	62	39,150447	34,16252
Köseli İlkokulu	114	39,65146	34,46012
Fatih Sultan Mehmet İlkokulu	29	39,62345	34,4709
Öğretmen Turgut Yılmaz İlkokulu	56	39,596533	34,31701
Osman Şevki İlkokulu	98	39,601404	34,41789
Alparslan İlkokulu	226	39,36645	33,72951
Çağırkan Hacı Meşhude Yılmaz İlkokulu	29	39,361493	33,90215
Fatih İlkokulu	101	39,362747	33,71948
İsahocalı Selamoğlu İlkokulu	34	39,420523	33,90092
Ömerhacılı Şehit Nurettin Aslan İlkokulu	59	39,295675	33,81868
Faik Güngör İlkokulu	580	39,359218	33,72166
Galip Demir İlkokulu	99	39,348093	33,73984
Vali Recep Yazıcıoğlu İlkokulu	130	39,367996	33,73694
Kurancılı Şehit Ayhan Keleş İlkokulu	97	39,331661	33,90159
Yavuz Selim İlkokulu	96	39,363949	33,71864
60.Yıl Şehit Hüsnü Önkal İlkokulu	242	39,369457	33,72479
Rıza Dikmen İlkokulu	173	39,06165	34,38394
Şehit Astsb.Sedat Mert Cumhuriyet İlkokulu	313	39,064077	34,38045
Kurugöl Mehmet Akif Ersoy İlkokulu	14	39,045469	34,44431
Kızıldağ Yeniapan İlkokulu	105	38,910362	34,28535
HACI DERVİŞ RASİM ÜNSAL İLKOKULU	116	39,061694	34,35676
Hüsnü M. Özyeğin İlkokulu	890	39,136981	34,1695
Kırşehir Merkez İlkokulu	89	39,163776	34,16112
Öğretmen Bedia-Köksal Güler İlkokulu	337	39,137433	34,17514
Öğretmen Ziya Kılıçözlü İlkokulu	227	39,149612	34,14467
Özbag Örcün İlkokulu	127	39,215425	34,14318
Zahide Zehra Garring İlkokulu	90	39,27966	34,07656
İMKB Zernişan-Vakkas İlkokulu	335	39,131001	34,16034
Gülşehri İlkokulu	99	39,133541	34,14151
Sıdıklı İlkokulu	65	39,138053	34,157
Ahi Evran İlkokulu	82	39,164227	34,14192
Şehit Dr.Ulucan Dayan İlkokulu	148	39,094244	34,16212
Hürriyet İlkokulu	171	39,144963	34,14031
Sırrı Kardeş İlkokulu	436	39,156393	34,1568
Yüceer İlkokulu	83	39,154862	34,15598
Cumhuriyet İlkokulu	835	39,150456	34,16248

İnönü İlkokulu	206	39,146673	34,15078
Aşıkpaşa İlkokulu	277	39,154759	34,16782
Necatibey İlkokulu	43	39,115444	34,15296
Süleyman Türkmani İlkokulu	826	39,14618	34,16554
24 Aralık Atatürk İlkokulu	187	39,12283	34,17239
Muzaffer Mermer İlkokulu	47	39,102266	34,2101
30 Ağustos Zafer İlkokulu	1109	39,148182	34,16929
Sebahat Osman Yalçınkaya İlkokulu	87	39,18072	34,16425
İMKB 23 Nisan İlkokulu	105	39,131799	34,19334
Muharrem Sayan İlkokulu	102	39,150479	34,16629
Prof.Dr.Erol Güngör İlkokulu	584	39,138766	34,15559
Yukarı Homurlu İlkokulu	44	39,14527	34,15921
Namık Kemal İlkokulu	52	39,155363	34,12728
Dulkadirli İlkokulu	34	39,512008	34,16304
Ahırlı Atatürk İlkokulu	83	37,238666	32,118149
Akkise Atatürk İlkokulu	121	37,365311	32,13236
Gazi Mustafa Kemal İlkokulu	185	37,45142	32,36596
Avdan İlkokulu	53	37,289969	32,302522
Alan İlkokulu	12	37,360426	32,404689
Karahüyük İlkokulu	20	37,401926	32,393011
Belkuyu İlkokulu	34	37,336309	32,422011
Çatören İlkokulu	23	37,527017	32,376732
ŞEHİT BAYRAM TEKİN İLKOKULU	32	37,452405	32,367903
Adsız Şehit Metin Çoban İlkokulu	114	38,372132	31,450193
Akşehir Altuntaş Atatürk İlkokulu	102	38,35999	31,413631
Engili Hasan Doğan İlkokulu	36	38,369467	31,408892
Karabulut İlkokulu	48	38,413269	31,465233
Nasreddin Hoca İlkokulu	585	38,36004	31,421563
Atakent İlkokulu	50	38,383828	31,383288
Cumhuriyet İlkokulu	657	38,367114	31,414311
Çakıllar İlkokulu	108	38,242323	31,531417
Çamlı Şehit Yaşar Soylu İlkokulu	61	38,26011	31,521818
Değirmenköy İlkokulu	22	38,451547	31,303328
Doğrugöz Şehit Turgut Makascı İlkokulu	204	38,36105	31,408873
Gazi Mustafa Kemal İlkokulu	104	38,355411	31,411712
Gedil İlkokulu	45	38,317242	31,494721
Gölçayır İlkokulu	31	38,463069	31,326677
Haydar Tuna İlkokulu	335	38,367619	31,430094
Şehit Astsubay Halis Kırımlı İlkokulu	106	38,359638	31,407941
Yazla Şehit Astsubay İbrahim Geçer İlkokulu	90	38,392572	31,542645
Beşkavak İlkokulu	70	38,373423	31,394647
Yıldırım İlkokulu	1038	38,361042	31,408894
Nihat Dayanık İlkokulu	312	38,352683	31,42468
Tarık Buğra İlkokulu	490	38,349871	31,421226

Savaş Şehit İsmail Kandemir İlkokulu	36	38,31969	31,444409
Yaylabeleden Gazi Mustafa Kemal Atatürk İlkokulu	20	38,2269	31,5511
Karahüyük Ali Akkanat İlkokulu	127	38,34647	31,516524
Ilıcak İlkokulu	55	38,290625	31,478389
Gözpınarı İlkokulu	10	38,355459	31,658943
Saray İlkokulu	23	38,400734	31,355589
Çakıllar Hürriyet İlkokulu	38	38,242357	31,531406
Yeşilköy Şehit Uzman Çavuş Ramazan Sağ İlkokulu	15	38,312716	31,602732
Hüseyin Tekiner İlkokulu	102	38,339955	31,426817
ORTAKÖY CUMHURİYET İLKOKULU	76	38,458538	31,511649
Süleyman Şah İlkokulu	104	38,399114	31,432192
Dedeler İlkokulu	135	38,331613	32,708802
Oğuzeli İlkokulu	151	38,346807	33,106147
Ölmez İlkokulu	18	38,270599	32,797944
Akıncılar İlkokulu	209	38,402874	32,889186
Cumhuriyet İlkokulu	183	38,307205	32,874656
Sarınc İlkokulu	26	38,240342	32,816511
Altınekin Şehit Ahmet Yılmaz İlkokulu	225	38,307908	32,864558
AKINCILAR FATİH İLKOKULU	95	38,402874	32,889186
KOÇYAKA İLKOKULU	13	38,241208	32,904179
Ali Rıza Celeboğlu İlkokulu	774	37,686731	31,726492
Bahçelievler Kasaboğlu İlkokulu	178	37,692059	31,719724
Gazi İlkokulu	444	37,6767	31,724674
Yeşildağ Şehit Şefik Ayaydın İlkokulu	77	37,541088	31,469812
Cumhuriyet İlkokulu	663	37,672348	31,721414
Yenidoğan İlkokulu	42	37,879121	31,860994
Ali Akkanat İlkokulu	194	37,671876	31,734265
Karaali Şehit Osman Karağlı İlkokulu	159	37,948405	31,823131
Doğanbey İlkokulu	75	37,802774	31,890145
Huğlu Fatih İlkokulu	130	37,474936	31,579956
Bayafşar İlkokulu	7	37,582192	31,799532
TOKİ İlkokulu	235	37,698986	31,742672
Çiçekler İlkokulu	31	37,646825	31,875479
Gölkaşı İlkokulu	10	37,747468	31,659798
Eğirler İlkokulu	32	37,741342	31,846779
Sadıkhacı İlkokulu	96	37,830377	31,72475
ŞEHİT OSMAN ÇINAR İLKOKULU	267	37,668103	31,735103
SEVİNDİK İLKOKULU	18	37,818755	31,78442
ÜÇPINAR İLKOKULU	76	37,818081	31,827681
Hisarlık İlkokulu	38	37,150456	32,346111
Vali Kemal Katıtaş İlkokulu	270	37,845002	32,560589
Soğucak Mustafa Yamaner İlkokulu	72	37,091043	32,280389

Yazdamı Ayşe-Veli Demiröz İlkokulu	10	37,135404	32,513865
Karayahya İlkokulu	10	37,236517	32,315378
Ayvalca İlkokulu	12	37,255068	32,492121
Söğüt İlkokulu	31	37,097638	32,328807
Kızılçakır İlkokulu	14	37,178843	32,575311
Kildere İlkokulu	28	37,242317	32,492432
Bozkır Armutlu Ayşe Veli Demiröz İlkokulu	39	37,13525	32,513757
Sorkun Köyü İlkokulu	21	37,144274	32,135241
Boyalı İlkokulu	40	38,768825	32,3692
Derviş Mustafa Öztunç İlkokulu	347	37,18906	32,236821
Kuzören İlkokulu	57	38,695283	31,752052
Bozkır Dereiçi İlkokulu	73	37,108073	32,370014
Hacılar İlkokulu	45	37,211585	32,368779
Hamzalar İlkokulu	60	37,109606	32,547173
Kınık İlkokulu	10	37,222743	32,397079
Kuşça İlkokulu	28	37,25266	32,3472
YELBEĞİ İLKOKULU	16	37,136434	32,421968
SARIOĞLAN İLKOKULU	73	37,208811	32,545661
Çölköy İlkokulu	92	38,998515	32,626998
Gölyazı Merkez İlkokulu	142	38,559786	33,200479
Günyüzü İlkokulu	154	38,517565	33,038985
Hodoğlu İlkokulu	90	38,541617	32,666479
İnsuyu İlkokulu	41	38,69837	32,767955
Kelhasan İlkokulu	29	38,908559	32,589082
Kırkışla Günay Kora İlkokulu	49	38,513842	32,850557
Kuşça İlkokulu	20	38,826821	32,684528
Merkez Atatürk İlkokulu	208	38,648036	32,936504
Seniha Belgin İlkokulu	234	38,661444	32,923813
Taşpınar Kavaklı İlkokulu	171	38,449667	33,062935
Vedat Kora İlkokulu	83	38,664986	32,91154
Yapalı Cihat Kora İlköğretim Okulu	130	38,532108	33,00457
Yeniceoba Cumhuriyet İlkokulu	205	38,870848	32,801455
Yeniceoba Mehmet Zeki Kart İlkokulu	101	38,869226	32,782672
Karşıyaka İlkokulu	188	38,650846	32,914309
Sağlık İlkokulu	50	38,767317	33,032089
Taşpınar Esentepe İlkokulu	81	38,425547	33,156253
Adnan Menderes İlkokulu	661	39,988255	32,590646
Büyükbeşkavak İlkokulu	97	38,952434	32,609347
Cimen İlkokulu	34	39,007009	32,545068
Cesmebası İlkokulu	26	38,478794	32,834417
100. Yıl İlkokulu	129	39,01465	31,789117
Fatih İlkokulu	85	39,026417	31,7927
İsakuşağı İlkokulu	25	38,943425	31,9441
Kaşören İlkokulu	12	39,085067	31,854

Küçükhasan İlkokulu	49	38,944768	31,824212
Merkez İlkokulu	96	39,019887	31,789557
Üçşehitler İlkokulu	96	38,948126	31,824771
Torunlar İlkokulu	31	39,096317	31,82069
Honamlı İlkokulu	105	39,057082	31,831405
Adakasım İlkokulu	18	38,957708	31,893643
Avdul İlkokulu	46	37,390543	32,752211
Karkın Atatürk İlkokulu	137	37,671275	32,881854
Türkmencamili İlkokulu	41	37,535425	32,918586
Büyükbaşlama İlkokulu	68	37,648094	33,134445
Adakale İlkokulu	14	37,512691	33,077414
Uzunkuyu İlkokulu	39	37,542184	33,141286
Fethiye İlkokulu	25	37,625825	32,752357
Abdullah Tenekeci İlkokulu	221	37,571431	32,757534
Saliha Onbaşı İlkokulu	290	37,563791	32,771122
Dedemoğlu İlkokulu	34	37,679431	32,76018
Üçhüyük İlkokulu	65	37,597708	32,925989
Gökhüyük İlkokulu	80	37,488134	32,718521
Doğanlı İlkokulu	41	37,426009	32,636489
Apasaraycık Şehit Piyade Onbaşı Hasan Şahin İlkokulu	20	37,371317	32,470911
Yenisu İlkokulu	103	37,393055	32,641225
Türkmenkarahüyük İlkokulu	55	37,613425	33,033111
Cicek Şadiye - Mevlüt Çelik İlkokulu	54	37,288153	32,575131
Dinek Azmi-Abidin Erçal İlkokulu	16	37,326772	32,61773
Balçıkhisar İlkokulu	38	37,434326	32,655989
Çumra Sürgüç Dede Mehmet Barut İlkokulu	27	37,584176	33,097196
Arıkören Köyü İlkokulu	47	37,452437	32,929786
Dineksaray İlkokulu	16	37,389137	32,604293
Hürriyet İlkokulu	700	37,567005	32,78601
Icericumra Mithat Pasa İlkokulu	200	37,581412	32,662402
Merkez Atatürk İlkokulu	159	37,573039	32,781705
Nuri Tömtöm İlkokulu	199	37,583604	32,776642
Sıhhiye Abdullah Akbaş İlkokulu	170	37,581072	32,759022
Ürnlü İlkokulu	21	37,560843	32,878979
Alibeyhüyükü Cumhuriyet İlkokulu	74	37,535547	32,660997
Alibeyhüyükü Atatürk İlkokulu	56	37,529047	32,661089
Abditolu İlkokulu	26	37,740417	32,752
Küçükköy Çatalhüyük İlkokulu	35	37,687817	32,830578
Yenimescit İlkokulu	10	37,326116	32,553267
Apa İlkokulu	66	37,36828	32,548118
60.Yıl Mehmet Yaymacı İlkokulu	257	37,576499	32,787719
Alemdar İlkokulu	42	37,653725	32,800032
Güvercinlik İlkokulu	89	37,595634	32,825221

Şehit Koçak İlkokulu	893	37,572854	32,771204
İcericumra Ziya Gökalp İlkokulu	135	37,583561	32,664348
Taşagıl İlkokulu	105	37,531517	32,9729
Tahtalı İlkokulu	9	37,284051	32,437532
Karkın Cumhuriyet İlkokulu	107	37,674123	32,892873
Çiftliközü Şehit İsmail Kıvrak İlkokulu	57	37,950044	31,925894
Değiş İlkokulu	12	37,934917	31,939279
Mülayim İlkOkulu	37	38,011253	32,084047
Derbent Şehit Mustafa Doğramacı İlkokulu	69	38,014493	32,014091
Pınarbaşı Barbaros İlkokulu	15	37,40589	31,432147
Şehit Hüseyin Albaşgil İlkokulu	37	37,390252	31,507415
Yukarıkayalar İlkokulu	36	37,424417	31,461538
Gencek Şehit Orhan Parlakkaya İlkokulu	43	37,446269	31,546966
DURAK ÖMER AKKANAT İLKOKULU	20	37,460331	31,661095
Deştiğin İlkokulu	42	38,058026	31,639884
Koçaş Şehit Hasan Bayazıt İlkokulu	12	38,232129	31,633876
Uncular İlkokulu	24	38,215415	31,588434
Ayaslar Şehit Jandarma Uzman Onbaşı İbrahim Ay İlkokulu	31	38,115623	31,732195
Güvendik İlkokulu	16	38,077433	31,57107
Başköy Şehit Uzman Jandarma Çavuş İzzet Soluk İlkokulu	116	38,139367	31,758969
Konakkale İlkokulu	12	38,019438	31,682317
KARAAĞA İLKOKULU	74	38,183609	31,617607
Konya Ereğli Fatih İlkokulu	100	37,479732	34,042996
Konya Ereğli Gazi İlkokulu	235	37,528425	34,035655
Konya Ereğli Mehmet Akif Ersoy İlkokulu	298	37,493597	34,044232
Konya Ereğli Öğretmen Abdurrahim İlkokulu	925	37,512908	34,052155
Konya Ereğli Özgürler İlkokulu	46	37,575851	34,097121
Konya Ereğli Türkmen İlkokulu	88	37,57514	34,069378
Konya Ereğli Yenizengen İlkokulu	50	37,824043	34,241667
Konya Ereğli Yunus Emre İlkokulu	134	37,51418	34,070853
Konya Ereğli Zübeyde İşeri İlkokulu	188	37,496228	34,060042
Konya Ereğli MithatPaşa İlkokulu	281	37,514283	34,033304
Konya Ereğli Zengen Gazi Mustafa Kemal İlkokulu	84	37,825727	34,243693
Konya Ereğli Aşağı Gündelen İlkokulu	42	37,710736	34,180005
Konya Ereğli Barbaros İlkokulu	437	37,504397	34,038739
Konya Ereğli Belkaya İlkokulu	136	37,914982	33,911848
Konya Ereğli Yellice Öğretmen Alaaddin Harput İlkokulu	20	37,422309	34,044954
Konya Ereğli Halit Kalkan İlkokulu	188	37,50074	34,038547
Konya Ereğli Fevzi Çakmak İlkokulu	166	37,487768	34,059454
Konya Ereğli Çayhan Hatice ve Rasim Özer İlkokulu	89	37,553451	34,291337

Konya Eređli Halime Demirel İlkokulu	287	37,529529	34,050742
Konya Eređli Cumhuriyet İlkokulu	280	37,500727	34,056213
Konya Eređli 100.Yıl Kurtuluř İlkokulu	164	37,486705	34,025777
Konya Eređli İvriz Őehit Tahir Civil İlkokulu	142	37,465316	34,097132
Konya Eređli Belkaya Gümüleyik İlkokulu	9	37,91504	33,911884
Konya Eređli Beyköyü İlkokulu	28	37,520817	34,143021
Konya Eređli Toki İlkokulu	304	37,459864	34,053464
Konya Eređli Őehit Kamil Atalay İlkokulu	778	37,511111	34,04763
Konya Eređli Kargacı İlkokulu	33	37,558459	33,993305
Konya Eređli Tařađıl İlkokulu	20	37,502275	33,942168
Konya Eređli Atatürk İlkokulu	400	37,50085	34,076809
Konya Eređli Aziziye Ayřana Özkoçak İlkokulu	242	37,659736	34,276625
Konya Eređli Yeniköy İlkokulu	55	37,721825	34,305411
Orhaniye Meryem Eren İlkokulu	139	37,475542	34,067601
Konya Eređli Sarıtopallı İlkokulu	33	37,533143	33,983874
Konya Eređli Belkaya Eğrikuyu İlkokulu	34	37,915014	33,911895
Konya Eređli Tatlıkuyu İlkokulu	46	37,534546	33,85345
Konya Eređli Mehmet Azmi Aksu Őeker İlkokulu	158	37,534733	34,093665
Konya Eređli Ayvatlar İlkokulu	100	37,532044	34,011378
Konya Eređli 60.Yıl Ferudun Atalay İlkokulu	224	37,525579	34,067797
Konya Eređli Hacımemiř İlkokulu	29	37,505534	34,092535
Konya Eređli Bulgurluk İlkokulu	38	37,610225	34,198921
Konya Eređli Çimencik Armađanlı İlkokulu	72	37,473561	34,001149
Konya Eređli Belkaya Tozlukuyu İlkokulu	17	37,968464	33,9386
Konya Eređli Tařbudak İlkokulu	33	37,827842	33,895989
Konya Eređli Selvili İlkokulu	21	37,573863	34,041686
Konya Eređli Gökçeyazı Vali Kemal Katıtař İlkokulu	22	37,478634	34,132411
Konya Eređli Namık Kemal İlkokulu	1089	37,528442	34,035666
Konya Eređli Çakmak İlkokulu	13	37,6209	34,285809
Konya Eređli Kutören İlkokulu	145	37,855098	33,946877
ŐEHİT ÖMER HALİSDEMİR İLKOKULU	340	37,494911	34,040385
Ađaçoba İlkokulu	33	37,166826	32,7457
Güneybađ İlkokulu	198	37,270032	32,728282
Karasınır İlkokulu	187	37,29744	32,717939
Alanözü Vali Atilla Vural İlkokulu	58	37,12645	32,770202
Gürađaç İlkokulu	60	37,256661	32,700601
Aydogmus İlkokulu	13	37,32433	32,66185
Kızılöz İlkokulu	18	37,188426	32,678579
Karaguney İlkokulu	40	37,161411	32,618215
Sarihaci İlkokulu	12	37,038582	32,692112
Kayaađzı İlkokulu	18	37,149967	32,667267
MEHMETALİ İLKOKULU	32	37,226734	32,628321

Dedemli Şehit Coşkun Nazilli İlkokulu	76	37,022716	32,319709
Yağcı Mahmut Yiğit İlkokulu	24	37,049987	32,619291
Korualan İlkokulu	86	37,001734	32,331056
Yalınçevre İlkokulu	21	37,024071	32,353018
Bademli İlkokulu	57	37,019883	32,664951
BAĞBAŞI İLKOKULU	32	37,091724	32,445207
GÖYNÜKKIŞLA FAHRİ DÜNDAR İLKOKULU	60	36,992732	32,775628
Atatürk İlkokulu	121	37,435273	34,186347
Büyükdoğan İlkokulu	22	37,424334	34,2337
Çakıllar İlkokulu	51	37,399334	34,300289
Delimahmutlu İlkokulu	30	37,400817	34,372979
Kırelî Şehit Kadir Kayhan İlkokulu	109	37,922516	31,536396
Mevlana İlkokulu	290	37,954707	31,59739
İmrenler İlkokulu	65	37,916291	31,67117
Suludere Şehit İsmail Şahin İlkokulu	60	37,978574	31,623609
Selki Şehit Ali Cevizci İlkokulu	74	37,882664	31,690891
İlmen Mehmet Başer İlkokulu	14	37,983716	31,562272
Çamlıca Mehmet Akif Ersoy İlkokulu	107	37,933303	31,728686
Çavuşçugöl Atatürk İlkokulu	76	38,392943	31,853211
Düğer İlkokulu	39	38,415176	32,114229
Avdan İlkokulu	8	37,289952	32,302479
Çiğil Kazım Karabekir İlkokulu	100	38,05217	31,861153
Eldeş İlkokulu	11	38,201367	31,987389
ILGIN ŞEHİT BÜLENT DENİZ İLKOKULU	64	38,291864	31,90936
KARAKÖY İLKOKULU	8	38,322325	32,077621
TOKİ 15 TEMMUZ ŞEHİTLERİ İLKOKULU	430	38,276228	31,907521
ŞEHİT AYHAN KAYA İLKOKULU	50	38,287129	31,907809
Ahmet Ali Gezgin İlkokulu	180	38,284258	31,878963
Çiğil 60. Yıl İlkokulu	84	38,048783	31,862379
Halil Özkan İlkokulu	216	38,275189	31,92793
İnönü İlkokulu	352	38,276286	31,901613
Orhaniye 125. Yıl İlkokulu	82	38,292061	31,973949
Atatürk İlkokulu	401	38,281176	31,914031
Argıthanı Atatürk İlkokulu	29	38,290915	31,726339
Şehit Mustafa Deniz Kağnıcı İlkokulu	133	38,268221	31,889136
İlgın Beykonak Kemal Altınkaynak İlkokulu	74	38,177851	32,045325
İlgın Ağalar Şehit Murat Doğru İlkokulu	45	38,262464	31,991558
İlgın Göstere Şehit Nihat Balkı İlkokulu	22	38,199707	31,85322
Argıthanı Cumhuriyet İlkokulu	64	38,291127	31,725799
100. Yıl İlkokulu	291	38,282391	31,925518
Balkı Mehmet Ali Ak İlkokulu	52	38,140666	31,817479
İlgın Şehit İrfan Yayla İlkokulu	310	38,288467	31,906586
Atlantı Gazi İlkokulu	181	38,441514	32,176894

Meydanlı İlkokulu	12	38,227789	32,123197
Sögütözü İlkokulu	35	38,176857	32,177528
Ülkü İlkokulu	139	38,233832	32,211431
Yağlıca İlkokulu	23	38,170153	32,160751
Musa Uğur İlkokulu	186	38,235331	32,222922
İsmet ve ÜmmÜhan Önal İlkokulu	260	38,240677	32,228385
15 Temmuz Şehitleri İlkokulu	95	37,884485	32,476007
Osmancık İlkokulu	298	38,184817	32,147273
Beykavağı İlkokulu	16	38,152301	32,259174
Hacıoflazlar İlkokulu	21	38,161733	32,21098
Pirali İlkokulu	11	38,166052	32,191014
Başkuyu Mehmet Gökçe İlkokulu	36	38,663974	32,23703
Çeşmecik Vali Kemal Katıtaş İlkokulu	130	38,144276	32,112086
Sarıkaya İlkokulu	41	38,790971	32,24409
Kökez İlkokulu	19	38,374423	32,288164
Hoca Ahmet Yesevi İlkokulu	270	38,247293	32,213274
Saçıkara Şehit Yunus Ateş İlkokulu	51	38,590837	32,137169
Demiroluk İlkokulu	15	38,164803	32,234009
Hacımehmetli Nur-Pa A.Ş. İlkokulu	83	38,336816	32,23762
Pusat İlkokulu	26	38,377957	32,238382
Kolukısa Osmanoğulları İlkokulu	220	38,517414	32,268647
Güner - Faruk İçil İlkokulu	194	38,240428	32,208624
Amil Onal İlkokulu	111	37,720253	33,556631
Hotamış İlkokulu	135	37,641326	33,31987
Kayalı İlkokulu	164	37,852678	33,729157
Vehbi Yurt İlkokulu	95	37,709145	33,545977
Atatürk İlkokulu	207	37,72072	33,545671
Yunus Emre İlkokulu	240	37,708556	33,562521
Cumhuriyet İlkokulu	381	37,714093	33,537231
Salur Kemal Cantürk İlkokulu	119	37,772037	33,725869
75.Yıl İlkokulu	168	37,717371	33,563228
Mehmet Akif Ersoy İlkokulu	327	37,725263	33,549876
Kesmez İlkokulu	187	37,660325	33,718821
İsmet Büyükyaylacı İlkokulu	171	37,716892	33,528903
Akoren Aktaşlı Şh. Halil Akbulut İlkokulu	12	37,659171	33,817547
Ticaret Borsası İlkokulu	171	37,719291	33,518536
TOKİ Yavuz Selim İlkokulu	553	37,706866	33,533118
Küçükaşlama İlkokulu	9	37,624017	33,145789
Ortaoba İlkokulu	26	37,603455	33,225707
Kayacık İlkokulu	39	37,592434	33,210989
Akcayazı İlkokulu	20	37,699717	33,256989
Hasanoba İlkokulu	22	37,586299	33,284863
Gazi Mustafa Kemal İlkokulu	374	37,712147	33,555503
Güzelkışla İlkokulu	49	37,771484	33,723836

Sazlıpınar İlkokulu	104	37,678651	33,189868
İSLİK İLKOKULU	81	37,557661	33,324735
Akçesme İlkokulu	490	37,86782	32,506436
Akif Paşa İlkokulu	616	37,88049	32,502809
HÜSEYİN SEVİM KÖROĞLU İLKOKULU	415	37,86642	32,530436
Büyük Sinan Mehmet Fatma Dalan İlkokulu	604	37,890706	32,513156
Celal Akın İlkokulu	265	37,886418	32,521995
Cengiz Topel İlkokulu	2069	37,893727	32,506656
Doktor Sedat Yüksel İlkokulu	546	37,858121	32,504463
Şehit Erol Olçok İlkokulu	504	37,870829	32,517073
Halil Bahçeci İlkokulu	724	37,879062	32,504746
Hasan Ali Yücel İlkokulu	637	37,822284	32,598527
İsmet Paşa İlkokulu	765	37,875396	32,501306
Aynur Kasabalı İlkokulu	857	37,851272	32,509875
Ayşe Hüseyin Özkan İlkokulu	232	37,821623	32,541664
İbrahim Sulhiye Kamanlı İlkokulu	276	37,865411	32,585654
Müslüme - Ali Yaman İlkokulu	1198	37,853199	32,53468
Koyunoğlu İlkokulu	866	37,862269	32,527624
Kuvayi Milliye İlkokulu	648	37,880338	32,533985
Mahide Koşukçu İlkokulu	440	37,834131	32,54185
Mustafa Aydın İlkokulu	264	37,899789	32,513126
Ovakavağı İlkokulu	171	37,711556	32,930244
Sakyatan İlkokulu	25	37,81438	32,453163
Yağlıbayat İlkokulu	48	37,966468	33,11615
İzzet Bezirci İlkokulu	991	37,902359	32,522799
İSMİL ATATÜRK İLKOKULU	296	37,718938	33,049857
Karatay Kocatepe İlkokulu	908	37,870503	32,543307
Hayiroğlu İlkokulu	116	37,751033	32,859654
Saraçoğlu Ahmet Haşhaş İlkokulu	366	37,826196	32,565146
Birol Polat İlkokulu	836	37,861836	32,515969
Karkent İlkokulu	732	37,8999	32,528221
Karaaslan Cumhuriyet İlkokulu	727	37,815064	32,531483
Zeliha Seymen İlkokulu	94	37,868933	32,528156
Kızören İlkokulu	86	38,140191	33,177657
Nakipoğlu İlkokulu	315	37,876685	32,504826
İsmil Fatih İlkokulu	103	37,711486	33,046263
İstiklal İlkokulu	866	37,88145	32,519225
Yavuz Selim İlkokulu	401	37,836199	32,521635
Mehmetçik İlkokulu	342	37,848366	32,614125
Orhan Gazi İlkokulu	669	37,850501	32,520055
Yarma İlkokulu	83	37,811234	32,882694
Aliye-Hüseyin Tekbaş İlkokulu	568	37,892745	32,522556
Karakaya Mehmet Öner Eskil İlkokulu	49	37,902422	32,878131
Yusuf İzzettin Horasanlı İlkokulu	630	37,892516	32,525535

Köseali İlkokulu	15	38,236959	33,264089
Çatalhöyük Münise Lütü Onat İlkokulu	1146	37,794231	32,53064
Ağsaklı İlkokulu	17	37,935168	33,174033
VALİ KEMAL KATITAŞ İLKOKULU	287	37,84507	32,560589
NERMİN AGAH ERDİNÇ TOPAK İLKOKULU	237	37,870712	32,612802
HACİVEYİŞZADE MAHALLESİ AHMET HAŞHAŞ İLKOKULU	738	37,874573	32,524916
ZİNCİRLİ İLKOKULU	12	38,002786	32,834797
İLHAN-NURAN KESKİN İLKOKULU	115	37,764358	32,54219
YENİKENT İLKOKULU	37	37,986051	33,3469
YUSUF GÜL İLKOKULU	225	37,82493	32,518308
Arşıncı İlkokulu	18	39,13503	32,885387
Alparslan İlkokulu	274	39,106791	33,080326
Atatürk İlkokulu	91	39,08581	33,084479
Bahadırlı İlkokulu	47	39,03983	33,121642
Acıkuyu İlkokulu	15	38,837617	32,991379
Bozan İlkokulu	31	39,000051	33,294605
Canımana Şehit Murat Uçar İlkokulu	92	39,238857	32,856922
Cumhuriyet İlkokulu	287	39,090988	33,069329
Dipdede İlkokulu	105	39,197025	32,8955
Fatih İlkokulu	100	39,098338	33,067475
Karacadağ Şehit Yücel Taş İlkokulu	64	39,088026	32,932879
Kırkpınar İlkokulu	72	39,138494	32,846395
Kozanlı Cumhuriyet İlkokulu	103	39,091013	33,069307
Kulu Mütaş İlkokulu	48	39,106799	33,080315
Tavsançalı 100.Yıl İlkokulu	52	39,090389	33,080513
Tavşançalı Yunus Emre İlkokulu	69	38,938855	33,010205
Uzunkuyu İlkokulu	20	39,106841	33,080358
Yavuz Selim İlkokulu	90	39,077275	33,079725
Yusuf Kücükgöl İlkokulu	200	39,091846	33,088649
Yeşilyurt İlkokulu	59	39,052907	32,712538
Zincirlikuyu İlkokulu	43	38,930465	33,112556
Merkez İlkokulu	473	39,089527	33,080476
Beşkardeş İlkokulu	25	38,962377	33,05997
Altılar Gültekin Tuncer İlkokulu	36	39,197917	32,967711
Yazıçayır İlkokulu	55	39,213908	33,114989
24 Kasım İlkokulu	720	37,849148	32,487992
Abdussamet Fazilet Kuzucu İlkokulu	712	37,851198	32,472137
Alakova İlkokulu	184	37,766123	32,494716
Atatürk İlkokulu	745	37,873501	32,455138
Aybahçe Mah. Ahmet Haşhaş İlkokulu	123	37,784239	32,513588
Boruktolu İlkokulu	61	37,709848	32,53522
Çarıklar İlkokulu	101	37,658828	32,574006

Kaşınhanı Cumhuriyet İlkokulu	124	37,70292	32,567328
Kayalı İlkokulu	21	37,721625	32,187411
KEMAL HATİPOĞLU İLKOKULU	660	37,851664	32,502463
Meram Lalebahçe Mehmet Fevzi ve Atiye Atçeken İlkokulu	324	37,836528	32,436643
Mehmet Hasan Sert İlkokulu	856	37,867177	32,455983
Mustafa Bağrıaçık İlkokulu	57	37,554732	32,445837
Meram Gödene Toki Şehit Yunus Berber İlkokulu	1138	37,744475	32,404993
Meram Hasanköy İlkokulu	520	37,823016	32,476091
Meram Mehmet ve İbrahim Çelik İlkokulu	570	37,828768	32,449374
15 Temmuz Şehitleri İlkokulu	247	37,862373	32,4577
MERAM ÖZCAN- SALİHA ÇALIKUŞU İLKOKULU	251	37,860879	32,427391
Meram Şeyh Şamil İlkokulu	466	37,815055	32,499678
Sefaköy İlkokulu	215	37,805206	32,145726
Meram Kaşınhanı Atatürk İlkokulu	215	37,704659	32,581301
Telafer İlkokulu	688	37,770024	32,511841
Güneydere İlkokulu	48	37,624042	32,2467
Hatunsaray İlkokulu	66	37,591782	32,343547
Meram Gödene İlkokulu	99	37,756153	32,397639
İnlice İlkokulu	84	37,712537	32,071304
Yeşil Tekke İlkokulu	30	37,501826	32,212911
Hanefi Aytekin İlkokulu	301	37,781226	32,525616
Hatıp İlkokulu	165	37,76609	32,403494
Dr. Teoman Bilge İlkokulu	915	37,838581	32,481546
Yeşildere Firuzan Işık İzmirilgil İlkokulu	42	37,582125	32,233379
Cumhuriyet İlkokulu	875	37,869377	32,493213
Meram Niyaz Usta İlkokulu	1860	37,856605	32,471251
Ali Taşoluk İlkokulu	718	37,8419	32,464034
Meram Ali Yaman İlkokulu	276	37,742945	32,564694
Şehit Ahmet Senih Durum İlkokulu	116	37,865944	32,422694
Meram Kozağaç Konya Esnaf Sanatkarlar Odaları Birliği İlkokulu	295	37,805755	32,424124
Meram Çayırbağı Tahsin-Özlem-Bengisu Emiroğlu İlkokulu	195	37,76369	32,374558
Selçuk İlkokulu	840	37,854122	32,485226
Ali İhsan Dayıoğlugil İlkokulu	739	37,871651	32,464111
Karadığın Yeniaylar İlkokulu	192	37,728237	32,3345
Yenibahçe İlkokulu	121	37,732215	32,472349
Kayhüyük İlkokulu	29	37,642042	32,447789
Yunus Emre İlkokulu	1425	37,860433	32,496136
Çomaklı İlkokulu	173	37,744928	32,527486
Ahmet Naci Gücüyener İlkokulu	257	37,819885	32,51383
Üresinler İlkokulu	395	37,84355	32,508749

Gökyurt İlkokulu	43	37,667034	32,207811
Mehmet Şükriye Sert İlkokulu	658	37,861182	32,481872
Meram Dere Zafer İlkokulu	143	37,858488	32,396513
Fatih Sultan Mehmet İlkokulu	425	37,878948	32,443568
Ayşe Sönmez İlkokulu	794	37,830921	32,471102
İhsan Özkaşıkçı İlkokulu	1419	37,86569	32,477779
Meram Dere Cumhuriyet İlkokulu	110	37,856496	32,406363
100.Yıl İlkokulu	74	38,267338	32,413398
Başhüyük İlkokulu	40	38,274809	32,480944
Şehit Yunus Emre Uçar İlkokulu	220	38,201877	32,38194
15 Temmuz Şehitleri İlkokulu	223	38,262701	32,406118
Özkent Hacı İsmet Önal İlkokulu	42	38,447634	32,529011
İsmet ve Ümmühan Önal İlkokulu	217	38,251698	32,401291
Kadioğlu İlkokulu	45	38,743135	32,492645
Cumhuriyet İlkokulu	100	38,2594	32,397035
Bahçesaray İlkokulu	34	38,153834	32,459779
Gözlü Nadir Özşahin İlkokulu	81	38,434282	32,336276
HALICI CUMHURİYET İLKOKULU	286	38,190974	32,374467
YENİCEKAYA ABİDİN TÜRKSEVER İLKOKULU	34	38,301863	32,340214
Ahmet Perihan Demirok İlkokulu	450	37,884943	32,462554
Akıncılar Mah.Ahmet Haşhaş İlkokulu	1126	37,904771	32,470632
Akşemseddin İlkokulu	1054	37,899908	32,478797
Aşağıpınarbaşı İlkokulu	105	38,036071	32,602887
Cemile Erkunt İlkokulu	730	37,89374	32,489895
Dumlupınar Mh.Ahmet Haşhaş İlkokulu	954	37,920268	32,50576
İbrahim Yapıcı İlkokulu	1388	37,881108	32,486655
Kanuni Sultan Süleyman İlkokulu	1300	37,898842	32,457623
Konevi İştirme Engelliler İlkokulu	50	37,884107	32,476512
Mimar Sinan İlkokulu	1550	37,938547	32,490169
Osmangazi İlkokulu	741	37,963332	32,526182
Öğretmen Fethiye Onsun İlkokulu	864	37,920975	32,496805
Selçuklu Mediha-Hasan Tahsin Alaylı Görme Engelliler İlkokulu	18	37,935961	32,501791
Mustafa Fevzi Serin İlkokulu	428	38,014413	32,524394
Yazır Şehit Osman Küçükdillan İlkokulu	1317	37,963217	32,499332
Sıraç Aydıntaşbaş İlkokulu	837	37,957581	32,456784
Şükriye Onsun İlkokulu	1928	37,94361	32,49754
TOKİ İlkokulu	905	37,983883	32,490357
Zeliha ve Lütfi Kulluk İlkokulu	1082	37,936085	32,507193
Yukarıpınarbaşı İlkokulu	70	38,059201	32,595539
Oğuz Kağan İlkokulu	788	37,910866	32,479071
Alaeddin İlkokulu	1209	37,888825	32,481875
Ayşe Tümer İlkokulu	1707	37,909449	32,489158

Tatköy İlkokulu	143	37,954884	32,36559
Sızma Alparslan İlkokulu	114	38,091973	32,406972
Mustafa Karacıgan İlkokulu	1097	37,904811	32,485059
Şerife Akkanat İlkokulu	1299	37,987886	32,51718
Nesrin ve Ayşegül Kardeşler İlkokulu	419	37,881102	32,495155
Ova Un İlkokulu	446	37,880529	32,46563
Selçuklu Belediyesi İlkokulu	636	37,892316	32,486124
İhsaniye İlkokulu	643	37,872345	32,485402
Kemal Rızvanoğlu İlkokulu	808	37,923284	32,479236
Dr. Mustafa Öten İlkokulu	968	37,887243	32,459011
Nurcan Akpınar İlkokulu	669	37,918935	32,463123
Hasan Akbıyık İlkokulu	79	37,993925	32,602928
Güvenç İlkokulu	24	38,164951	32,655111
Eşrefoğlu İlkokulu	1585	37,890685	32,464272
Sille İlkokulu	68	37,928026	32,419917
Dikilitaş Sahip Ata İlkokulu	815	37,999107	32,522645
Hakim Ömer Onsun İlkokulu	857	37,931826	32,494347
Piri Reis İlkokulu	659	37,885053	32,436934
Başarakavak İlkokulu	93	38,00297	32,235123
Barbaros İlkokulu	745	37,871811	32,481772
Zeki Altındağ İlkokulu	1384	37,984159	32,520598
Mustafa Necati İlkokulu	1977	38,012439	32,53051
Ahmet Acar İlkokul	849	37,947556	32,507832
Şehit Osman Demir İlkokulu	1280	37,953731	32,525428
Özel İdare 100. Yıl İlkokulu	720	37,929673	32,507955
Dağdere İlkokulu	56	38,173725	32,481889
SARAYKÖY İLKOKULU	48	37,897258	32,3999
Tepekent İlkokulu	391	38,069855	32,163817
ABİDİN SANİYE ERÇAL İLKOKULU	620	37,956072	32,517992
15 TEMMUZ ŞEHİTLERİ İLKOKULU	510	37,884751	32,475866
ŞEHİT İBRAHİM BETİN İLKOKULU	300	37,960209	32,473646
Alüminyum İlkokulu	345	37,424871	31,840727
Bostandere İlkokulu	34	37,502914	31,907987
Cumhuriyet İlkokulu	177	37,425361	31,833988
Dikilitaş İlkokulu	31	37,554565	32,02185
İhsan Tekin İlkokulu	298	37,425264	31,858597
Halise Güney İlkokulu	40	37,402517	31,856221
Şehit Hüseyin Kavalbacak İlkokulu	125	37,522148	32,05753
Gazi İlkokulu	438	37,430458	31,851486
Yaylacık İlkokulu	43	37,532497	32,117363
Susuz İlkokulu	17	37,300834	31,948589
Mesudiye İlkokulu	21	37,555708	32,095511
Seydişehir TOKİ İlkokulu	234	37,405503	31,842399
Şehit Özgür Öncel İlkokulu	121	37,458588	31,830751

İncesu İlkokulu	24	37,452308	31,916936
Atatürk İlkokulu	487	37,417135	31,850605
Kumluca İlkokulu	46	37,4049	32,007911
Taraşçı İlkokulu	145	37,444055	31,760624
Merkez İlkokulu	924	37,421035	31,844722
GÖKHÜYÜK İLKOKULU	26	37,488126	32,718511
Avşar İlkokulu	48	37,419093	31,847474
Taşkent Muzaffer Özlen İlkokulu	85	36,92567	32,492129
Bolay İlkokulu	24	36,867021	32,609685
Çetmi İhsan Yazıcı İlkokulu	59	36,87808	32,623096
Balcılar İlkokulu	116	36,89346	32,676323
Mimar Sinan İlkokulu	81	37,938522	32,490158
Şehit Cemalettin Şekerci İlkokulu	108	38,479537	31,623834
Koraşı İlkokulu	63	38,586134	31,681168
Böğrüdilik İlkokulu	24	38,798849	32,591471
Harunlar İlkokulu	14	38,632917	31,905111
Hatırlı İlkokulu	10	38,931625	32,341679
Kıllar İlkokulu	20	38,739459	31,932111
Kuyubası İlkokulu	12	39,992558	32,879061
Merkez Aksemseddin İlkokulu	185	38,804211	31,734685
Sülüklü Mimar Sinan İlkokulu	67	38,882845	32,338897
Atatürk İlkokulu	169	38,816876	31,732324
Saray İlkokulu	135	38,898155	31,996017
Kuzören İlkokulu	129	38,695283	31,752052
Koçyazı Şehit İbrahim Bozoğlu İlkokulu	63	38,799778	31,631886
Turgut İlkokulu	50	38,628085	31,812876
Hacı Tekin İlkokulu	129	38,813455	31,73548
Hacı Ömeroğlu Telli Karacan İlkokulu	46	38,993438	32,332269
Odabaşı İlkokulu	19	38,9349	31,875232
Hursunlu İlkokulu	90	38,609229	31,87975
YUNAK İMKB İLKOKULU	102	38,816662	31,725772
ÇAYIRBAŞI İLKOKULU	18	38,869742	32,239432
PİRİBEYLİ İLKOKULU	16	38,9078	31,631613
BÖĞRÜDELİK İLKOKULU	22	38,839185	31,855524
Ahırlı Atatürk İlkokulu	83	37,238666	32,118149
Akkise Atatürk İlkokulu	121	37,365311	32,13236
Gazi Mustafa Kemal İlkokulu	185	37,45142	32,36596
Avdan İlkokulu	53	37,289969	32,302522
Alan İlkokulu	12	37,360426	32,404689
Karahüyük İlkokulu	20	37,401926	32,393011
Belkuyu İlkokulu	34	37,336309	32,422011
Çatören İlkokulu	23	37,527017	32,376732
ŞEHİT BAYRAM TEKİN İLKOKULU	32	37,452405	32,367903
Adsız Şehit Metin Çoban İlkokulu	114	38,372132	31,450193

Akşehir Altuntaş Atatürk İlkokulu	102	38,35999	31,413631
Engili Hasan Doğan İlkokulu	36	38,369467	31,408892
Karabulut İlkokulu	48	38,413269	31,465233
Nasreddin Hoca İlkokulu	585	38,36004	31,421563
Atakent İlkokulu	50	38,383828	31,383288
Cumhuriyet İlkokulu	657	38,367114	31,414311
Çakıllar İlkokulu	108	38,242323	31,531417
Çamlı Şehit Yaşar Soylu İlkokulu	61	38,26011	31,521818
Değirmenköy İlkokulu	22	38,451547	31,303328
Doğrugöz Şehit Turgut Makascı İlkokulu	204	38,36105	31,408873
Gazi Mustafa Kemal İlkokulu	104	38,355411	31,411712
Gedil İlkokulu	45	38,317242	31,494721
Gölçayır İlkokulu	31	38,463069	31,326677
Haydar Tuna İlkokulu	335	38,367619	31,430094
Şehit Astsubay Halis Kırımlı İlkokulu	106	38,359638	31,407941
Yazla Şehit Astsubay İbrahim Geçer İlkokulu	90	38,392572	31,542645
Beşkavak İlkokulu	70	38,373423	31,394647
Yıldırım İlkokulu	1038	38,361042	31,408894
Nihat Dayanık İlkokulu	312	38,352683	31,42468
Tarık Buğra İlkokulu	490	38,349871	31,421226
Savaş Şehit İsmail Kandemir İlkokulu	36	38,31969	31,444409
Yaylabeleden Gazi Mustafa Kemal Atatürk İlkokulu	20	38,2269	31,5511
Karahüyük Ali Akkanat İlkokulu	127	38,34647	31,516524
Ilıcak İlkokulu	55	38,290625	31,478389
Gözpınarı İlkokulu	10	38,355459	31,658943
Saray İlkokulu	23	38,400734	31,355589
Çakıllar Hürriyet İlkokulu	38	38,242357	31,531406
Yeşilköy Şehit Uzman Çavuş Ramazan Sağ İlkokulu	15	38,312716	31,602732
Hüseyin Tekiner İlkokulu	102	38,339955	31,426817
ORTAKÖY CUMHURİYET İLKOKULU	76	38,458538	31,511649
Süleyman Şah İlkokulu	104	38,399114	31,432192
Dedeler İlkokulu	135	38,331613	32,708802
Oğuzeli İlkokulu	151	38,346807	33,106147
Ölmez İlkokulu	18	38,270599	32,797944
Akıncılar İlkokulu	209	38,402874	32,889186
Cumhuriyet İlkokulu	183	38,307205	32,874656
Sarnic İlkokulu	26	38,240342	32,816511
Altınekin Şehit Ahmet Yılmaz İlkokulu	225	38,307908	32,864558
AKINCILAR FATİH İLKOKULU	95	38,402874	32,889186
KOÇYAKA İLKOKULU	13	38,241208	32,904179
Ali Rıza Celeboğlu İlkokulu	774	37,686731	31,726492
Bahçelievler Kasaboğlu İlkokulu	178	37,692059	31,719724

Gazi İlkokulu	444	37,6767	31,724674
Yeşildağ Şehit Şefik Ayaydın İlkokulu	77	37,541088	31,469812
Cumhuriyet İlkokulu	663	37,672348	31,721414
Yenidoğan İlkokulu	42	37,879121	31,860994
Ali Akkanat İlkokulu	194	37,671876	31,734265
Karaali Şehit Osman Karağlı İlkokulu	159	37,948405	31,823131
Doğanbey İlkokulu	75	37,802774	31,890145
Huğlu Fatih İlkokulu	130	37,474936	31,579956
Bayafşar İlkokulu	7	37,582192	31,799532
TOKİ İlkokulu	235	37,698986	31,742672
Çiçekler İlkokulu	31	37,646825	31,875479
Gölkaşı İlkokulu	10	37,747468	31,659798
Eğirler İlkokulu	32	37,741342	31,846779
Sadıkacı İlkokulu	96	37,830377	31,72475
ŞEHİT OSMAN ÇINAR İLKOKULU	267	37,668103	31,735103
SEVİNDİK İLKOKULU	18	37,818755	31,78442
ÜÇPINAR İLKOKULU	76	37,818081	31,827681
Hisarlık İlkokulu	38	37,150456	32,346111
Vali Kemal Katıtaş İlkokulu	270	37,845002	32,560589
Soğucak Mustafa Yamaner İlkokulu	72	37,091043	32,280389
Yazdamı Ayşe-Veli Demiröz İlkokulu	10	37,135404	32,513865
Karayahya İlkokulu	10	37,236517	32,315378
Ayvalca İlkokulu	12	37,255068	32,492121
Söğüt İlkokulu	31	37,097638	32,328807
Kızılçakır İlkokulu	14	37,178843	32,575311
Kildere İlkokulu	28	37,242317	32,492432
Bozkır Armutlu Ayşe Veli Demiröz İlkokulu	39	37,13525	32,513757
Sorkun Köyü İlkokulu	21	37,144274	32,135241
Boyalı İlkokulu	40	38,768825	32,3692
Derviş Mustafa Öztunç İlkokulu	347	37,18906	32,236821
Kuzören İlkokulu	57	38,695283	31,752052
Bozkır Dereiçi İlkokulu	73	37,108073	32,370014
Hacılar İlkokulu	45	37,211585	32,368779
Hamzalar İlkokulu	60	37,109606	32,547173
Kımık İlkokulu	10	37,222743	32,397079
Kuşça İlkokulu	28	37,25266	32,3472
YELBEĞİ İLKOKULU	16	37,136434	32,421968
SARIOĞLAN İLKOKULU	73	37,208811	32,545661
Çölköy İlkokulu	92	38,998515	32,626998
Gölyazı Merkez İlkokulu	142	38,559786	33,200479
Günyüzü İlkokulu	154	38,517565	33,038985
Hodoğlu İlkokulu	90	38,541617	32,666479
İnsuyu İlkokulu	41	38,69837	32,767955
Kelhasan İlkokulu	29	38,908559	32,589082

Kırkıřla Gnay Kora İlkokulu	49	38,513842	32,850557
Kuřça İlkokulu	20	38,826821	32,684528
Merkez Atatrk İlkokulu	208	38,648036	32,936504
Seniha Belgin İlkokulu	234	38,661444	32,923813
Tařpınar Kavaklı İlkokulu	171	38,449667	33,062935
Vedat Kora İlkokulu	83	38,664986	32,91154
Yapalı Cihat Kora İlkğretim Okulu	130	38,532108	33,00457
Yeniceoba Cumhuriyet İlkokulu	205	38,870848	32,801455
Yeniceoba Mehmet Zeki Kart İlkokulu	101	38,869226	32,782672
Karřıyaka İlkokulu	188	38,650846	32,914309
Saęlık İlkokulu	50	38,767317	33,032089
Taspınar Esentepe İlkokulu	81	38,425547	33,156253
Adnan Menderes İlkokulu	661	39,988255	32,590646
Bykbeřkavak İlkokulu	97	38,952434	32,609347
Cimen İlkokulu	34	39,007009	32,545068
Cesmebası İlkokulu	26	38,478794	32,834417
100. Yıl İlkokulu	129	39,01465	31,789117
Fatih İlkokulu	85	39,026417	31,7927
İsakuřaęı İlkokulu	25	38,943425	31,9441
Kařren İlkokulu	12	39,085067	31,854
Kkhasan İlkokulu	49	38,944768	31,824212
Merkez İlkokulu	96	39,019887	31,789557
řehitler İlkokulu	96	38,948126	31,824771
Torunlar İlkokulu	31	39,096317	31,82069
Honamlı İlkokulu	105	39,057082	31,831405
Adakasım İlkokulu	18	38,957708	31,893643
Avdul İlkokulu	46	37,390543	32,752211
Karkın Atatrk İlkokulu	137	37,671275	32,881854
Trkmencamili İlkokulu	41	37,535425	32,918586
Bykařlama İlkokulu	68	37,648094	33,134445
Adakale İlkokulu	14	37,512691	33,077414
Uzunkuyu İlkokulu	39	37,542184	33,141286
Fethiye İlkokulu	25	37,625825	32,752357
Abdullah Tenekeci İlkokulu	221	37,571431	32,757534
Saliha Onbařı İlkokulu	290	37,563791	32,771122
Dedemoęlu İlkokulu	34	37,679431	32,76018
hyk İlkokulu	65	37,597708	32,925989
Gkhyk İlkokulu	80	37,488134	32,718521
Doęanlı İlkokulu	41	37,426009	32,636489
Apasaraycık Őehit Piyade Onbařı Hasan Őahin İlkokulu	20	37,371317	32,470911
Yenisu İlkokulu	103	37,393055	32,641225
Trkmencarahyk İlkokulu	55	37,613425	33,033111
Cicek Őadiye - Mevlt elik İlkokulu	54	37,288153	32,575131

Dinek Azmi-Abidin Erçal İlkokulu	16	37,326772	32,61773
Balçıkhisar İlkokulu	38	37,434326	32,655989
Çumra Sürgüç Dede Mehmet Barut İlkokulu	27	37,584176	33,097196
Arıkören Köyü İlkokulu	47	37,452437	32,929786
Dineksaray İlkokulu	16	37,389137	32,604293
Hürriyet İlkokulu	700	37,567005	32,78601
Icericumra Mithat Pasa İlkokulu	200	37,581412	32,662402
Merkez Atatürk İlkokulu	159	37,573039	32,781705
Nuri Tömtöm İlkokulu	199	37,583604	32,776642
Sıhhiye Abdullah Akbaş İlkokulu	170	37,581072	32,759022
Ürünlü İlkokulu	21	37,560843	32,878979
Alibeyhüyüğü Cumhuriyet İlkokulu	74	37,535547	32,660997
Alibeyhüyüğü Atatürk İlkokulu	56	37,529047	32,661089
Abditolu İlkokulu	26	37,740417	32,752
Küçükköy Çatalhüyük İlkokulu	35	37,687817	32,830578
Yenimescit İlkokulu	10	37,326116	32,553267
Apa İlkokulu	66	37,36828	32,548118
60.Yıl Mehmet Yaymacı İlkokulu	257	37,576499	32,787719
Alemdar İlkokulu	42	37,653725	32,800032
Güvercinlik İlkokulu	89	37,595634	32,825221
Şehit Koçak İlkokulu	893	37,572854	32,771204
Icericumra Ziya Gökalp İlkokulu	135	37,583561	32,664348
Taşgıl İlkokulu	105	37,531517	32,9729
Tahtalı İlkokulu	9	37,284051	32,437532
Karkın Cumhuriyet İlkokulu	107	37,674123	32,892873
Çiftliközü Şehit İsmail Kıvrak İlkokulu	57	37,950044	31,925894
Değiş İlkokulu	12	37,934917	31,939279
Mülayim İlkOkulu	37	38,011253	32,084047
Derbent Şehit Mustafa Doğramacı İlkokulu	69	38,014493	32,014091
Pınarbaşı Barbaros İlkokulu	15	37,40589	31,432147
Şehit Hüseyin Albaşgil İlkokulu	37	37,390252	31,507415
Yukarıkayalar İlkokulu	36	37,424417	31,461538
Gencek Şehit Orhan Parlakkaya İlkokulu	43	37,446269	31,546966
DURAK ÖMER AKKANAT İLKOKULU	20	37,460331	31,661095
Deştiğin İlkokulu	42	38,058026	31,639884
Koçaş Şehit Hasan Bayazıt İlkokulu	12	38,232129	31,633876
Uncular İlkokulu	24	38,215415	31,588434
Ayaslar Şehit Jandarma Uzman Onbaşı İbrahim Ay İlkokulu	31	38,115623	31,732195
Güvendik İlkokulu	16	38,077433	31,57107
Başköy Şehit Uzman Jandarma Çavuş İzzet Soluk İlkokulu	116	38,139367	31,758969
Konakkale İlkokulu	12	38,019438	31,682317
KARAAĞA İLKOKULU	74	38,183609	31,617607

Konya Ereğli Fatih İlkokulu	100	37,479732	34,042996
Konya Ereğli Gazi İlkokulu	235	37,528425	34,035655
Konya Ereğli Mehmet Akif Ersoy İlkokulu	298	37,493597	34,044232
Konya Ereğli Öğretmen Abdurrahim İlkokulu	925	37,512908	34,052155
Konya Ereğli Özgürler İlkokulu	46	37,575851	34,097121
Konya Ereğli Türkmen İlkokulu	88	37,57514	34,069378
Konya Ereğli Yenizengen İlkokulu	50	37,824043	34,241667
Konya Ereğli Yunus Emre İlkokulu	134	37,51418	34,070853
Konya Ereğli Zübeyde İşeri İlkokulu	188	37,496228	34,060042
Konya Ereğli MithatPaşa İlkokulu	281	37,514283	34,033304
Konya Ereğli Zengen Gazi Mustafa Kemal İlkokulu	84	37,825727	34,243693
Konya Ereğli Aşağı Gündelen İlkokulu	42	37,710736	34,180005
Konya Ereğli Barbaros İlkokulu	437	37,504397	34,038739
Konya Ereğli Belkaya İlkokulu	136	37,914982	33,911848
Konya Ereğli Yellice Öğretmen Alaaddin Harput İlkokulu	20	37,422309	34,044954
Konya Ereğli Halit Kalkan İlkokulu	188	37,50074	34,038547
Konya Ereğli Fevzi Çakmak İlkokulu	166	37,487768	34,059454
Konya Ereğli Çayhan Hatice ve Rasim Özer İlkokulu	89	37,553451	34,291337
Konya Ereğli Halime Demirel İlkokulu	287	37,529529	34,050742
Konya Ereğli Cumhuriyet İlkokulu	280	37,500727	34,056213
Konya Ereğli 100.Yıl Kurtuluş İlkokulu	164	37,486705	34,025777
Konya Ereğli İvriş Şehit Tahir Civil İlkokulu	142	37,465316	34,097132
Konya Ereğli Belkaya Gümüleyik İlkokulu	9	37,91504	33,911884
Konya Ereğli Beyköyü İlkokulu	28	37,520817	34,143021
Konya Ereğli Toki İlkokulu	304	37,459864	34,053464
Konya Ereğli Şehit Kamil Atalay İlkokulu	778	37,511111	34,04763
Konya Ereğli Kargacı İlkokulu	33	37,558459	33,993305
Konya Ereğli Taşağıl İlkokulu	20	37,502275	33,942168
Konya Ereğli Atatürk İlkokulu	400	37,50085	34,076809
Konya Ereğli Aziziye Aysana Özkoçak İlkokulu	242	37,659736	34,276625
Konya Ereğli Yeniköy İlkokulu	55	37,721825	34,305411
Orhaniye Meryem Eren İlkokulu	139	37,475542	34,067601
Konya Ereğli Sarıtopallı İlkokulu	33	37,533143	33,983874
Konya Ereğli Belkaya Eğrikuyu İlkokulu	34	37,915014	33,911895
Konya Ereğli Tatlıkuyu İlkokulu	46	37,534546	33,85345
Konya Ereğli Mehmet Azmi Aksu Şeker İlkokulu	158	37,534733	34,093665
Konya Ereğli Ayvatlar İlkokulu	100	37,532044	34,011378
Konya Ereğli 60.Yıl Ferudun Atalay İlkokulu	224	37,525579	34,067797
Konya Ereğli Hacımemiş İlkokulu	29	37,505534	34,092535
Konya Ereğli Bulgurluk İlkokulu	38	37,610225	34,198921
Konya Ereğli Çimencik Armağanlı İlkokulu	72	37,473561	34,001149

Konya Eređli Belkaya Tozlukuyu İlkokulu	17	37,968464	33,9386
Konya Eređli Tařbudak İlkokulu	33	37,827842	33,895989
Konya Eređli Selvili İlkokulu	21	37,573863	34,041686
Konya Eređli Gökçeyazı Vali Kemal Katıtař İlkokulu	22	37,478634	34,132411
Konya Eređli Namık Kemal İlkokulu	1089	37,528442	34,035666
Konya Eređli Çakmak İlkokulu	13	37,6209	34,285809
Konya Eređli Kutören İlkokulu	145	37,855098	33,946877
ŐEHİT ÖMER HALİSDEMİR İLKOKULU	340	37,494911	34,040385
Ağaçoba İlkokulu	33	37,166826	32,7457
Güneybađ İlkokulu	198	37,270032	32,728282
Karasınır İlkokulu	187	37,29744	32,717939
Alanözü Vali Atilla Vural İlkokulu	58	37,12645	32,770202
Gürağaç İlkokulu	60	37,256661	32,700601
Aydogmus İlkokulu	13	37,32433	32,66185
Kızılöz İlkokulu	18	37,188426	32,678579
Karaguney İlkokulu	40	37,161411	32,618215
Sarihaci İlkokulu	12	37,038582	32,692112
Kayaađzı İlkokulu	18	37,149967	32,667267
MEHMETALİ İLKOKULU	32	37,226734	32,628321
Dedemli Őehit Cořkun Nazilli İlkokulu	76	37,022716	32,319709
Yađcı Mahmut Yiđit İlkokulu	24	37,049987	32,619291
Korualan İlkokulu	86	37,001734	32,331056
Yalınçevre İlkokulu	21	37,024071	32,353018
Bademli İlkokulu	57	37,019883	32,664951
BAĐBAŐI İLKOKULU	32	37,091724	32,445207
GÖYNÜKKIŐLA FAHRİ DÜNDAR İLKOKULU	60	36,992732	32,775628
Atatürk İlkokulu	121	37,435273	34,186347
Büyükdoğan İlkokulu	22	37,424334	34,2337
Çakıllar İlkokulu	51	37,399334	34,300289
Delimahmutlu İlkokulu	30	37,400817	34,372979
Kırelı Őehit Kadir Kayhan İlkokulu	109	37,922516	31,536396
Mevlana İlkokulu	290	37,954707	31,59739
İmrenler İlkokulu	65	37,916291	31,67117
Suludere Őehit İsmail Őahin İlkokulu	60	37,978574	31,623609
Selki Őehit Ali Cevizeci İlkokulu	74	37,882664	31,690891
İlmen Mehmet Bařer İlkokulu	14	37,983716	31,562272
Çamlıca Mehmet Akif Ersoy İlkokulu	107	37,933303	31,728686
Çavuşçugöl Atatürk İlkokulu	76	38,392943	31,853211
Düđer İlkokulu	39	38,415176	32,114229
Avdan İlkokulu	8	37,289952	32,302479
Çiđil Kazım Karabekir İlkokulu	100	38,05217	31,861153
Eldeř İlkokulu	11	38,201367	31,987389

ILGIN ŞEHİT BÜLENT DENİZ İLKOKULU	64	38,291864	31,90936
KARAKÖY İLKOKULU	8	38,322325	32,077621
TOKİ 15 TEMMUZ ŞEHİTLERİ İLKOKULU	430	38,276228	31,907521
ŞEHİT AYHAN KAYA İLKOKULU	50	38,287129	31,907809
Ahmet Ali Gezgin İlkokulu	180	38,284258	31,878963
Çiğil 60. Yıl İlkokulu	84	38,048783	31,862379
Halil Özkan İlkokulu	216	38,275189	31,92793
İnönü İlkokulu	352	38,276286	31,901613
Orhaniye 125. Yıl İlkokulu	82	38,292061	31,973949
Atatürk İlkokulu	401	38,281176	31,914031
Argıhanı Atatürk İlkokulu	29	38,290915	31,726339
Şehit Mustafa Deniz Kağncı İlkokulu	133	38,268221	31,889136
Ilgın Beykonak Kemal Altınkaynak İlkokulu	74	38,177851	32,045325
Ilgın Ağalar Şehit Murat Doğru İlkokulu	45	38,262464	31,991558
Ilgın Göstere Şehit Nihat Balkı İlkokulu	22	38,199707	31,85322
Argıhanı Cumhuriyet İlkokulu	64	38,291127	31,725799
100. Yıl İlkokulu	291	38,282391	31,925518
Balkı Mehmet Ali Ak İlkokulu	52	38,140666	31,817479
Ilgın Şehit İrfan Yayla İlkokulu	310	38,288467	31,906586
Atlantı Gazi İlkokulu	181	38,441514	32,176894
Meydanlı İlkokulu	12	38,227789	32,123197
Söğütözü İlkokulu	35	38,176857	32,177528
Ülkü İlkokulu	139	38,233832	32,211431
Yağlıca İlkokulu	23	38,170153	32,160751
Musa Uğur İlkokulu	186	38,235331	32,222922
İsmet ve ÜmmÜhan Önal İlkokulu	260	38,240677	32,228385
15 Temmuz Şehitleri İlkokulu	95	37,884485	32,476007
Osmancık İlkokulu	298	38,184817	32,147273
Beykavağı İlkokulu	16	38,152301	32,259174
Hacıoflazlar İlkokulu	21	38,161733	32,21098
Pirali İlkokulu	11	38,166052	32,191014
Başkuyu Mehmet Gökçe İlkokulu	36	38,663974	32,23703
Çeşmecik Vali Kemal Katıtaş İlkokulu	130	38,144276	32,112086
Sarıkaya İlkokulu	41	38,790971	32,24409
Kökez İlkokulu	19	38,374423	32,288164
Hoca Ahmet Yesevi İlkokulu	270	38,247293	32,213274
Saçıkara Şehit Yunus Ateş İlkokulu	51	38,590837	32,137169
Demiroluk İlkokulu	15	38,164803	32,234009
Hacımehmetli Nur-Pa A.Ş. İlkokulu	83	38,336816	32,23762
Pusat İlkokulu	26	38,377957	32,238382
Kolukısa Osmanoğulları İlkokulu	220	38,517414	32,268647
Güner - Faruk İçil İlkokulu	194	38,240428	32,208624
Amil Onal İlkokulu	111	37,720253	33,556631
Hotamış İlkokulu	135	37,641326	33,31987

Kayalı İlkokulu	164	37,852678	33,729157
Vehbi Yurt İlkokulu	95	37,709145	33,545977
Atatürk İlkokulu	207	37,72072	33,545671
Yunus Emre İlkokulu	240	37,708556	33,562521
Cumhuriyet İlkokulu	381	37,714093	33,537231
Salur Kemal Cantürk İlkokulu	119	37,772037	33,725869
75.Yıl İlkokulu	168	37,717371	33,563228
Mehmet Akif Ersoy İlkokulu	327	37,725263	33,549876
Kesmez İlkokulu	187	37,660325	33,718821
İsmet Büyükyaylacı İlkokulu	171	37,716892	33,528903
Akoren Aktaşlı Şh. Halil Akbulut İlkokulu	12	37,659171	33,817547
Ticaret Borsası İlkokulu	171	37,719291	33,518536
TOKİ Yavuz Selim İlkokulu	553	37,706866	33,533118
Küçükaşlama İlkokulu	9	37,624017	33,145789
Ortaoba İlkokulu	26	37,603455	33,225707
Kayacık İlkokulu	39	37,592434	33,210989
Akcayazı İlkokulu	20	37,699717	33,256989
Hasanoba İlkokulu	22	37,586299	33,284863
Gazi Mustafa Kemal İlkokulu	374	37,712147	33,555503
Güzelkışla İlkokulu	49	37,771484	33,723836
Sazlıpınar İlkokulu	104	37,678651	33,189868
İSLİK İLKOKULU	81	37,557661	33,324735
Akçesme İlkokulu	490	37,86782	32,506436
Akif Paşa İlkokulu	616	37,88049	32,502809
HÜSEYİN SEVİM KÖROĞLU İLKOKULU	415	37,86642	32,530436
Büyük Sinan Mehmet Fatma Dalan İlkokulu	604	37,890706	32,513156
Celal Akın İlkokulu	265	37,886418	32,521995
Cengiz Topel İlkokulu	2069	37,893727	32,506656
Doktor Sedat Yüksel İlkokulu	546	37,858121	32,504463
Şehit Erol Olçok İlkokulu	504	37,870829	32,517073
Halil Bahçeci İlkokulu	724	37,879062	32,504746
Hasan Ali Yücel İlkokulu	637	37,822284	32,598527
İsmet Paşa İlkokulu	765	37,875396	32,501306
Aynur Kasabalı İlkokulu	857	37,851272	32,509875
Ayşe Hüseyin Özkan İlkokulu	232	37,821623	32,541664
İbrahim Sulhiye Kamanlı İlkokulu	276	37,865411	32,585654
Müslüme - Ali Yaman İlkokulu	1198	37,853199	32,53468
Koyunoğlu İlkokulu	866	37,862269	32,527624
Kuvayi Milliye İlkokulu	648	37,880338	32,533985
Mahide Koşukçu İlkokulu	440	37,834131	32,54185
Mustafa Aydın İlkokulu	264	37,899789	32,513126
Ovakavağı İlkokulu	171	37,711556	32,930244
Sakyatan İlkokulu	25	37,81438	32,453163
Yağlıbayat İlkokulu	48	37,966468	33,11615

İzzet Bezirci İlkokulu	991	37,902359	32,522799
İSMİL ATATÜRK İLKOKULU	296	37,718938	33,049857
Karatay Kocatepe İlkokulu	908	37,870503	32,543307
Hayıroğlu İlkokulu	116	37,751033	32,859654
Saraçoğlu Ahmet Haşhaş İlkokulu	366	37,826196	32,565146
Birol Polat İlkokulu	836	37,861836	32,515969
Karkent İlkokulu	732	37,8999	32,528221
Karaaslan Cumhuriyet İlkokulu	727	37,815064	32,531483
Zeliha Seymen İlkokulu	94	37,868933	32,528156
Kızören İlkokulu	86	38,140191	33,177657
Nakipoğlu İlkokulu	315	37,876685	32,504826
İsmil Fatih İlkokulu	103	37,711486	33,046263
İstiklal İlkokulu	866	37,88145	32,519225
Yavuz Selim İlkokulu	401	37,836199	32,521635
Mehmetçik İlkokulu	342	37,848366	32,614125
Orhan Gazi İlkokulu	669	37,850501	32,520055
Yarma İlkokulu	83	37,811234	32,882694
Aliye-Hüseyin Tekbaş İlkokulu	568	37,892745	32,522556
Karakaya Mehmet Öner Eski İlkokulu	49	37,902422	32,878131
Yusuf İzzettin Horasanlı İlkokulu	630	37,892516	32,525535
Köseali İlkokulu	15	38,236959	33,264089
Çatalhöyük Münise Lütfi Onat İlkokulu	1146	37,794231	32,53064
Ağsaklı İlkokulu	17	37,935168	33,174033
VALİ KEMAL KATITAŞ İLKOKULU	287	37,84507	32,560589
NERMİN AGAH ERDİNÇ TOPAK İLKOKULU	237	37,870712	32,612802
HACIVEYİŞZADE MAHALLESİ AHMET HAŞHAŞ İLKOKULU	738	37,874573	32,524916
ZİNCİRLİ İLKOKULU	12	38,002786	32,834797
İLHAN-NURAN KESKİN İLKOKULU	115	37,764358	32,54219
YENİKENT İLKOKULU	37	37,986051	33,3469
YUSUF GÜL İLKOKULU	225	37,82493	32,518308
Arşincı İlkokulu	18	39,13503	32,885387
Alparslan İlkokulu	274	39,106791	33,080326
Atatürk İlkokulu	91	39,08581	33,084479
Bahadır İlkokulu	47	39,03983	33,121642
Acıkuyu İlkokulu	15	38,837617	32,991379
Bozan İlkokulu	31	39,000051	33,294605
Canımana Şehit Murat Uçar İlkokulu	92	39,238857	32,856922
Cumhuriyet İlkokulu	287	39,090988	33,069329
Dipdede İlkokulu	105	39,197025	32,8955
Fatih İlkokulu	100	39,098338	33,067475
Karacadağ Şehit Yücel Taş İlkokulu	64	39,088026	32,932879
Kırkpınar İlkokulu	72	39,138494	32,846395

Kozanlı Cumhuriyet İlkokulu	103	39,091013	33,069307
Kulu Mutaş İlkokulu	48	39,106799	33,080315
Tavsançalı 100.Yıl İlkokulu	52	39,090389	33,080513
Tavsançalı Yunus Emre İlkokulu	69	38,938855	33,010205
Uzunkuyu İlkokulu	20	39,106841	33,080358
Yavuz Selim İlkokulu	90	39,077275	33,079725
Yusuf Küçükgöl İlkokulu	200	39,091846	33,088649
Yeşilyurt İlkokulu	59	39,052907	32,712538
Zincirlikuyu İlkokulu	43	38,930465	33,112556
Merkez İlkokulu	473	39,089527	33,080476
Beşkardeş İlkokulu	25	38,962377	33,05997
Altılar Gültekin Tuncer İlkokulu	36	39,197917	32,967711
Yazıçayır İlkokulu	55	39,213908	33,114989
24 Kasım İlkokulu	720	37,849148	32,487992
Abdussamet Fazilet Kuzucu İlkokulu	712	37,851198	32,472137
Alakova İlkokulu	184	37,766123	32,494716
Atatürk İlkokulu	745	37,873501	32,455138
Aybahçe Mah. Ahmet Haşhaş İlkokulu	123	37,784239	32,513588
Boruktolu İlkokulu	61	37,709848	32,53522
Çarıklar İlkokulu	101	37,658828	32,574006
Kaşınhanı Cumhuriyet İlkokulu	124	37,70292	32,567328
Kayalı İlkokulu	21	37,721625	32,187411
KEMAL HATİPOĞLU İLKOKULU	660	37,851664	32,502463
Meram Lalebahçe Mehmet Fevzi ve Atiye Atçeken İlkokulu	324	37,836528	32,436643
Mehmet Hasan Sert İlkokulu	856	37,867177	32,455983
Mustafa Bağrıaçık İlkokulu	57	37,554732	32,445837
Meram Gödene Toki Şehit Yunus Berber İlkokulu	1138	37,744475	32,404993
Meram Hasanköy İlkokulu	520	37,823016	32,476091
Meram Mehmet ve İbrahim Çelik İlkokulu	570	37,828768	32,449374
15 Temmuz Şehitleri İlkokulu	247	37,862373	32,4577
MERAM ÖZCAN- SALİHA ÇALIKUŞU İLKOKULU	251	37,860879	32,427391
Meram Şeyh Şamil İlkokulu	466	37,815055	32,499678
Sefaköy İlkokulu	215	37,805206	32,145726
Meram Kaşınhanı Atatürk İlkokulu	215	37,704659	32,581301
Telafer İlkokulu	688	37,770024	32,511841
Güneydere İlkokulu	48	37,624042	32,2467
Hatunsaray İlkokulu	66	37,591782	32,343547
Meram Gödene İlkokulu	99	37,756153	32,397639
İnlice İlkokulu	84	37,712537	32,071304
Yeşil Tekke İlkokulu	30	37,501826	32,212911
Hanefi Aytekin İlkokulu	301	37,781226	32,525616
Hatıp İlkokulu	165	37,76609	32,403494

Dr. Teoman Bilge İlkokulu	915	37,838581	32,481546
Yeşildere Firuzan Işık İzmiriligi İlkokulu	42	37,582125	32,233379
Cumhuriyet İlkokulu	875	37,869377	32,493213
Meram Niyaz Usta İlkokulu	1860	37,856605	32,471251
Ali Taşoluk İlkokulu	718	37,8419	32,464034
Meram Ali Yaman İlkokulu	276	37,742945	32,564694
Şehit Ahmet Senih Durum İlkokulu	116	37,865944	32,422694
Meram Kozağaç Konya Esnaf Sanatkarlar Odaları Birliği İlkokulu	295	37,805755	32,424124
Meram Çayırbağı Tahsin-Özlem-Bengisu Emiroğlu İlkokulu	195	37,76369	32,374558
Selçuk İlkokulu	840	37,854122	32,485226
Ali İhsan Dayıoğlu İlkokulu	739	37,871651	32,464111
Karadığın Yeniaylar İlkokulu	192	37,728237	32,3345
Yenibahçe İlkokulu	121	37,732215	32,472349
Kayhüyük İlkokulu	29	37,642042	32,447789
Yunus Emre İlkokulu	1425	37,860433	32,496136
Çomaklı İlkokulu	173	37,744928	32,527486
Ahmet Naci Gücüyener İlkokulu	257	37,819885	32,51383
Üresinler İlkokulu	395	37,84355	32,508749
Gökyurt İlkokulu	43	37,667034	32,207811
Mehmet Şükriye Sert İlkokulu	658	37,861182	32,481872
Meram Dere Zafer İlkokulu	143	37,858488	32,396513
Fatih Sultan Mehmet İlkokulu	425	37,878948	32,443568
Ayşe Sönmez İlkokulu	794	37,830921	32,47102
İhsan Özkaşıkçı İlkokulu	1419	37,86569	32,477779
Meram Dere Cumhuriyet İlkokulu	110	37,856496	32,406363
100.Yıl İlkokulu	74	38,267338	32,413398
Başhüyük İlkokulu	40	38,274809	32,480944
Şehit Yunus Emre Uçar İlkokulu	220	38,201877	32,38194
15 Temmuz Şehitleri İlkokulu	223	38,262701	32,406118
Özkent Hacı İsmet Önal İlkokulu	42	38,447634	32,529011
İsmet ve Ümmühan Önal İlkokulu	217	38,251698	32,401291
Kadioğlu İlkokulu	45	38,743135	32,492645
Cumhuriyet İlkokulu	100	38,2594	32,397035
Bahçesaray İlkokulu	34	38,153834	32,459779
Gözlü Nadir Özşahin İlkokulu	81	38,434282	32,336276
HALICI CUMHURİYET İLKOKULU	286	38,190974	32,374467
YENİCEKAYA ABİDİN TÜRKSEVER İLKOKULU	34	38,301863	32,340214
Ahmet Perihan Demirok İlkokulu	450	37,884943	32,462554
Akıncılar Mah.Ahmet Haşhaş İlkokulu	1126	37,904771	32,470632
Akşemseddin İlkokulu	1054	37,899908	32,478797
Aşağıpınarbaşı İlkokulu	105	38,036071	32,602887
Cemile Erkunt İlkokulu	730	37,89374	32,489895

Dumlupınar Mh.Ahmet Haşhaş İlkokulu	954	37,920268	32,50576
İbrahim Yapıcı İlkokulu	1388	37,881108	32,486655
Kanuni Sultan Süleyman İlkokulu	1300	37,898842	32,457623
Konevi İşitme Engelliler İlkokulu	50	37,884107	32,476512
Mimar Sinan İlkokulu	1550	37,938547	32,490169
Osmangazi İlkokulu	741	37,963332	32,526182
Öğretmen Fethiye Onsun İlkokulu	864	37,920975	32,496805
Selçuklu Mediha-Hasan Tahsin Alaylı Görme Engelliler İlkokulu	18	37,935961	32,501791
Mustafa Fevzi Serin İlkokulu	428	38,014413	32,524394
Yazır Şehit Osman Küçükdillan İlkokulu	1317	37,963217	32,499332
Sıraç Aydıntaşbaş İlkokulu	837	37,957581	32,456784
Şükriye Onsun İlkokulu	1928	37,94361	32,49754
TOKİ İlkokulu	905	37,983883	32,490357
Zeliha ve Lütü Kulluk İlkokulu	1082	37,936085	32,507193
Yukarıpınarbaşı İlkokulu	70	38,059201	32,595539
Oğuz Kağan İlkokulu	788	37,910866	32,479071
Alaeddin İlkokulu	1209	37,888825	32,481875
Ayşe Tümer İlkokulu	1707	37,909449	32,489158
Tatköy İlkokulu	143	37,954884	32,36559
Sızma Alparslan İlkokulu	114	38,091973	32,406972
Mustafa Karacıgan İlkokulu	1097	37,904811	32,485059
Şerife Akkanat İlkokulu	1299	37,987886	32,51718
Nesrin ve Ayşegül Kardeşler İlkokulu	419	37,881102	32,495155
Ova Un İlkokulu	446	37,880529	32,46563
Selçuklu Belediyesi İlkokulu	636	37,892316	32,486124
İhsaniye İlkokulu	643	37,872345	32,485402
Kemal Rızvanoğlu İlkokulu	808	37,923284	32,479236
Dr. Mustafa Öten İlkokulu	968	37,887243	32,459011
Nurcan Akpınar İlkokulu	669	37,918935	32,463123
Hasan Akbıyık İlkokulu	79	37,993925	32,602928
Güvenç İlkokulu	24	38,164951	32,655111
Eşrefoğlu İlkokulu	1585	37,890685	32,464272
Sille İlkokulu	68	37,928026	32,419917
Dikilitaş Sahip Ata İlkokulu	815	37,999107	32,522645
Hakim Ömer Onsun İlkokulu	857	37,931826	32,494347
Piri Reis İlkokulu	659	37,885053	32,436934
Başarakavak İlkokulu	93	38,00297	32,235123
Barbaros İlkokulu	745	37,871811	32,481772
Zeki Altındağ İlkokulu	1384	37,984159	32,520598
Mustafa Necati İlkokulu	1977	38,012439	32,53051
Ahmet Acar İlkokul	849	37,947556	32,507832
Şehit Osman Demir İlkokulu	1280	37,953731	32,525428
Özel İdare 100. Yıl İlkokulu	720	37,929673	32,507955

Dağdere İlkokulu	56	38,173725	32,481889
SARAYKÖY İLKOKULU	48	37,897258	32,3999
Tepekent İlkokulu	391	38,069855	32,163817
ABİDİN SANİYE ERÇAL İLKOKULU	620	37,956072	32,517992
15 TEMMUZ ŞEHİTLERİ İLKOKULU	510	37,884751	32,475866
ŞEHİT İBRAHİM BETİN İLKOKULU	300	37,960209	32,473646
Alüminyum İlkokulu	345	37,424871	31,840727
Bostandere İlkokulu	34	37,502914	31,907987
Cumhuriyet İlkokulu	177	37,425361	31,833988
Dikilitaş İlkokulu	31	37,554565	32,02185
İhsan Tekin İlkokulu	298	37,425264	31,858597
Halise Güney İlkokulu	40	37,402517	31,856221
Şehit Hüseyin Kavalbacak İlkokulu	125	37,522148	32,05753
Gazi İlkokulu	438	37,430458	31,851486
Yaylacık İlkokulu	43	37,532497	32,117363
Susuz İlkokulu	17	37,300834	31,948589
Mesudiye İlkokulu	21	37,555708	32,095511
Seydişehir TOKİ İlkokulu	234	37,405503	31,842399
Şehit Özgür Öncel İlkokulu	121	37,458588	31,830751
İncesu İlkokulu	24	37,452308	31,916936
Atatürk İlkokulu	487	37,417135	31,850605
Kumluca İlkokulu	46	37,4049	32,007911
Taraşçı İlkokulu	145	37,444055	31,760624
Merkez İlkokulu	924	37,421035	31,844722
GÖKHÜYÜK İLKOKULU	26	37,488126	32,718511
Avşar İlkokulu	48	37,419093	31,847474
Taşkent Muzaffer Özlen İlkokulu	85	36,92567	32,492129
Bolay İlkokulu	24	36,867021	32,609685
Çetmi İhsan Yazıcı İlkokulu	59	36,87808	32,623096
Balcılar İlkokulu	116	36,89346	32,676323
Mimar Sinan İlkokulu	81	37,938522	32,490158
Şehit Cemalettin Şekerci İlkokulu	108	38,479537	31,623834
Koraşı İlkokulu	63	38,586134	31,681168
Böğrödelik İlkokulu	24	38,798849	32,591471
Harunlar İlkokulu	14	38,632917	31,905111
Hatırlı İlkokulu	10	38,931625	32,341679
Kıllar İlkokulu	20	38,739459	31,932111
Kuyubası İlkokulu	12	39,992558	32,879061
Merkez Aksemseddin İlkokulu	185	38,804211	31,734685
Sülüklü Mimar Sinan İlkokulu	67	38,882845	32,338897
Atatürk İlkokulu	169	38,816876	31,732324
Saray İlkokulu	135	38,898155	31,996017
Kuzören İlkokulu	129	38,695283	31,752052
Koçyazı Şehit İbrahim Bozoğlu İlkokulu	63	38,799778	31,631886

Turgut İlkokulu	50	38,628085	31,812876
Hacı Tekin İlkokulu	129	38,813455	31,73548
Hacı Ömeroğlu Telli Karacan İlkokulu	46	38,993438	32,332269
Odabaşı İlkokulu	19	38,9349	31,875232
Hursunlu İlkokulu	90	38,609229	31,87975
YUNAK İMKB İLKOKULU	102	38,816662	31,725772
ÇAYIRBAŞI İLKOKULU	18	38,869742	32,239432
PİRİBEYLİ İLKOKULU	16	38,9078	31,631613
BÖĞRÜDELİK İLKOKULU	22	38,839185	31,855524
Kederli İlkokulu	42	38,87304	33,915612
Ağaçören İlkokulu	210	38,872248	33,908233
Kırimini İlkokulu	49	38,77325	33,78578
Camili İlkokulu	48	38,868716	33,943341
Karakol İlkokulu	33	38,361191	33,984616
Demirci Atatürk İlkokulu	162	38,377774	34,287954
Mimar Sinan İlkokulu	71	38,375086	34,014989
Sofular 100.Yıl İlkokulu	42	38,358876	34,429423
Şehit Abdullah Satılmış İlkokulu	72	38,504686	34,38838
Akmezar İlkokulu	60	38,460942	34,313859
Mehmet Akif Ersoy İlkokulu	107	38,356921	34,022058
Bekarlar İlkokulu	79	38,385192	34,426864
Atatürk İlkokulu	81	38,336497	34,015629
Gülpinar İlkokulu	111	38,420194	34,364312
Gülağaç İlkokulu	107	38,389972	34,35165
Saratlı İlkokulu	105	38,450101	34,233333
Çatalsu İlkokulu	14	38,402227	34,210953
Kızılkaya İlkokulu	113	38,355366	34,231518
Gaziemir Yakacık İlkokulu	102	38,337281	34,396025
Selime Ali Abay İlkokulu	112	38,310709	34,253761
Uzunkaya İlkokulu	25	38,291942	34,215646
Ihlara 100.Yıl İlkokulu	80	38,233602	34,300515
Ilısu İlkokulu	59	38,233275	34,343356
Belisırma İskanevleri İlkokulu	53	38,267908	34,291408
Ihlara Atatürk İlkokulu	43	38,233398	34,300028
Bozcayurt İlkokulu	20	38,335371	34,386564
Hasan Hüseyin Demircioğlu İlkokulu	121	38,277325	34,372549
Selime İlkokulu	65	38,302985	34,255512
19 Mayıs İlkokulu	161	38,366168	34,005334
23 Nisan ilkokulu	631	38,351414	34,024767
Atatürk İlkokulu	604	38,336497	34,01564
Emlak Kredi İlkokulu	1079	38,371723	34,00444
Gazipaşa İlkokulu	632	38,359455	34,041498
Karaören İlkokulu	92	38,24444	34,132607
Kömürcü Mehmet Baysal İlkokulu	173	38,396995	34,019979

Mehmet Akif Ersoy İlkokulu	364	38,356921	34,02209
Mehmet Sarrafoğlu İlkokulu	476	38,380183	34,005381
Timur Sarrafoğlu İlkokulu	1200	38,366147	34,010781
Rafet Bozkurt İlkokulu	463	38,374513	33,998615
Sağlık İlkokulu	143	38,289579	34,030753
Yağan Şehit Hacı Bektaş İlkokulu	15	38,539273	34,039149
Yalnızceviz İlkokulu	30	38,486628	34,168812
Yeşilova Atatürk İlkokulu	85	38,407192	33,836985
Topakkaya Şehit Erdal Akbulut İlkokulu	195	38,453516	33,927631
Kargın Şehit Cumali Çağlar İlkokulu	101	38,364945	34,002448
Cumhuriyet İlkokulu	1180	38,377822	34,027301
Türkiye Odalar ve Borsalar Birliği İlkokulu	219	38,33284	34,012546
Yenikent Akhan İlkokulu	98	38,344184	33,750311
Gücünkaya İlkokulu	120	38,394865	34,130217
Millî Egemenlik İlkokulu	403	38,41084	34,001861
Karataş İlkokulu	64	38,253493	34,094242
Akçakent İlkokulu	16	38,083508	34,091343
Karacaoren İlkokulu	192	38,12784	34,06153
Hakkı Divanoğlu İlkokulu	152	38,321741	34,052168
Yeşilova Cumhuriyet İlkokulu	103	38,377805	34,027322
Mehmetçik İlkokulu	170	38,350764	34,049245
Meliha Zekai Dalkılıç İlkokulu	200	38,366936	34,044203
Acıpınar İlkokulu	83	38,523882	33,849857
Doğantarla İlkokulu	93	38,361938	34,217021
Yuva Karapınarlar İlkokulu	76	38,246118	34,152724
Çekiçler İlkokulu	100	38,610322	34,083977
Laleli İlkokulu	95	38,359758	34,049514
Hacı Mustafa Demir İlkokulu	487	38,359077	34,029493
Gözlükuyu İskanevleri İlkokulu	140	38,180665	34,099861
Gökçe İlkokulu	51	38,416409	34,173713
Nurgöz İlkokulu	75	38,564401	33,998616
Gençosman Köyü İlkokulu	93	38,415982	34,072216
Kutlu İlkokulu	69	38,290944	33,856443
Hacı Cumali Uğur İlkokulu	183	38,360232	34,00273
Naci Abay İlkokulu	707	38,41555	33,990855
Oğuzata İlkokulu	78	38,176408	34,077303
Ulukışla İlkokulu	34	38,497017	33,76054
Gazi İlkokulu	229	38,38257	34,033498
Helvadere Atatürk İlkokulu	145	38,196856	34,203639
Armutlu İlkokulu	50	38,193315	33,897192
Helvadere Selma Aysoy İlkokulu	51	38,196622	34,208795
Kılıçarslan İlkokulu	1315	38,372972	34,035588
Hamidiye İlkokulu	126	38,276812	33,988422
Kalebalta İlkokulu	99	38,583128	34,203152

Çavdarlılar İlkokulu	53	38,61676	33,9689
Bebek İlkokulu	57	38,503957	34,207094
Özel İdare İlkokulu	46	38,396794	33,981351
Büyük Pörnekler İlkokulu	21	38,610896	34,205696
Akin İlkokulu	81	38,454762	34,04469
Taşpınar İlkokulu	185	38,176369	34,028162
Tatlıca-Şehit Ünal Demir İlkokulu	62	38,556215	34,23413
Yenikent İlkokulu	207	38,34415	33,750332
Kamber Gülizar Demir İlkokulu	1011	38,36623	34,02317
Göksüğüzel İlkokulu	40	38,514093	34,162655
Aratol İlkokulu	119	38,361627	33,965493
Hatıpağatolu İlkokulu	48	38,386553	33,915007
Altınkaya İlkokulu	93	38,552749	33,818865
Selçuk İlkokulu	520	38,362098	34,027679
Kazıcıktol İlkokulu	21	38,176352	34,028216
Yenipınar İlkokulu	62	38,175886	34,255401
Sarayhan Şehit Süreyya Kınay İlkokulu	50	38,581838	33,817359
Borucu İlkokulu	34	38,582249	33,811437
Yavuz Sultan Selim İlkokulu	267	38,348302	34,043767
Zafer İlkokulu	362	38,370982	34,024557
Mustafa Yazıcı İlkokulu	422	38,353509	34,008211
Kutlu Kocatepe İlkokulu	76	38,290765	33,856349
Yenikent Atatürk İlkokulu	194	38,344332	33,751205
Yenimahalle İlkokulu	85	38,401454	33,964368
Çimeli Yeniköy Ünal Özgödek İlkokulu	42	38,484183	33,90642
Küçük Pörnekler Ayten Tekişik İlkokulu	17	38,610097	34,20577
Yapılcan İlkokulu	38	38,327614	33,88236
Darühüyük İlkokulu	12	38,350429	33,840909
Güller Ceylan Acar İlkokulu	160	38,395767	33,99996
Merkez Mimar Sinan İlkokulu	792	38,37512	34,015021
İbrahim Ethem Baysal İlkokulu	95	38,402295	33,836071
İstiklâl İlkokulu	627	38,739632	34,040432
Sinandı Gökkaya İlkokulu	120	38,658438	33,997458
Ahmet Yavuz İlkokulu	175	38,749946	34,06051
Süleyman Kılıç İlkokulu	58	38,749406	34,049491
Kümbet İlkokulu	73	38,711158	34,194843
Ortaköy Fatih İlkokulu	68	38,735284	34,025378
Akpınar İlkokulu	12	38,763549	34,012811
Ozancık İlkokulu	36	38,736137	34,040181
Sarıkaraman Yunus Emre İlkokulu	68	38,769968	34,199014
Çatin İlkokulu	31	38,679892	34,181033
Yıldırımlar İlkokulu	21	38,670032	33,983615
Cumali İlkokulu	34	38,360207	34,00274
75.Yıl Cumhuriyet İlkokulu	200	38,737608	34,04069

Tepeköy İlkokulu	75	38,57526	34,564729
Karapınar İlkokulu	146	38,511809	34,546877
Karacaören Cumhuriyet İlkokulu	105	38,554904	34,588367
M.Zeki Hanoğlu İlkokulu	163	38,551831	34,509062
Acıgöl Atatürk İlkokulu	135	38,551653	34,514228
Acıgöl 4 Temmuz İlkokulu	104	38,546866	34,513077
Topaç Şehit Bekir Şahin İlkokulu	84	38,476568	34,558257
Ağıllı İlkokulu	42	38,476759	34,508458
Karapınar Esentepe İlkokulu	90	38,51172	34,54687
Kozluca İlkokulu	9	38,611157	34,404666
İnalı İlkokulu	61	38,580828	34,5088
	83	38,436444	34,517407
Kurugöl 70.Yıl İlkokulu			
Tatların Şehit Ahmet Tekdemir İlkokulu	149	38,63664	34,47006
Akarca İlkokulu	59	38,954344	34,950851
Avanos Cumhuriyet İlkokulu	292	38,714333	34,84405
Çalış İlkokulu	121	38,98415	34,864965
Kalaba Atatürk İlkokulu	160	38,964016	35,004532
Kalaba Meliha Hamdi Köroğlu İlkokulu	65	38,966728	34,990155
Topaklı İlkokulu	78	39,004669	34,822171
Alaettin İlkokulu	123	38,718908	34,840018
Sarılar İlkokulu	14	38,912443	34,790013
Nazife Mustafa Ergün İlkokulu	112	38,713833	34,84349
Bahçelievler 100.Yıl İlkokulu	218	38,713671	34,847356
Göynük İlkokulu	33	38,791368	34,884828
Bozca İlkokulu	22	38,763657	35,010377
Kalaba Yunus Emre İlkokulu	133	38,966598	35,001433
Mahmat Şehit Murat Koç İlkokulu	63	38,879551	34,969904
Özkonak Mareşal Fevzi Çakmak İlkokulu	132	38,810107	34,839038
Paşalı Şehit Hasan Güven İlkokulu	20	39,00991	34,983792
AYHANLAR İLKOKULU	114	38,827114	34,730759
Derinkuyu 24 Kasım İlkokulu	147	38,374158	34,734712
Derinkuyu Cumhuriyet İlkokulu	231	38,374183	34,734723
Derinkuyu Atatürk İlkokulu	192	38,37414	34,734655
Yazıhüyük Gazi İlkokulu	302	38,342386	34,635508
Til Ortaokulu	37	38,416311	34,817996
Derinkuyu 15 Temmuz Şehitleri İlkokulu	227	38,380042	34,731828
Kuyulutatlar Şehit Erhan Karataş İlkokulu	84	38,372077	34,564099
Çakıllı Şehit Kasım Poyraz İlkokulu	81	38,427061	34,659261
Doğala İlkokulu	40	38,432882	34,593199
Güneyce İlkokulu	11	38,488533	34,847812
Abuşağı İlkokulu	65	38,851978	34,319365
Emmiler İlkokulu	37	38,772815	34,3769
Fakuşağı İlkokulu	11	38,789635	34,314834

Karavezir İlkokulu	259	38,745366	34,625049
Ovaören İlkokulu	46	38,635708	34,289798
Hacıhalilli İlkokulu	26	38,785742	34,353461
Tuzköy İlkokulu	55	38,76684	34,498945
Gülşehir Atatürk İlkokulu	204	38,742538	34,621249
Karacaşar İlkokulu	148	38,69793	34,575126
Gökçetoprak İlkokulu	21	38,657937	34,302167
Yeniyaylacık İlkokulu	13	38,659126	34,30279
Gülpınar İlkokulu	10	38,706651	34,490894
Kızılkaya İlkokulu	12	38,355366	34,23155
TERLEMEZ İLKOKULU	71	38,734268	34,302545
YEŞİLÖZ İLKOKULU	40	38,745375	34,625038
Hacıbektaş Atatürk İlkokulu	283	38,940654	34,558057
Kızılağıl İlkokulu	25	38,994199	34,783114
Karaburna İlkokulu	70	38,875559	34,454631
KAYAALTI İLKOKULU	37	39,05231	34,77383
Çayıçi Yunus Emre İlkokulu	103	39,202913	34,686019
Karahasanlı İlkokulu	24	39,292304	34,719379
Yassıca İlkokulu	8	39,225185	34,661497
Kozaklı Mehmet Akif Ersoy İlkokulu	183	39,21628	34,849377
Küllüce İlkokulu	11	39,21996	34,851339
KOZAKLI ATATÜRK İLKOKULU	157	39,219985	34,851275
100.Yıl Ülfet Başer İlkokulu	421	38,61822	34,699814
Güzelyurt Turgut Akdevelioğlu İlkokulu	621	38,639005	34,735077
Nar Barbaros İlkokulu	168	38,639947	34,71622
Rauf Nail Akman İlkokulu	328	38,665443	34,737529
Sulusaray İlkokulu	106	38,697263	34,716432
Uçhisar Haydar Çankaya İlkokulu	131	38,626899	34,80278
Mustafa Çalışkan İlkokulu	597	38,627555	34,738946
Göre Şehit Emre Fıstıkeken İlkokulu	150	38,588376	34,716123
Özyayla İlkokulu	78	38,494026	34,631753
20 Temmuz İlkokulu	492	38,629246	34,71215
Boğaz İlkokulu	107	38,547522	34,638025
75.Yıl İlkokulu	735	38,651687	34,73353
Nevşehir Cumhuriyet İlkokulu	362	38,624526	34,71079
Nevşehir Atatürk İlkokulu	459	38,627067	34,70595
Örnek Evler İlkokulu	302	38,630559	34,702013
Yunus Emre İlkokulu	224	38,615767	34,703268
Göreme İlkokulu	102	38,64465	34,829579
Kaymaklı İlkokulu	348	38,458221	34,75043
30 Ağustos İlkokulu	629	38,60074	34,689913
Mehmet Gülen İlkokulu	331	38,631417	34,721888
İncekaralar İlkokulu	280	38,609442	34,694132
İcık İlkokulu	132	38,503247	34,60306

Güvercinlik İlkokulu	44	38,562672	34,752739
Çiftlik 100.Yıl İlkokulu	40	38,679342	34,492725
19 Mayıs İlkokulu	581	38,670614	34,73735
Çardak İlkokulu	140	38,553413	34,768619
Çat İlkokulu	172	38,677337	34,656654
NECİP FAZIL KISAKÜREK İLKOKULU	580	38,635691	34,696704
BALCIN İLKOKULU	25	38,610602	34,625189
RECEP TAYYİP ERDOĞAN İLKOKULU	206	38,578704	34,818972
HACI ASIM ATABİLEN İLKOKULU	110	38,632197	34,744752
ÜRGÜP 15 TEMMUZ İLKOKULU	189	38,66068	34,926637
AYVALI İLKOKULU	24	38,548544	34,869798
ŞAHİNEFENDİ İLKOKULU	31	38,548344	34,853314
Ortahisar İlkokulu	113	38,62795	34,863371
Karakaya İlkokulu	11	38,716738	35,031491
Sarıhıdır İlkokulu	28	38,737169	34,929131
Sofular İlkokulu	22	38,712691	34,991247
Mustafapaşa İlkokulu	61	38,584119	34,899435
Bahçeli İlkokulu	21	38,548226	34,85326
Ayhan Ertürk İlkokulu	458	38,642396	34,906898
Mazı İlkokulu	87	38,469925	34,839091
Başdere İlkokulu	49	38,55871	35,081344
Mazı Ortaokulu	89	38,469958	34,839123
Ortahisar Fatih İlkokulu	129	38,626739	34,858875
Mehmet Dinler İlkokulu	316	38,633218	34,942085
Aksalur İbrahim Aydın İlkokulu	37	38,66375	34,990129
Hanife Memiş Aksoy İlkokulu	235	38,632723	34,913626
İbrahimpaşa İlkokulu	42	38,629061	34,719739
Türkan Diker İlkokulu	223	38,626375	34,910333
Atatürk İlkokulu	242	39,81472	34,795259
Belekçihan İlkokulu	87	39,668016	35,875373
Kaymakam Mehmet Tahir İlkokulu	249	39,657928	35,881434
Pazarcık İlkokulu	78	39,791876	36,016185
Yusuf Ziya İlkokulu	116	39,658083	35,889029
Umutlu Kasabası İlkokulu	76	39,756408	35,619509
75.Yıl Cumhuriyet İlkokulu	314	39,666995	35,889949
Bahçecik İlkokulu	40	39,885804	35,822221
Tarhana Mehmet Öğretmen İlkokulu	61	39,893732	35,715043
Kirsinkavağı İlkokulu	45	39,786596	35,794685
Boğazköy İlkokulu	32	39,841226	35,945751
Yukarıçulhalı Şehit Teğmen Nurettin Türkmen İlkokulu	105	39,620045	35,968669
Namık Kemal İlkokulu	325	39,663227	35,884733
Sazlıdere İlkokulu	72	39,667851	35,875319
Kırlar İlkokulu	13	39,741563	35,72133

Mehmet Kaplan İlkokulu	75	39,657837	35,883096
MEHMET AKİF ERSOY İLKOKULU	142	39,817544	34,804396
Baydıgın İlkokulu	294	40,213334	35,159854
Kösrelık Hacı Dođan İlkokulu	18	40,137127	35,189065
Dereçiftlik İlkokulu	20	40,122868	35,225493
Şehit Bekir Şimşek İlkokulu	172	40,131101	35,286084
Sırçalı Şehit İdris Öztürk İlkokulu	58	39,326511	35,139241
Yenipazar İlkokulu	73	39,463432	35,085525
Boğazlıyan TOKİ İlkokulu	108	39,200664	35,189439
Yamaçlı İsmet İnönü İlkokulu	208	39,31997	35,06058
Cumhuriyet İlkokulu	204	39,81727	34,80786
Ovakent Atatürk İlkokulu	124	39,058422	35,238928
Aşađı Sarıkaya İlkokulu	20	39,43428	35,136973
Karakoç İlkokulu	28	39,18949	35,244979
Çakmak İlkokulu	40	39,519221	35,034571
Uzunlu Atatürk İlkokulu	77	39,520668	34,922304
Fatih İlkokulu	398	39,489188	35,379088
İMKB ŞÜKRAN ANA İLKOKULU	279	39,178336	35,241599
Çandır Cumhuriyet İlkokulu	69	39,240487	35,506521
Çandır Şehit Halim Altay İlkokulu	75	39,247022	35,510475
Yukarı Yahyasaray İlkokulu	42	39,82545	34,80386
Konuklar İlkokulu	53	39,408419	35,569886
Kalederesi İlkokulu	32	40,067161	35,500458
Özükavak Şehit Özgür Gençler İlkokulu	82	40,067084	35,496629
Şehit Sadık Nazlı İlkokulu	223	40,066169	35,515958
Beyyurdu Şehit Ferhat Deđerli İlkokulu	66	39,822404	35,19662
Gökdere Şehit Faruk Yüksel İlkokulu	53	40,068905	35,487709
Cumhuriyet İlkokulu	43	38,377856	34,027333
Karahacılı İlkokulu	53	39,817262	34,80787
Bayındırhüyük İlkokulu	97	40,071466	35,433122
Sarıköy Hasan Çakan İlkokulu	40	40,09207	35,625224
Ahmet Yesevi İlkokulu	133	39,993149	35,790719
Halıköy İlkokulu	127	40,011237	35,906173
Gümüşsu İlkokulu	90	40,05739	35,92502
Şehit Yasin Yoldaş İlkokulu	104	40,002129	35,798622
Üçağaç İlkokulu	41	39,93456	35,772696
Yavuşhan İlkokulu	70	40,054854	35,754584
Agâhefendi İlkokulu	134	39,832557	34,793252
Bozok İlkokulu	182	39,819875	34,821527
Çadırardıç İlkokulu	36	39,949359	34,400731
Esenli Bilal Şahin İlkokulu	39	39,832015	34,823562
Hüseyin ve Saffet Coşkun İlkokulu	98	39,859741	34,917621
Kanuni Sultan Süleyman Özel Eğitim İlkokulu	18	39,82601	34,8322
Leman Ayan İlkokulu	156	39,826436	34,79832

Mehmet Akif Ersoy İlkokulu	864	39,81756	34,80446
Musabeyli Şehit Mustafa Uğur İlkokulu	69	39,831078	34,62428
Sarıfatma İlkokulu	44	39,983783	34,431453
Süleyman Sırrı İçöz İlkokulu	103	39,812624	34,799464
75.Yıl Dr.Müzeyyen Çokdeğerli İlkokulu	231	39,826924	34,800163
Yavuz Selim İlkokulu	210	39,818777	34,812039
Sakarya İlkokulu	718	39,82418	34,808009
Gülaylar İlkokulu	109	39,819713	34,793349
Alacalıoğlu İlkokulu	295	39,826969	34,80022
Erdoğan M.Akdağ İlkokulu	274	39,82751	34,827848
TOKİ Mevlana İlkokulu	331	39,796333	34,780829
TOKİ Şehit Adem Cankurtaran İlkokulu	318	39,800851	34,789415
Bahçeşehir Şehit Mehmet Armağan Alper İlkokulu	133	39,825441	34,846679
MİLLÎ EĞİTİM VAKFI İLKOKULU	630	39,834786	34,822243
BİŞEK ŞEHİT ADEM KOCADAĞ İLKOKULU	60	39,921496	34,665799
Toki Şehit Mehmet Koçak İlkokulu	214	39,831665	34,788742
Güldibi İlkokulu	15	39,69286	35,509522
Marziye-İbrahim Ertek İlkokulu	91	39,678128	35,510349
Sarayözü İlkokulu	37	39,797824	35,548993
İzibüyük İlkokulu	30	39,888089	35,627083
Ozan Şehit Necati Binekçi İlkokulu	59	39,655656	35,565813
Dedefakılı İlkokulu	35	39,714685	35,433615
Saraykent İlkokulu	175	39,69184	35,511611
Çiçekli Fatma - Ali İçen İlkokulu	61	39,822103	35,608711
Erbek İlkokulu	22	39,60748	35,564228
Küçükçalağıl Şehit Selman Bozkurt İlkokulu	39	39,632618	35,42726
Tepedoğan İlkokulu	18	39,427452	35,30189
Yukarısarıkaya İlkokulu	65	39,517368	35,037661
Üçler İlkokulu	73	39,501126	35,366707
Fatih İlkokulu	70	39,488712	35,379062
Yavuz Selim İlkokulu	52	39,818785	34,812049
Babayağmur İlkokulu	30	39,363236	35,479092
Kadıgüllü Şehit Halit Aksu İlkokulu	24	39,583215	35,532464
Barbaros İlkokulu	198	39,494425	35,377304
Kayapınar İstiklâl İlkokulu	54	39,493365	35,375522
Azapbaşı Şehit H.Basri Kayaaltı İlkokulu	46	39,508536	35,561453
Hisarbey Hüseyin Demir İlkokulu	49	39,567776	35,646021
Şehit Metin Arslan İlkokulu	123	39,489779	35,393108
Eser İlkokulu	81	39,503691	34,763056
Şehit Adnan Menderes Gülbaş İlkokulu	274	39,501746	34,752297
Paşaköy İlkokulu	50	39,520246	34,921985
Kuzayca Şehit Suat Altuntaş İlkokulu	58	39,377616	34,823924

Ahmet Fakılı İlkokulu	58	39,79488	35,403255
Araplı Hacı İbrahim Şimşek İlkokulu	104	39,830754	35,434102
Bahadır Şehit Ali Akdoğan İlkokulu	65	39,675065	35,301306
Faraşlı İlkokulu	42	39,844082	35,504407
Fevzi Çakmak İlkokulu	256	39,81039	35,165509
Milli Egemenlik İlkokulu	717	39,818091	35,188768
Özcan Yıldırım İlkokulu	386	39,813876	35,198167
Şehit Önder Muratoğlu İlkokulu	370	39,817243	35,177931
Şehit Şuayip Çalışkan İlkokulu	36	39,817284	35,177963
Yavuz Selim İlkokulu	174	39,81876	34,812049
Yunus Emre İlkokulu	233	39,82571	34,830478
Şehit Lokman Erkan İlkokulu	78	39,680135	35,425836
Yaycılar Şehit Hayati Reçber İlkokulu	25	39,811503	35,196934
Belencumafakılı İlkokulu	101	39,926005	35,209368
Karalık İlkokulu	91	39,924452	35,400294
Çiğdemli Yunus Emre İlkokulu	114	39,820004	35,293686
Günyazı İlkokulu	29	39,87035	35,52463
Gülşehri Çötelli İlkokulu	34	39,778868	35,488678
Gevrek Şehit İlimdar Yılmaz İlkokulu	23	39,818098	35,193825
Karakız Veli Uyar İlkokulu	101	39,808286	35,3555
Karaveli İlkokulu	44	39,63831	35,225468
Yeşilyurt İlkokulu	848	39,810019	35,190741
Agâh efendi İlkokulu	635	39,811645	35,177082
AKŞEMSETTİN İLKOKULU	168	39,817879	35,151146
Bektaşlı Şehit Halim Bulut İlkokulu	50	39,213302	35,092117
Fehimli İlkokulu	55	39,116342	35,053612
Çöplüçiftliği Şehit Savaş Gümüş İlkokulu	14	39,207236	35,006418
Şehit Muhammed Ali Ocak İlkokulu	195	39,642529	34,468725
Şehit Kamil Çelikkaya İlkokulu	806	39,636747	34,463783
TOKİ Şehit Ali Salmanlı İlkokulu	341	39,63969	34,476732
Sekili Şehit Osman Pekşen İlkokulu	121	39,740587	34,255228
Saray Yibitaş Lafarge İlkokulu	61	39,689721	34,656266
İbrahim Karaoğlu İlkokulu	349	39,632686	34,459229
Reşat Akyön İlkokulu	184	39,646228	34,474113
Şehit İbrahim Yıldız İlkokulu	145	39,641896	34,464752
Kululu İlkokulu	44	38,974204	36,140249
Atatürk İlkokulu	84	38,996834	36,168233
Ortaköy İlkokulu	43	39,074277	36,272442
Yeni Süksün İlkokulu	73	38,84844	35,85939
Ekinciler İlkokulu	21	38,713844	36,055113
Atatürk İlkokulu	287	38,850045	35,858135
Köprübaşı Yakup Atila İlkokulu	75	38,668829	36,036949
Akmescit Garip Altemel İlkokulu	144	38,613807	35,875529
Fatih İlkokulu	270	38,856947	35,849094

Karakaya İlkokulu	68	38,969637	35,717907
Yünören Şh.Jnd.Onb.Ramazan Koca İlkokulu	48	38,601525	35,9457
Şehit Musa Yüce İlkokulu	102	38,950218	35,844808
Güllüce İlkokulu	179	38,716375	35,84139
Karadayı Muzaffer Oflaz İlkokulu	44	38,645925	35,934521
Sıvgın İlkokulu	9	38,78105	36,094089
Sultanhanı İlkokulu	11	38,972675	35,894257
TOPSÖĞÜT İLKOKULU	12	38,821399	36,072268
SÜMER ANAOKULU	81	38,840695	35,865898
KAHVECİ İLKOKULU	13	38,906966	35,985229
PIRAHMET İLKOKULU	28	38,949367	36,036348
Ayvazhacı İlkokulu	70	38,368434	35,551692
Gazi İlkokulu	55	38,24679	35,419364
Hacı Kemal Kaman İlkokulu	49	38,364535	35,644087
İstiklal İlkokulu	169	38,382269	35,487672
Soysallı Şükrü Somuncu İlkokulu	63	38,380318	35,367179
Sindelhöyük Cumhuriyet İlkokulu	83	38,345307	35,381035
Çaylıca Şehit Jandarma Er Zeki Özbek İlkokulu	46	38,382553	35,493016
Sarıca İlkokulu	9	38,266416	35,419782
Cesarettin Kocatürk İlkokulu	385	38,394083	35,490131
Fatih İlkokulu	104	38,38341	35,497779
Saray Halı İlkokulu	147	38,360927	35,476616
Köseler İlkokulu	55	38,250825	35,894758
Karacaviran İlkokulu	18	38,279644	35,384383
Kabaklı Hacı Ömer Soytürk İlkokulu	30	38,445366	35,634989
75.Yıl Saray Halı İlkokulu	282	38,373682	35,463759
Turan Köylüoğlu İlkokulu	234	38,396324	35,473467
Seyrani İlkokulu	235	38,091792	35,633061
Atatürk İlkokulu	270	38,381735	35,483173
Sindelhöyük İlkokulu	111	38,341597	35,375359
Öksüt İlkokulu	40	38,249402	35,471455
Gümüşören İlkokulu	66	38,258572	35,625778
Şahmelik İlkokulu	63	38,31908	35,667337
Çomaklı İlkokulu	52	38,447708	35,54528
Yeniköy İlkokulu	41	38,0963	35,666973
İncesu İlkokulu	38	38,4293	35,582489
Yazıbaşı İlkokulu	14	38,343927	35,580638
Çayırözü İlkokulu	33	38,420063	35,29589
Kızık İlkokulu	30	38,439048	35,399543
Ayşepınar İlkokulu	47	38,220006	35,627325
ERCİYES İLKOKULU	119	38,374142	35,49201
MERKEZ SELÇUK İLKOKULU	38	38,361392	35,494318
BÜYÜK KÜNYE İLKOKULU	21	38,173558	35,802861
ÇATALOLUK İLKOKULU	16	38,190051	35,840921

YAYLACIK İLKOKULU	32	38,146244	35,770414
ZİLE İLKOKULU	17	38,303194	35,458917
Büyük Toraman Cumhuriyet İlkokulu	39	39,170027	35,677964
Merkez Atatürk İlkokulu	154	39,090852	35,565233
Feyyaz Mercan İlkokulu	76	38,643825	35,445787
Demokrasi Şehitleri İlkokulu	67	38,650225	35,416468
Yunus Çepken İlkokulu	200	38,642188	35,453017
Saffet Arslan İlkokulu	136	38,647717	35,449773
Karpuzsekisi Mustafa Tatar İlkokulu	60	38,688554	35,311526
Atatürk İlkokulu	424	38,62474	35,185386
Saraycık İlkokulu	94	38,737988	35,287792
Süksün Şehit Ali Kıvanç İlkokulu	208	38,79044	35,231415
Şehit Yusuf Özmen İlkokulu	232	38,639072	35,202153
Tahirini Duran-Dudu Gümüş İlkokulu	74	38,783012	35,129049
Üçkuyu İlkokulu	37	38,669367	35,136621
Örenşehir Çinkom İlkokulu	149	38,623429	35,183946
Kızılören Osman Kulaç İlkokulu	175	38,632015	35,210369
ŞEYHŞABAN İLKOKULU	21	38,624115	35,184006
KARAMUSTAFAPAŞA İLKOKULU	90	38,621878	35,177528
SUBAŞI İLKOKULU	37	38,547783	35,21863
HAMURCU İLKOKULU	26	38,727472	35,206846
GARİPÇE İLKOKULU	19	38,689407	35,183287
OSMANGAZİ İLKOKULU	140	38,630263	35,202779
FATİH SULTAN MEHMET İLKOKULU	106	38,626473	35,182383
YAVUZ SULTAN SELİM İLKOKULU	221	38,621712	35,180409
Buğdaylı İlkokulu	290	38,800243	35,538247
Cevdet Sunay İlkokulu	426	38,74554	35,508027
Elagöz İlkokulu	85	38,80528	35,511795
Feridun Cıngılı İlkokulu	509	38,728791	35,483989
Mehmet Alçı İlkokulu	1071	38,734574	35,526056
Sadiye Nuhoglu İlkokulu	806	38,756555	35,493155
Sancaktepe Şehit Fahrettin Livçalkan İlkokulu	338	38,776515	35,463514
Şehit İstihkam Er Suat Özgan İlkokulu	208	38,756879	35,435123
Zekiye Has İlkokulu	382	38,761678	35,526575
Akin İlkokulu	38	38,861818	35,527823
Adviye-Ahmet Eminoglu İlkokulu	392	38,746569	35,474638
Sabit Bozahmetoglu İlkokulu	823	38,741133	35,437541
Gazipaşa İlkokulu	308	38,721989	35,477609
Mahzemin İlkokulu	104	38,855167	35,313483
Himmetdede Atatürk İlkokulu	54	38,909659	35,089234
Alsancak Şehit Osman Çelik İlkokulu	270	38,766875	35,520556
Zübeyde Hanım İlkokulu	626	38,742343	35,443577
Mehmet Sepici 60.Yıl Cumhuriyet İlkokulu	1080	38,736817	35,486623
Mehmet Ali Bakkaloğlu İlkokulu	491	38,733086	35,511525

Beyazşehir İMKB İlkokulu	893	38,781839	35,590359
Şehit Üsteğmen Ümit Bekem İlkokulu	163	38,742771	35,524594
Argıncık Şehit Kadir Çelebi İlkokulu	400	38,743194	35,515625
Mithatpaşa İlkokulu	936	38,754655	35,465378
Ahmet Baldöktü İlkokulu	959	38,72842	35,508613
Alpaslan İlkokulu	618	38,745274	35,482599
Akçatepe İlkokulu	21	38,824936	35,566666
İnönü İlkokulu	359	38,74529	35,524277
Erkilet Atatürk İlkokulu	368	38,81059	35,454272
Yazır İlkokulu	56	38,84672	35,512377
Gazi Osman Paşa İlkokulu	308	38,731615	35,467415
Dadaloğlu Şehit Osman Aydın İlkokulu	228	38,758088	35,53753
Orhan Gazi İlkokulu	249	38,749931	35,441418
Mehmet Koçyiğit İlkokulu	60	38,872017	35,285061
Güneşli İlkokulu	118	38,896425	35,622926
Emel Tarman Görme Engelliler İlkokulu	18	38,78121	35,454804
Cengiz Topel İlkokulu	121	38,745956	35,468299
Gültekin Gürkan İlkokulu	544	38,738596	35,447342
Erkilet Ali Osman Özel İlkokulu	279	38,801527	35,444637
Cumhuriyet İlkokulu	343	38,754298	35,37598
Burhanettin-Hanım Karamete İlkokulu	440	38,761859	35,520607
75.Yıl Rezan Has İlkokulu	460	38,745101	35,537047
Ahmet Paşa İlkokulu	792	38,781681	35,581277
Saraycık Hacı Mehmet Soyışık İlkokulu	40	38,766382	35,468632
Şeker İlkokulu	172	38,745253	35,421481
Ergenekon İlkokulu	827	38,744847	35,458887
Mustafa Kızıklı İlkokulu	461	38,748637	35,487723
Gözüakçalar İlkokulu	242	38,758109	35,475567
Düver İlkokulu	29	38,964021	35,093944
Ahmet Eskiyan İlkokulu	476	38,742377	35,467621
Erkilet Süleyman Tarman İlkokulu	523	38,800123	35,452928
Hacı Mehmet Soyışık İlkokulu	181	38,766365	35,468643
Karakimse İlkokulu	17	38,919833	35,1613
Yüreğil İlkokulu	22	38,963542	35,641932
Yeni Yuvalı İlkokulu	34	38,82638	35,089512
Yemliha Sami Yangın İlkokulu	206	38,885609	35,254763
Yavuz Selim İlkokulu	611	38,747583	35,464487
Osman Zeki Yücesan İlkokulu	808	38,738823	35,517634
Mehmet İlgü İlkokulu	1340	38,730228	35,48762
MEHMET TARMAN İLKOKULU	788	38,781795	35,4541
ESKİÖMERLER İLKOKULU	15	38,957389	35,244991
Servet Akaydın İlkokulu	1098	38,731407	35,50044
HACI ÖMER-AYTEN TEPECİK İLKOKULU	670	38,789862	35,459089
BOZTEPE İLKOKULU	502	38,776827	35,48038

MUSTAFA ÖNER İLKOKULU	128	38,775152	35,560994
ABDÜL HALİM BEZİRCİLİOĞLU İLKOKULU	370	38,764597	35,566965
ŞEHİT MEHMET KÖKKAYA İLKOKULU	278	38,770427	35,431457
ŞEHİT MEHMET ERDOĞAN İLKOKULU	630	38,79164	35,448866
Birlik Mensucat İlkokulu	723	38,719581	35,474056
Emine Akçakaya İlkokulu	310	38,707134	35,49441
Kıranardı İlkokulu	105	38,635199	35,522437
Malazgirt İlkokulu	280	38,71069	35,475412
Milli Egemenlik İlkokulu	208	38,710606	35,480262
Erciyes İlkokulu	594	38,704817	35,530405
Sema Yazar İlkokulu	772	38,736255	35,399946
Turan İlkokulu	84	38,720196	35,48323
Mustafa Kemal İlkokulu	1652	38,680026	35,476256
Fatoş Büyükkuşoğlu İlkokulu	669	38,720842	35,520663
Mehmet Miraboğlu İlkokulu	564	38,717133	35,509108
Hikmet Yedekçioğlu İlkokulu	159	38,633025	35,515134
Hacı Osman Güldüoğlu İlkokulu	685	38,697426	35,439767
Melikgazi Belediyesi İlkokulu	505	38,703093	35,478718
Mehmet-Şehime Germirli İlkokulu	488	38,763787	35,588117
İbrahim Yüzbaşıoğlu İlkokulu	376	38,729333	35,581317
Şehit Doktor Ulucan Dayan İlkokulu	907	38,741911	35,395785
Hacı Hüseyin Akoğlu İlkokulu	122	38,707122	35,478452
Fatin Rüştü Zorlu İlkokulu	672	39,840657	32,54218
Ahmet Kirazgiller İlkokulu	882	38,733383	35,436248
Arif Eminoğlu İlkokulu	756	38,722925	35,50055
Esentepe Mumcular İlkokulu	432	38,728255	35,441387
Adnan Menderes İlkokulu	1224	38,766642	35,601953
Habibe Taş İlkokulu	827	38,692312	35,493768
Yıldırım Beyazıt İlkokulu	307	38,71829	35,534892
Osman Ulubaş İlkokulu	656	38,740173	35,409621
Necip Fazıl Kısakürek İlkokulu	1251	38,737672	35,575811
Demir Karamancı İlkokulu	675	38,769128	35,577831
Yılmaz-İsmet Akansu İlkokulu	980	38,733714	35,380911
Besime Özderici İlkokulu	1302	38,728195	35,516639
Mustafa Yazar İlkokulu	581	38,730105	35,52834
75.Yıl İ.M.K.B.İlkokulu	331	38,736077	35,553609
Mehmet Bukem Somtaş İlkokulu	247	38,737633	35,539628
Ayşe Ahmet İnci İlkokulu	1132	38,695574	35,467581
Hasan Nuriye Ünlen İlkokulu	104	38,719048	35,577081
Mustafa Özgür İlkokulu	285	38,716048	35,478411
Mustafa Özdal İlkokulu	655	38,702282	35,494732
Ahmet Soykan İlkokulu	429	38,792133	35,593288
80.Yıl İşitme Engelliler İlkokulu	10	38,716128	35,465896

Kadir- Rezan Has İlkokulu	322	38,755629	35,570187
Mustafa Tatar İlkokulu	897	38,71517	35,466936
Hayriye Dabanođlu İlkokulu	1534	38,712198	35,452954
Türkan - Av.Mehmet Altun İlkokulu	367	38,729476	35,549183
Yeşilyurt Mustafa Tümer İlkokulu	71	38,800744	35,630009
Seyit Mehmet Kayıhan İlkokulu	164	38,727874	35,587848
Atatürk İlkokulu	337	38,717282	35,494209
Barbaros Şehit Nuri Yazanel İlkokulu	118	38,725836	35,598844
Burhan Dinçbal İlkokulu	877	38,720839	35,467298
Ülfet Kızıklı İlkokulu	350	38,708952	35,488197
Ađırnas Osman Yücel İlkokulu	138	38,818487	35,719723
Ambar İlkokulu	390	38,754693	35,377021
80.Yıl Cumhuriyet İlkokulu	1744	38,686279	35,475358
Fevziye Mollaođlu İlkokulu	368	38,717644	35,443185
Fatih İlkokulu	305	38,727758	35,538836
Bülent Altop İlkokulu	1278	38,785316	35,614776
Mimarsinan Kasabası Sinan İlkokulu	136	38,731158	35,595482
Gesi Şehit Mustafa Bulut İlkokulu	42	38,791222	35,657166
Şehit Jandarma Er Ferhat Dođan İlkokulu	507	38,702408	35,486974
TOKİ ŞEHİT NAZIM İLKOKULU	844	38,766231	35,610712
ŞEHİT PİYADE ASTSUBAY SERKAN CİDDİOĐLU İLKOKULU	527	38,744033	35,563958
FATİH SULTAN MEHMET HAN İLKOKULU	1000	38,784296	35,605381
HOCA AHMET YESEVİ İLKOKULU	1351	38,789746	35,614044
MUSTAFA ÇATALOĐLU İLKOKULU	720	38,736159	35,413862
ŞEHİT CENNET YİĐİT İLKOKULU	215	38,694591	35,526662
ŞEHİT BÜLENT DOĐAN İLKOKULU	732	38,740369	35,384778
Melikgazi İlkokulu	300	38,721051	36,394044
Aslanbeyli İlkokulu	69	38,722089	36,390999
Kaynar İlkokulu	43	38,899013	36,453265
Atatürk İlkokulu	136	38,726134	36,398481
Kaman İlkokulu	13	38,512645	36,160107
Yukarıborandere İlkokulu	54	38,759648	36,539686
Panlı İlkokulu	45	38,764932	36,137192
Şabanlı İlkokulu	53	38,549717	36,188579
Şehit Sezer Güneş İlkokulu	308	38,721447	36,381626
Gümüşgün İlkokulu	104	38,726458	36,407047
Bahçecik İlkokulu	14	38,676869	36,281852
Çördüklü İlkokulu	7	38,575383	36,084464
Pazarören Uygulamalı İlkokulu	97	38,674845	36,162614
KARAKUYU İLKOKULU	67	38,912229	36,733124
KURTTEPE İLKOKULU	5	38,585323	36,138372
TÖZGÜN İLKOKULU	9	38,749514	36,121348
YUKARI KARAGÖZ İLKOKULU	19	38,745587	36,500266

Cumhuriyet İlkokulu	109	39,075699	35,969222
Merkez Fatih İlkokulu	78	39,069213	35,971423
Palas 75.Yıl Atatürk İlkokulu	68	39,025337	35,866135
Palas İlkokulu	248	39,025696	35,869082
Tatlı İlkokulu	36	39,09615	36,039627
Alamettin Şehit Er Eyüp Yabangülü İlkokulu	17	39,260559	35,862274
Çiftlik Şehit Üsteğmen Nevzat Altuntaş İlkokulu	109	39,033569	36,045094
Şehit Osman Börklüoğlu İlkokulu	39	39,033602	36,045083
Sarız İlkokulu	250	38,474913	36,499057
Yaylacı İlkokulu	19	38,516152	36,515918
Kuşçu İlkokulu	21	38,496564	36,522866
Alaybeyli İlkokulu	53	38,601034	35,819565
Bilge Kağan İlkokulu	688	38,698265	35,55191
Kani Arıkan İlkokulu	109	38,631629	35,541188
Kepez İlkokulu	266	38,604371	35,692635
Reşadiye Yurttaşlar İlkokulu	111	38,656752	35,584517
Sahra-Galip Özsan İlkokulu	787	38,704075	35,565174
Şehit Binbaşı Mahmut Şahin İlkokulu	330	38,693474	35,543865
Yazyurdu İlkokulu	54	38,57566	35,674119
Osman Hilmi Kalpaklıoğlu İlkokulu	232	38,687383	35,555162
Kamber İlkokulu	33	38,640934	35,766995
Kuruköprü İlkokulu	122	38,690022	35,67327
Fatma Zehra Dülgeroğlu İlkokulu	437	38,687802	35,551201
Çömlekçi İlkokulu	46	38,521342	35,652921
Fatma Aksoy İlkokulu	52	38,579786	35,75401
75.Yıl Mühibe Germirli İlkokul	810	38,704407	35,56029
Fatma-Mustafa Hasçalık İlkokulu	789	38,688012	35,542829
Yeni Ufuklar İlkokulu	38	38,744748	35,482206
Toki Şehit Levent Çetinkaya İlkokulu	829	38,705065	35,550014
Mehmet Cemile Oğulcuklu İlkokulu	787	38,696765	35,544207
Başakpınar Şehit Onur Sönmez İlkokulu	336	38,690457	35,552043
ÇATAKDERE İLKOKULU	63	38,672397	35,715938
Örencik Şehit Mehmet Alda İlkokulu	15	38,552831	35,687112
ÇEVLİK İLKOKULU	12	38,622858	35,790509
KOÇCAĞIZ İLKOKULU	21	38,674025	35,8269
YAMAÇLI İLKOKULU	25	38,556229	35,711713
Durak - Hava Demir İlkokulu	1082	38,707291	35,570128
CEMİL BABA İLKOKULU	712	38,699459	35,560114
ŞEHİT BURHAN KAPLAN İLKOKULU	166	38,693256	35,553945
Bahçelievler Şehit Duran Bayram İlkokulu	195	38,68469	35,546556
50.Yıl İlkokulu	178	38,453765	35,79784
Avşar Söğütlü İlkokulu	17	38,526763	36,024295
Gülveren İlkokulu	10	38,565163	35,797609
İmamkullu İlkokulu	37	38,253142	35,9366

Rahime Akıncıođlu İlkokulu	90	38,449983	35,799968
Sarımehtmetli İlkokulu	70	38,462346	35,7568
Kızılören İlkokulu	17	38,575825	35,904643
Şiraz İlkokulu	18	38,548583	35,81113
Şihbarak İlkokulu	36	38,449797	35,800086
Toklar İlkokulu	10	38,418002	36,014453
Kapukaya İlkokulu	10	38,524879	35,838942
Tahtakemer İlkokulu	11	38,282346	35,947358
Kale İlkokulu	11	38,301123	35,871743
Yavuz Selim İlkokulu	363	38,449595	35,8
Culha İlkokulu	21	38,312172	35,907332
ZEKİYE CANPOLAT İLKOKULU	106	38,457322	35,810647
DADALOĐLU İLKOKULU	141	38,758088	35,537551
PUSATLI FEHMİ ÖZİLHAN İLKOKULU	19	38,409134	35,740189
Avlađa İlkokulu	13	37,984487	35,512481
Balcıçakırı İlkokulu	57	37,848425	35,49793
Cumhuriyet İlkokulu	164	38,129176	35,363615
Çamlıca İlkokulu	25	37,916569	35,487991
Çavdaruşađı İlkokulu	27	37,882984	35,498317
Çubuklu Köyü Özkoyuncu İlkokulu	67	38,1505	35,2699
Derebađ Kasabası İlkokulu	48	38,073715	35,299916
Karaköy İlkokulu	84	38,041377	35,584719
Kopçu İlkokulu	55	38,23461	35,374534
Mehmet Akif Ersoy İlkokulu	198	38,087618	35,361282
Namık Kemal İlkokulu	67	38,118859	35,355816
Seydili Şehit Ferhat Kaplangiray İlkokulu	675	38,102212	35,354734
Taşhan İlkokulu	69	38,105725	35,528268
Yahyagazi İlkokulu	253	38,116193	35,367262
Yeşilköy Özden Elmacı İlkokulu	21	37,908971	35,523255
Kirazlı İlkokulu	60	38,079852	35,342399
Dikme İlkokulu	13	38,014141	35,533728
Ulupınar İlkokulu	64	37,815042	35,341068
Yeşilköy Çađlalık İlkokulu	13	37,90743	35,521477
Delialıuşađı İlkokulu	59	37,950612	35,535322
Durmuş İnneci İlkokulu	47	38,181655	35,307663
Büyükçakır İlkokulu	148	37,778782	35,411693
Ziya Gökalp İlkokulu	344	38,352471	35,088975
Musahacılı İlkokulu	48	38,219226	35,299701
Güzelöz İlkokulu	11	38,386764	34,953159
Çadirkaya İlkokulu	16	38,167425	35,219989
Kayadibi İlkokulu	36	38,217484	35,119469
Kovalı İlkokulu	46	38,181417	35,171374
Derbentbaşı İlkokulu	18	38,407817	34,906557
KAVAK İLKOKULU	15	38,454917	35,021512

Akıncılar İlkokulu	139	40,082917	38,346032
80. Yıl İlkokulu	56	40,088379	38,338738
Alparslan İlkokulu	101	39,758633	37,02513
Atatürk İlkokulu	133	39,76087	37,009658
Deli İlyas İlkokulu	69	39,324636	36,788108
Kızılhüyük İlkokulu	25	39,27133	36,755114
Güzeloğlan Şehit Ahmet Uma İlkokulu	33	39,250784	36,686546
Gümüşdiğın İlkokulu	11	39,251335	36,725406
Taşlıhüyük İlkokulu	29	39,162726	36,803723
Şehit Hasan Subaşı Kürkçüyurt İlkokulu	51	39,273304	36,757
Kale Vali Aydın Güçlü İlkokulu	44	39,733062	36,976672
Şehit Emin Alacahan İlkokulu	20	39,108468	37,595889
Mutubey Köyü Ülker Darbaz İlkokulu	7	39,228847	36,866064
SERİNYAYLA İLKOKULU	10	39,347569	36,723636
Mustafa Necati İlkokulu	206	39,374942	38,118539
İstiklal İlkokulu	100	39,371454	38,109776
ATATÜRK İLKOKULU	57	39,370886	38,116916
HÜSEYİN YUMUŞAK İLKOKULU	99	40,217501	37,536926
Cumhuriyet İlkokulu	116	39,184973	36,071729
Yeniçubuk İlkokulu	111	39,214724	36,096976
Burhan İlkokulu	19	39,253666	36,044121
Eğerci İlkokulu	62	39,241933	35,970956
Sızır Atatürk İlkokulu	110	39,312291	35,951688
Özel İdare İlkokulu	174	39,191707	36,077794
Yeniçubuk Atatürk İlkokulu	334	39,312283	35,95171
Şehit İlker Uçar Çepni İlkokulu	52	39,307736	36,05279
Kartalkaya İlkokulu	9	39,144412	36,226214
Çat İlkokulu	11	39,453292	35,944863
Eskiyurt İlkokulu	44	39,3813	36,144152
Yeniköy İlkokulu	45	39,107435	36,365962
KARAGÖL İLKOKULU	12	39,274002	36,18837
ESKİÇUBUK İLKOKULU	5	39,231593	36,149983
ÖZİÇİ SİYİRMALİ İLKOKULU	6	39,215859	36,283691
GÖLOVA HASAN ŞAKAR İLKOKULU	102	40,057986	38,619451
Cumhuriyet İlkokulu	366	38,721757	37,270346
Tepecik İlkokulu	52	38,655621	37,378663
Kemal Özalper İlkokulu	115	38,728677	37,246026
Yolgeçen İlkokulu	47	38,752148	37,007873
Suçatı İlkokulu	62	38,719452	37,339649
Sarıca İlkokulu	24	38,954321	37,490289
Çamlıca Şehit Abuzer Doğan İlkokulu	31	38,813969	37,289764
Kurultay İlkokulu	75	38,721148	37,27121
Vali Tuncel İlkokulu	120	38,723587	37,282371
Göbekören İlkokulu	10	38,740192	36,922967

Yeşildere İlkokulu	8	38,903606	37,507881
BEYPINAR İLKOKULU	37	39,839746	37,133571
AYVALI İLKOKUL	31	38,770754	37,515625
ATATÜRK İLKOKULU	98	38,722999	37,295169
YAZYURDU BUCAGI İLKOKULU	41	38,80305	36,927751
KOYUNLU İLKOKULU	2	38,898171	37,083815
Çınarlı İlkokulu	11	39,924101	37,499733
Düzyayla İlkokulu	21	39,918134	37,309363
Cumhuriyet İlkokulu	119	39,855617	37,395146
Adem Yavuz İlkokulu	66	40,046449	37,355297
Atatürk İlkokulu	161	39,872916	38,110712
Türkçeşlik İlkokulu	16	39,911541	37,996803
75.Yıl İlkokulu	132	39,22726	37,389732
Alacahan İlkokulu	100	39,108493	37,595836
Ayhan Erkan İlkokulu	130	39,233501	37,379034
Çetinkaya Merkez İlkokulu	110	39,257909	37,634102
Cumhuriyet İlkokulu	138	39,234554	37,390703
Havuz İlkokulu	99	39,204364	37,106324
Şehit Oğuz Özgür Çevik İlkokulu	275	39,231464	37,386831
Atatürk İlkokulu	168	39,238836	37,394039
Kuşkayası İlkokulu	21	39,060181	37,082301
Akçakale İlkokulu	18	39,163965	37,782588
Atatürk İlkokulu	69	40,288551	37,803581
Aksu İlkokulu	75	40,441456	38,118897
Cumhuriyet İlkokulu	139	40,299072	37,829401
Çaylı İlkokulu	12	40,314789	37,729477
Yukarıkale İlkokulu	60	40,276614	37,858718
Şehit Erkan Sakal İlkokulu	482	39,764733	36,987339
Şehit Erdal Çetin İlkokulu	265	39,735571	37,032425
Abdulahabigazi İlkokulu	226	39,755642	37,03247
Ayli Şehit Yılmaz Demir İlkokulu	34	39,462724	36,840417
Başsöğüt İlkokulu	29	39,863118	36,877137
Çallı İlkokulu	45	39,654046	36,836883
Danişment İlkokulu	429	39,749297	36,999671
Gazi Osman Paşa İlkokulu	560	39,745862	37,012454
Güney Şehit Uzman Çavuş Sadettin Yazıcı İlkokulu	116	39,427055	36,679491
İnönü İlkokulu	556	39,747765	37,03455
Hale Harun Kütükde İlkokulu	378	39,750357	37,005241
Şehit Hakan Yurtoğlu İlkokulu	665	39,753002	37,044808
Kılıçarslan İlkokulu	159	39,742806	37,015462
Kızılca İlkokulu	13	39,877377	37,114219
Kızılırmak İlkokulu	584	39,751992	37,012853
Kurtlapa İlkokulu	150	40,082758	37,038914

Lütfi Abay İlkokulu	730	39,761033	37,044091
Kongre İlkokulu	280	39,741472	36,993951
Mimar Sinan İlkokulu	759	39,73028	36,971321
Necdet Şükriye Selen İlkokulu	167	39,729454	36,999675
Öğretmenler İlkokulu	366	39,764597	37,020585
Özel İdare İlkokulu	554	39,754771	37,051376
Reşat Şemsettin Sırer İlkokulu	334	39,74776	37,011841
Süleyman Sami Kepenek İlkokulu	465	39,741632	37,000299
Şehit Hamit Kandur İlkokulu	171	39,743117	36,979946
Uzuntepe İlkokulu	67	39,755889	37,08557
Vakıfbank İlkokulu	547	39,772182	37,029981
Vali M. Lütfullah Bilgin İlkokulu	157	39,743441	37,004023
Vali Reşit Paşa İlkokulu	398	39,758167	37,016542
Yıldız İlkokulu	170	40,075645	36,914253
Zengi İlkokulu	23	39,95571	36,852102
Olukman İlkokulu	84	40,013902	36,963725
Toki Şehit Uzman Çavuş Bahaddin Erturhan İlkokulu	303	39,727525	37,053718
Fevzipaşa İlkokulu	581	39,754604	37,01924
Karşıyaka Nuri Dönmezcan İlkokulu	238	39,707565	36,969903
Cebecioğlu İlkokulu	549	39,738447	36,986996
Mehmet Akif İlkokulu	506	39,754301	36,994955
Gazipaşa İlkokulu	639	39,736938	36,992735
Gazibey Şehit Davut Toy İlkokulu	25	39,35921	36,659344
Kayadibi İlkokulu	49	39,481133	36,710708
Lutfi Fikret Tuncel İlkokulu	382	39,750569	36,991973
Ozmuş İlkokulu	21	39,914924	36,885827
Gazi Mustafa Kemal İlkokulu	128	39,744833	37,043719
Kazım Karabekir Paşa İlkokulu	240	39,753321	37,03053
Vali Bekir Aksoy İlkokulu	382	39,755072	37,005394
Şehit Ebubekir Ekinci İlkokulu	723	39,758455	36,998262
Yassıcaabel İlkokulu	13	39,649673	37,039819
Karamehmet İlkokulu	23	39,908401	36,848177
Yavuz Selim İlkokulu	378	39,735568	37,020386
Vali Aydın Güçlü İlkokulu	653	39,735655	36,986558
Mehmetçik İlkokulu	555	39,733671	36,984162
Reşit Akif Paşa İlkokulu	208	39,742039	37,022884
Şehit Talha Emre Zileligil İlkokulu	314	39,764287	37,061611
Gaziköy İlkokulu	39	39,994978	36,907525
Rauf Orbay İlkokulu	319	39,749894	37,023261
Namık Kemal İlkokulu	459	39,752135	37,021704
Vali Muammer Bey İlkokulu	348	39,758319	37,027475
Gümüştendere İlkokulu	78	40,062376	36,993581
Alahacı İlkokulu	49	40,046172	37,106509

Yaramış İlkokulu	31	39,663265	36,70821
Buruciye İşitme Engelliler İlkokulu	4	39,758861	37,032301
Kanuni İlkokulu	486	39,746027	36,991902
Halil Rıfat Paşa İlkokulu	356	39,744481	37,00435
Beypınar İlkokulu	43	39,83977	37,133582
Doğanca İlkokulu	17	39,627853	37,106906
Çayboyu ilkokulu	26	39,794264	37,054598
Şehit Cüneyt Erkan İlkokulu	321	39,735329	36,978101
Durdulu İlkokulu	84	39,62206	36,675837
Çongar İlkokulu	14	39,404479	36,676544
Sivritepe İlkokulu	9	39,755674	37,087577
Cumhuriyet İlkokulu	301	39,746984	37,018926
Toki Şehit Üsteğmen Şükrü Pürlü İlkokulu	231	39,751092	36,983379
Vali Zübeyir Kemelek İlkokulu	242	39,763783	37,010006
Dumlupınar İlkokulu	111	39,741651	36,994396
Haydarlı İlkokulu	32	39,585806	36,672288
Ovacık İlkokulu	47	40,046197	37,106477
Yanalak İlkokulu	28	39,608965	36,548186
Çelebiler İlkokulu	14	39,753316	36,89567
Demiryazı Yerlikaya İlkokulu	10	39,520685	37,215303
Yazıbaşı İlkokulu	10	39,820972	36,872954
YAKUPOĞLAN İLKOKULU	212	40,104521	36,950418
HIDIRNALI İLKOKULU	8	39,959121	36,944285
SÖĞÜTCÜK İLKOKULU	22	39,462035	36,763895
KARTALCA İLKOKULU	12	39,536647	36,638505
ŞEHİT ÜSTEĞMEN NİZAMETTİN SONGUR İLKOKULU	44	39,764054	37,027004
CAHİT ZARİFOĞLU İLKOKULU	416	39,760687	36,993766
ŞEYH ŞAMİL İLKOKULU	430	39,762225	37,056189
MUHSİN YAZICIOĞLU İLKOKULU	708	39,737889	36,993159
Aksu İlkokulu	15	40,441423	38,118854
Kemalpaşa İlkokulu	354	40,16648	38,091814
Günlüce İlkokulu	10	40,275867	38,106961
Yeşilyayla İlkokulu	7	40,136843	38,145936
Şehit Bayram Yüce İlkokulu	160	40,162282	38,082748
TOKİ KÖSEDAĞ İLKOKULU	107	40,169261	38,058986
ÇATALOLUK İLKOKULU	32	40,147531	38,040033
Atatürk İlkokulu	419	39,343084	36,410061
Cemel İlkokulu	78	39,318312	36,468652
Cumhuriyet İlkokulu	159	39,356261	36,406805
Milli Egemenlik İlkokulu	504	39,350289	36,421202
Gürçayır İlkokulu	135	39,378764	36,359517
Kızılcaakışla Fatih İlkokulu	77	39,291687	36,330047
Kömürkaya İlkokulu	19	39,295865	36,223005

Sağır İlkokulu	16	39,369705	36,356586
M. Hüyük İlkokulu	11	39,371538	36,448809
Kahraman Köseoğlu İlkokulu	203	39,356687	36,396917
Hürriyet İlkokulu	142	39,378789	36,35942
Gümüştepe Muhtar Yalın İlkokulu	75	39,027013	36,377534
Samankaya Şehit Süleyman Solak İlkokulu	72	39,353325	36,418917
Maksutlu İlkokulu	13	39,378081	36,47806
Aşık Veysel İlkokulu	234	39,359132	36,421214
Döllük Şehit Oğuz Yorulmaz İlkokulu	12	39,338916	36,405599
Ersin Yıldız İlkokulu	127	39,444397	37,041119
Ulaş İlkokulu	213	39,443922	37,036691
Acıyurt Mihralibey İlkokulu	13	39,282175	37,023891
Eskikarahisar İlkokulu	8	39,444089	37,039996
Ekincioğlu İlkokulu	10	39,492721	36,952918
Yenikarahisar Mehmet Ali Demet İlkokulu	51	39,335352	37,098613
Karaşar İlkokulu	11	39,500776	37,146301
Karacaören İlkokulu	59	39,853381	36,748388
Kerimümin Halit Orhan İlkokulu	69	39,89196	36,790179
Şehit Yusuf Kolay İlkokulu	67	39,866773	36,600249
Yeniyapan İlkokulu	28	39,8208	36,787039
Aşağı Nevruz İlkokulu	11	39,762532	36,662559
Çobansaray İlkokulu	33	39,904064	36,32869
Çağlayan İlkokulu	51	39,799906	36,570541
Bedel İlkokulu	43	39,735281	36,623847
Karalar İlkokulu	37	39,742302	36,179129
Kurtboğazalı İlkokulu	14	39,866692	36,600407
Yıldızeli İMKB Cumhuriyet İlkokulu	321	39,866725	36,600396
Güneykaya İlkokulu	77	40,138348	36,819102
Şehit Kadir Doğan İlkokulu	42	39,784119	36,653509
Sandal İlkokulu	15	39,866448	36,429511
Kümbet İlkokulu	50	37,332153	36,055728
Fatih Sultan Mehmet İlkokulu	96	39,867969	36,592509
Şeyh Halil İlkokulu	44	39,845379	36,13837
Tat İlkokulu	13	39,866773	36,600464
Yusufoğlan İlkokulu	28	40,154878	36,883315
Aşağı Ekecik İlkokulu	9	39,866676	36,600418
Direkli İlkokulu	42	39,71575	36,651852
Çöte İlkokulu	24	39,905813	36,030197
Kavak Şehit Nadir Bekar İlkokulu	85	39,868668	36,599351
YAKACIK ÇAVUŞLU İLKOKULU	41	39,652252	36,549866
SARIYAR İLKOKULU	120	39,715717	36,651862
MUMCU ÇİFTLİĞİ İLKOKULU	10	39,793675	36,751945
İĞNEBEY İLKOKULU	28	39,887761	36,696402
KALIN İLKOKULU	60	39,726997	36,715907

AŞAĞI ÇAKMAK İLKOKULU	18	39,92773	36,646472
KARAKOÇ İLKOKULU	22	39,866641	36,607031
Halil İbrahim Çiftçi İlkokulu	81	39,899651	37,766063
Mehmet Akif İlkokulu	202	39,89403	37,753366
Şerefiye Vali Aydın Güçlü İlkokulu	63	40,119323	37,760974
Yapak Vakfı Özköyler İlkokulu	52	39,936946	37,61921
Yayıközü İlkokulu	12	39,703009	37,624887
Gazi İlkokulu	304	39,899172	37,760924
KORKUT GÜMÜŞAY İLKOKULU	41	39,727824	37,857357
İstiklal İlkokulu	102	37,991724	34,371921
Yakacık Cumhuriyet İlkokulu	129	38,02265	34,347916
Yeşilyurt Hasan Yaldır İlkokulu	37	38,002164	34,362979
Uluören İlkokulu	96	38,072859	34,189162
Karakapı İlkokulu	280	38,052207	34,158135
Keçikalesi Selçuk İlkokulu	73	38,062567	34,122937
Keçikalesi Atatürk İlkokulu	82	38,060767	34,116419
Ulukışla Atatürk İlkokulu	16	38,055155	34,31337
Bahçeli Gazi İlkokulu	64	37,832468	34,608441
Menderes İlkokulu	281	38,037729	34,900927
29 Ekim İlkokulu	64	37,89406	34,559636
Zafer İlkokulu	282	37,890765	34,56205
Yunus Emre İlkokulu	109	37,862593	34,565418
Cumhuriyet İlkokulu	208	37,968742	34,672394
Halaç İlkokulu	14	37,827102	34,696735
Balcı 100. Yıl İlkokulu	43	37,957801	34,441365
Karanlıkdere Kılıçlar İlkokulu	21	37,995053	34,432909
Veli Bengü İlkokulu	381	37,885123	34,557826
Kayı Ayşe Aydoğan İlkokulu	79	37,900902	34,403517
Hacı Ali Sebat Çorum İlkokulu	73	37,911733	34,575207
Mehmet Güleç İlkokulu	510	37,904307	34,565339
Şehit Mehmet Dildari İlkokulu	156	37,820051	34,572501
Bekir Sami Baran İlkokulu	187	37,892871	34,567016
Kemerhisar Cumhuriyet İlkokulu	101	37,89635	34,563021
Dr. Servet Çetin İlkokulu	140	37,877413	34,560613
Mehmet Rasim Dede İlkokulu	326	37,890453	34,556397
Kamil Alakuş İlkokulu	115	37,875152	34,551552
Kızılca Atatürk İlkokulu	85	37,837585	34,35249
KAYNARCA İLKOKULU	70	37,851253	34,636402
BADAK İLKOKULU	21	37,73414	34,420671
ONUR EKEMEN İLKOKULU	144	37,895718	34,553924
Bademdere Şehit Nuri Dayan İlkokulu	74	37,996506	35,048289
Burç İlkokulu	46	37,797853	34,975193
Celaller Şehit Halil Gelen İlkokulu	44	37,806424	34,917722
Yelatan Yavuz Sultan Selim İlkokulu	60	37,692047	35,021234

Eynelli İlkokulu	33	37,932399	35,014997
Atatürk İlkokulu	62	37,968173	34,671332
Demirkazık İlkokulu	28	37,971062	34,676725
Üskül Yeniköy İlkokulu	19	37,712579	34,919305
Nazmiye Pınar İlkokulu	140	37,836657	34,9905
SULUCAOVA ŞEHİT BAYRAM KIZILTAN İLKOKULU	5	38,012634	35,147092
Bademdere Şehit Nuri Dayan İlkokulu	74	37,997048	35,043483
Burç İlkokulu	46	37,798467	34,975301
Yelatan Yavuz Sultan Selim İlkokulu	60	37,69203	35,021234
Eynelli İlkokulu	33	37,93206	35,014504
Atatürk İlkokulu	62	37,968202	34,671313
Nazmiye Pınar İlkokulu	140	37,836657	34,990532
ORHANIYE ŞEHİT ERSİN BARTAN İLKOKULU	11	38,000778	35,084293
Bozköy Ahmet Nazmi Filibeli İlkokulu	196	38,236152	34,483771
Bozköy Mehmet Akif İlkokulu	97	38,236882	34,484113
Çınarlı İlkokulu	45	38,190497	34,562916
Divarlı Şehit İlhan Çankaya İlkokulu	195	38,220557	34,461757
Kitreli İlkokulu	64	38,170918	34,349079
Murtaza Aynur Filibeli İlkokulu	79	38,1641	34,597964
Ovalıbağ Hasan Süleyman Filibeli İlkokulu	96	38,20751	34,445429
Şehit Şakir Tekin İlkokulu	275	38,174513	34,484933
Asmasız İlkokulu	26	38,177729	34,490264
Kula İlkokulu	248	38,16787	34,446679
Divarlı Şehit Caner Erden İlkokulu	330	38,220625	34,461789
Çardak İlkokulu	206	38,197592	34,420585
Azatlı Şehit Salim Erten İlkokulu	152	38,168045	34,519517
Azatlı Şehit Yasin Tekin İlkokulu	176	38,201616	34,519647
Sultanpınar Şehit Mustafa Şahin İlkokulu	56	38,145811	34,523537
Bozköy İlkokulu	224	38,2355	34,484714
ŞEYHLER ŞEHİT HAMZA BAYKAN İLKOKULU	115	38,170366	34,439517
Cumhuriyet İlkokulu	797	37,968667	34,672387
Dikilitaş Şehit Erdal Çoban İlkokulu	42	38,108555	35,087898
Dumrupınar İlkokulu	221	37,965069	34,677997
Fesleğen Eczacı Necla Filibeli İlkokulu	24	37,986297	34,555574
Hasaköy Şehit Cemal Özcan İlkokulu	63	38,222965	34,704326
Kırkpınar Hacı Süleyman Filibeli İlkokulu	37	38,036708	34,635913
Kızılören Rebia Filibeli İlkokulu	39	38,016486	35,031001
Koyunlu Namık Kemal İlkokulu	39	37,982955	34,591132
Mehmet ve Emet Aydoğan İlkokulu	32	37,960641	34,670042
Memnune-Türker Altuncu İlkokulu	367	37,958258	34,68729
Murtaza ve Naile Uyanık İlkokulu	215	37,985037	34,672138
Nezihe ve Tahsin Kitapçı İlkokulu	816	37,975691	34,684908

Yeşilgölcük Cumhuriyet İlkokulu	209	38,227802	34,77528
Gösterli İlkokulu	75	38,338842	34,495107
Kayırlı Hacı Merdan Kaplan İlkokulu	59	38,313059	34,503168
Hüdavend Hatun İşitme Engelliler İlkokulu	8	37,960481	34,645507
Necip Fazıl Kısakürek İlkokulu	913	37,977163	34,672863
Güllüce İlkokulu	23	38,045371	34,692216
Alpaslan İlkokulu	278	37,971901	34,679461
Behzat Ecemiş İlkokulu	235	37,99257	34,67782
Dr. Sadık Ahmet İlkokulu	334	37,969298	34,684278
Çarıklı Mehmet Babar İlkokulu	52	38,167341	35,000205
Yeşilgölcük Yenimahalle İlkokulu	112	38,234057	34,776657
Bağlama Şehit Adnan Savaş İlkokulu	197	38,241557	34,661566
Kiledere Şehit Bülent Tunçbilek İlkokulu	216	38,307522	34,683785
75.Yıl Mustafa Altuncu İlkokulu	394	37,965635	34,642723
Yıldıztepe Şehit Ahmet Saltık İlkokulu	156	38,175765	34,675078
Kiledere Şehit Emrah Eryılmaz İlkokulu	344	38,308774	34,688432
Selçuk İlkokulu	967	37,960977	34,674102
Uluagaç Şehit Faruk Eren İlkokulu	19	38,04714	34,836403
Kemal Aydoğan İlkokulu	713	37,962019	34,650021
Hazım Tepeyran İlkokulu	470	37,966667	34,683333
Aşlama Mukadder-Murat Bayatlı İlkokulu	64	38,135792	35,048702
Kumluca-Hamamlı Özgür Bilen İlkokulu	12	37,980546	34,653422
Yeşilgölcük 75. Yıl Türkan Yüksel İlkokulu	210	38,230032	34,779131
Halil Kitapçı İlkokulu	63	37,976915	34,681072
Gazi İlkokulu	670	37,991506	34,692081
Tırhan Ümit Güneş İlkokulu	12	38,239311	34,708857
Aktaş Şehit Yüksel Kabaca İlkokulu	100	38,025224	34,769877
Gümüşler İlkokulu	132	37,993341	34,771705
Kömürcü Çanakkale Şehitleri İlkokulu	261	38,280018	34,572755
Elmalı İlkokulu	28	38,032929	34,984657
Edikli Atatürk İlkokulu	101	38,240326	34,942472
İçmeli Şehit Davut Yıldız İlkokulu	24	38,068741	35,086776
Ovacık Şehit Bayram Aksoy İlkokulu	56	38,072228	34,816061
Asım ve Zeynep Ecemiş İlkokulu	600	37,968019	34,696178
Himmetli İlkokulu	54	38,029823	34,939794
Pınarcık Mustafa Şahin İlkokulu	39	38,135215	34,676551
Çayırlı Şehit Ayhan Karagöz İlkokulu	88	38,062111	34,962985
Zahide Sefer İlkokulu	890	37,984152	34,689637
Kemal Çetintürk İlkokulu	380	37,964218	34,699272
Değirmenli Adnan Menderes İlkokulu	66	38,037617	34,900656
Hacıabdullah Şehit Mustafa Avcı İlkokulu	164	38,174865	34,635618
Orhanlı Orhangazi İlkokulu	222	38,301733	34,886391
Yeşilova İlkokulu	10	38,06337	34,842072
Ağcaşar Şehit Mustafa Memiş İlkokulu	249	37,961026	34,66991

HÜYÜK İLKOKULU	28	38,1577	34,9163
ALİYA İZZET BEGOVİÇ İLKOKULU	208	37,961253	34,704528
AKTAŞ YENİMAHALLE İLKOKULU	39	38,02524	34,769856
SAZLICA ERTUĞRUL GAZİ İLKOKULU	69	37,900821	34,654551
Şehit Varol Tosun İlkokulu	527	37,853983	34,579206
Hüsniye İlkokulu	38	37,645145	34,587199
Kemalpaşa İlkokulu	81	37,547391	34,478801
Kılan İlkokulu	86	37,482135	34,467889
Yeniyıldız İlkokulu	61	37,469059	34,385407
Hasangazi İlkokulu	64	37,53937	34,626414
Beyağıl İlkokulu	23	37,54368	34,524385
İnkılap İlkokulu	165	37,546341	34,483998
Şeyhomerli İlkokulu	7	37,578292	34,333773
Alihoca İlkokulu	12	37,494303	34,717269
Çiftahan İlkokulu	68	37,512108	34,771024
Maden İlkokulu	6	37,855352	34,939506
Eminlik Şehit Yıldırım Kılınc İlkokulu	33	37,654527	34,625384
Horoz Şehit Mehmet Sezgin İlkokulu	31	37,457546	34,785358
TEPEKÖY GÜMÜŞTAŞ İLKOKULU	12	37,609379	34,368085
Kavaközü İlkokulu	91	37,164676	33,743356
YAVUZ SULTAN SELİM İLKOKULU	150	37,156984	33,265711
Başyayla Şehit Ali Rıza Yücel İlkokulu	105	36,752917	32,684821
Büyükkarapınar Şehit Nuri Başpınar İlkokulu	40	36,685834	32,686119
Güneyyurt Hurşit Akpınar İlkokulu	453	36,64012	32,894342
Kazancı İlkokulu	93	36,500734	32,857942
Hatice ve Hakkı Polat İlkokulu	87	36,624495	32,921907
Şehit Danış Tunalıgil İlkokulu	172	36,62988	32,905675
Katranlı İlkokulu	62	36,745867	32,747105
Gökçekent İlkokulu	84	36,64012	32,894256
Zehra Galip Sumra Atatürk İlkokulu	401	36,638813	32,892788
Tepebaşı İlkokulu	57	36,640052	32,894449
Ardıçkaya İlkokulu	114	36,640326	32,895029
Piri Reis İlkokulu	178	37,19034	33,226168
19 Mayıs İlkokulu	200	37,175441	33,224052
Atatürk İlkokulu	206	37,185077	33,199524
İsmet İnönü İlkokulu	425	37,159109	33,237349
Kurtderesi İlkokulu	18	37,17297	33,181871
Ortaoba Sultan Ahmet Gümüş İlkokulu	31	37,446738	33,034154
Piri Reis İlkokulu	968	37,190332	33,226233
Yem Sanayi İlkokulu	648	37,188511	33,211864
Yılmaz Babaoğlu İlkokulu	520	37,163661	33,232116
Cumhuriyet Nihat Arslan İlkokulu	372	37,179914	33,220551
Abdurrahim Karakoç İlkokulu	617	37,185756	33,218883
Süleymanhacı İlkokulu	53	37,465882	33,071808

Kılbasan İlkokulu	123	37,199378	33,214196
Yukarı Kızılcıca İlkokulu	47	36,985129	32,817511
Lale İlkokulu	100	36,993004	33,302205
Gazi Mustafa Kemal İlkokulu	543	37,184805	33,213169
Hamza Anaç İlkokulu	178	37,188656	33,237669
Morcalı İlkokulu	46	37,074555	33,106108
Hoca Ahmet Yesevi İlkokulu	126	37,2018	33,222264
Akçaşehir İlkokulu	87	37,443807	33,501968
Dr. Sadık Ahmet İlkokulu	372	37,170385	33,226323
Durmuş Ali Gülcan İlkokulu	84	37,198956	33,253593
Kızılyaka İlkokulu	85	37,139914	32,894935
Dr. Faruk Sükan İlkokulu	40	37,193285	33,174141
Sudurağı Karaman Bey İlkokulu	211	37,289678	33,37316
Vali Halil Nimetoğlu İlkokulu	62	37,173245	33,283968
Fatih Eğitim Çalışanları İlkokulu	81	37,169224	33,215528
Kisecik İlkokulu	42	37,391935	32,999667
Yavuz Sultan Selim İlkokulu	346	37,156975	33,265679
Mareşal Mustafa Kemal İlkokulu	296	37,156395	33,250649
Esentepe İlkokulu	155	37,17291	33,15018
Elmadağı İlkokulu	45	36,899754	33,152171
Siyahser İlkokulu	126	37,16638	33,222113
85. Yıl Milli Egemenlik İlkokulu	326	37,167616	33,238444
Bayır İlkokulu	58	36,92733	32,905478
Vali Ali Akan İlkokulu	804	37,168083	33,253111
İbrahim Bey İlkokulu	454	37,199404	33,21426
Mevlana İlkokulu	196	37,15183	33,247133
Akpınar İlkokulu	38	36,64012	32,89417
Kale İlkokulu	693	37,181511	33,203341
BOYALITEPE ÖMER DİNÇER İLKOKULU	13	37,491327	33,286691
BUCAKKIŞLA İLKOKULU	47	36,955235	33,027795
İHSANİYE İLKOKULU	9	36,855489	32,936171
MEHMET ÇAVAŞ İLKOKULU	440	37,172381	33,240265
GÜLKAYA İLKOKULU	48	37,052956	33,393153
GÜLDERE İLKOKULU	28	37,024035	33,470296
İLYAS KÜÇÜKER İLKOKULU	119	37,194216	33,22715
TOKİ İLKOKULU	260	37,167929	33,275345
Turcalar İlkokulu	88	36,687504	32,620401
CİVLER ŞEHİT ABİT ORBAY İLKOKULU	62	36,665638	32,579332
DUMLUGÖZE İLKOKULU	111	36,554859	32,552652
DARAN İLKOKULU	16	36,561294	32,679823
KOÇAŞLI İLKOKULU	11	36,550192	32,634206

Appendix B: Distance matrix between DCs to FPCs

	FPC 1	FPC 2	FPC 3	FPC 4	FPC 5	FPC 6	FPC 7
Kayacık Lg. B.	238	303	262	261	184	276	327
B. Köprü Lg. B.	348	394	308	298	234	449	500
Sivas Ind. Z.	532	537	447	435	422	630	680
Ankara Lg. B.	114	68	31	48	168	191	242
Çankırı Ind. Z.	247	221	137	130	191	324	375
Nevşehir Ind. Z.	302	382	296	295	186	412	463
Yozgat Ind. Z.	308	313	224	211	200	393	457
Kırşehir Ind. Z.	235	272	195	185	121	323	387
	FPC 8	FPC 9	FPC 10	FPC 11	FPC 12	FPC 13	FPC 14
Kayacık Lg. B.	353	251	238	21	77	131	14
B. Köprü Lg. B.	382	229	118	296	352	318	289
Sivas Ind. Z.	399	363	323	501	606	533	494
Ankara Lg. B.	160	115	224	306	297	190	300
Çankırı Ind. Z.	5	108	217	361	430	274	355
Nevşehir Ind. Z.	308	205	94	226	382	253	220
Yozgat Ind. Z.	173	140	115	362	418	297	354
Kırşehir Ind. Z.	219	116	5	248	304	204	240
	FPC 15	FPC 16	FPC 17	FPC 18	FPC 19	FPC 20	FPC 21
Kayacık Lg. B.	97	132	162	206	245	333	396
B. Köprü Lg. B.	319	192	164	87	63	84	148
Sivas Ind. Z.	524	397	369	292	268	213	188
Ankara Lg. B.	383	306	261	321	310	318	290
Çankırı Ind. Z.	438	362	317	313	304	250	215
Nevşehir Ind. Z.	232	122	95	19	30	117	181
Yozgat Ind. Z.	368	258	203	201	136	78	41
Kırşehir Ind. Z.	254	144	88	98	87	141	156
	FPC 22	FPC 23	FPC 24	FPC 25	FPC 26	FPC 27	FPC 28
Kayacık Lg. B.	307	303	371	348	521	461	498
B. Köprü Lg. B.	25	27	87	85	237	178	214
Sivas Ind. Z.	200	192	174	288	27	97	4
Ankara Lg. B.	355	358	419	421	501	510	475
Çankırı Ind. Z.	349	352	413	414	425	407	399
Nevşehir Ind. Z.	91	88	155	105	305	246	283
Yozgat Ind. Z.	170	174	203	236	252	243	225
Kırşehir Ind. Z.	132	136	196	199	346	287	324
	FPC 29	FPC 30	FPC 31				
Kayacık Lg. B.	246	247	129				
B. Köprü Lg. B.	120	120	302				
Sivas Ind. Z.	325	325	507				

Ankara Lg. B.	374	375	415				
Çankırı Ind. Z.	392	392	470				
Nevşehir Ind. Z.	87	87	269				
Yozgat Ind. Z.	270	271	390				
Kırşehir Ind. Z.	177	177	276				

Appendix C: CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name : Akdere, Erol
Nationality : Turkish (TC)
Date and Place of Birth : 18 May 1992 , Nevşehir
Marital Status : Single
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EDUCATION

Degree	Institution	Year of Graduation
MS	Çankaya Univ. Industrial Engineering	2020
BS	Çankaya Univ. Industrial Engineering	2016
High School	Sokullu Mehmet Paşa High School, Ankara	2010

WORK EXPERIENCE

Year	Place	Enrollment
2017-Present	Municipality of Çankaya	Industrial Engineer
2015-August	ROKETSAN	Intern Engineering Student
2014-July	TAI	Intern Engineering Student

FOREIGN LANGUAGES

Advanced English, Beginner Spanish

HOBBIES

Tennis, Fitness.