

Proposal

Postal Address Locator Code

- PAL Code -

Should Replace

PIN Code

to Revolutionize Sorting and Delivery of Mails in India.

Please send Your Views on this Proposal, explained in this presentation, By **04 Aug 2008** to

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Intellectual Property

The Concept and Design of Postal Address Locator Code (PAL Code) is the property of India Post (Department of Posts, Government of India). No Postal Administration in the world should adopt it for its postal code without obtaining written consent of India Post.

Disclaimer

It may please be noted that what follows is just a proposal involving a new concept. No way it should be inferred that Postal Index Code (PIN Code) is Being Replaced by a new code by India Post.

Decision in this Regard will Be Taken by the Competent Authority **ONLY** after examining the Views of Stake Holders and weighing Various Pros and Cons

Basic Premise

To Improve Sorting and Delivery of Mails,

Technology is optional for India Post;

But

Dynamic Code

Plus

Hub & Spokes Distribution

are Obligatory.

Both are Mutually Inclusive.

One Cannot Work Without the Other

It is Felt that PIN Code is a Static Code;

It cannot work with Hub & Spokes Distribution;

India Post at a Glance

- India Post has over 1,55,000 Post Offices, about 25000 of which are Departmental Post Offices (DPOs) mostly in urban and semi urban areas.
- The remaining POs are Extra Departmental Post Offices or Branch Offices (BOs), almost all in Rural Areas, which are somewhat like extensions of DPOs
- There are about 400 Mail Offices (MO). Each DPO is dependent on one or more MOs for receipt and dispatch of mail for itself and for its BOs.
- MOs are mostly located at Rail Heads and cover DPOs in Local Districts
- There are 28 States, 7 Union Territories and over 600 Districts in the country.
- There are about 15 Major cities (Metros); a few thousand other cities and about 600,000 villages

Hub & Spokes System of Distribution- Theoretical Inputs

- Hub & Spokes Involves:
 - **Multiple but Quick Handlings** of Mail as Opposed to Minimum Handlings of Mail in Conventional Sorting.
 - Handlings are Quick because only one or two dynamically placed digits in the Code are used for Selections in Sorting of Mail; and also because selections are very few in Number
 - Hub & Spokes is a series of Hubs; Each Hub a sub set of the bigger hub. Mail sorting is Based on **Aggregate and Segregate** principle. It means putting entire mail together and then sorting it on one digit or two in double quick time.

Laws of Scientific Sorting Based on Dynamic Code + Hub & Spokes Distribution

Law No. 1.

- A Unique Code Has to Be Allotted to Each Geographical Location as Known to the Public – Village, Town, Locality, Building, Street, Road, Zone, City.

Law No. 2.

- Each Digit in the Code Has to Denote Some Location; its strength determined by its position as per decimal system of numbering; No Digit should remain unutilized, unless situation demands.

Law No. 3.

- Any Addition of Digits Must Lead to Simplification of Solution; not Compounding the Problem

PIN Code Has Failed the Test. Why?

- **Testing Law No. 1:**
 - Being **Delivery Post Office (DPO) Based** (**And not Geographical Location Based**), it is of little Use **in Hub & Spokes** Distribution. **A UNIQUE CODE HAS TO BE PERMANENTLY ALLOTTED TO A LOCATION.**
- **Testing Law No. 2**
 - Sorting only on State Code and DPO Code;
 - Example Lodhi Colony; PIN: **11 00 03**
- **1+1+1 = 3 Sets of Numbers Placed Statically.**
- **Decimal Position of Numbers gives Dynamic Results:**
- **1 1+1 = 12 or 400% Increase in power**
- **1 1 1 = 111 or 2800% -do-**

- **Dynamic Potential of Numbers in PIN Code not exploited**

PIN Code Has Failed the Test. Why?

Testing Law No. 3:

- Adding More Digits in Static number code such as PIN, compounds the problem;
 - Eg, Delhi Mail Offices Coping Hard already to sort mail for 92 DPOs each; Adding Beat Code, as proposed in PIN Plus, Means adding 1300 extra selections in each Mail Office. Do we have space/ infrastructure/ manpower?
 - (For 2400 selections, PAL requires 11 Sorting Cases in each Mail Office, A maximum of 48 Selections per sorting case)
- 8 digit PIN Plus fails on all three laws of scientific sorting. Further, it shifts Sorting Postman job from PO to Mail Office, making sorting unmanageable in Mail Offices.
- Incomplete PIN Code of little use
- Since District is the Most Well Known Administrative /Geographical Entity in India (Outside Metros), and No Code is allotted to a District in PIN, it appears to have destroyed District Based Sorting which was the norm before 1972 when PIN was introduced.
- The Basic Premise being wrong; No hope of 100 % Usage --- ever; Nor of Use in Hub & Spokes System

PAL Code

- Has None of the Drawbacks of PIN Code
- PAL Code is Allotted to an administrative/geographical jurisdiction which is Public Knowledge
 - State
 - District/City
 - Village/Locality/Road/Building
- It consists of **8 dynamically placed digits**; arranged in a **logical sequence**

The Next Few Slides are on Developing PAL Code

Distribution of Digits

Eg. PAL Code 2201-5248

First 4 Digits (Mainly Outgoing Mail)

- 2 digits for State (11 to 45)
- 2 digits for Metro City (01 to 09)

OR

- 2 Digits for District in the State (10 to 99)

Last 4 Digits (Mainly Incoming & Local Mail)

Metro City

- 1 Digit for Zone in Metro City (5 Zones Ideal)
- 3 Digits for Locality in Zone (48 Codes in a Block of 100 ideal – 480 in each Zone)

OR

District

- All 4 Digits for Villages in the District and Localities in the Cities in the District (48 Codes in a Block of 100 ideal – 4800 Villages and City Localities in each District)

Country Zonal Codes (First Digit of PAL Code)

Country Zones

- North India • 1
- West India • 2
- East India • 3
- South India • 4
- Central India • 6
- North East India • 7
- Defence Services • 5,9

State/UT Codes

(First **Two** Digits of PAL Code **11- 99**)

- North Zone

- Delhi 11
- Haryana 12
- Himachal 13
- Punjab 14
- J & K 15
- Chandigarh 16

- West Zone

- Rajasthan 21
- Maharashtra 22
- Goa 23
- Gujrat 24
- Daman Diu 25
- Dadra NH 26

State/UT Codes

(First **Two** Digits of PAL Code **11- 99**)

- East Zone

- Bihar 31
- Jharkhand 32
- WB 33
- Orissa 34
- Sikkim 35
- A & N 36

- South Zone

- AP 41
- Karnataka 42
- Kerala 43
- TN 44
- Puducherry 45
- Lakshadweep 46

State/UT Codes

(First **Two** Digits of PAL Code **11- 99**)

- Central Zone

- Uttaranchal 61
- UP 62
- MP 63
- Chhatisgarh 64

- Defence Zone

- C/O 56 APO 56
- C/O 99 APO 99

- North East Zone

- Assam 71
- Arunachal 72
- Nagaland 73
- Meghalaya 74
- Manipur 75
- Mizoram 76
- Tripura 77

Code for Districts, Metros, Localities & Villages

Eg. PAL Code **2201-5248**

- After the First **Two Digits** for Country Zone and State in the Zone, **Third and Fourth** Digits will be for Metro/District. Numbers Will Start with **01 and can go upto 09 for Metros and from 10 going upto 99, total 90 for districts**; (UP, the Largest State has only 70)
- **Fifth Digit** as **1** will denote **1st City Zone** in Metro and District HQ City in District; **2 to 5 Other Zones** in Metro and Other Cities in District, if any, followed by number of Locality in respective city
- **6 to 9** as **Fifth Digit** will mean that last **3 digits** stand for a Village in District; Hence **6001** means the first Village in District)

Example of a District HQ City

(**1** as Fifth Digit Means First City in District; **2 to 5** will mean other cities, if any, in District)

- State – Haryana
- District – Gurgaon
- Locality- South City II
- PAL Code of South City II, Gurgaon
- 12
- 09 (9th Dist. Of State)
- **1**045 (45th Locality of Gurgaon)
- 1209-**1**045

Example of a Town/Village in District 6 to 9 as Fifth Digit Means Village

- State – Haryana
- District – Gurgaon
- Village- Sohna
- 12
- 09
- 6234
- PAL Code of Sohna
- 1209-6234

Example of PAL Code of a locality in the Largest Metro in a State

- State – Delhi
 - City – Delhi
 - Locality- Bharti Nagar
 - PAL Code of Bharti Nagar
- 11
 - **01** (1 = Largest Metro in the State)
 - **1344** (1 = First Zone in Metro – 344th Locality in first Zone)
 - **1101-1344**

Example of Locality in a the Third Largest Metro in a State

- State – Maharashtra
- Metro – Nagpur
- Locality- Ganesh Peth (In North Nagpur, ie Zone 2)
- PAL Code of Ganesh Peth Nagpur
- 22
- **03** (3rd after Mumbai(1) and Pune(2))
- **2044** (2 = Second Zone and 44th Locality in Zone)
- **2203-2044**

Example of Delhi City

Use of PAL Code

in

Sorting and Delivery of Mail

Delhi Circle at a Glance

- Delhi Circle has:
 - 92 Delivery Post Offices and about 450 NDTSOs
 - About 150 Mail Vehicles
 - 8 Full Mail Offices; 3 Mail Business Centres (MBCs);
+ Transit Mail Offices (TMOs) & Mail Agencies (Mas)
 - 2300 Postmen
 - About 1300 Postman Beats
 - Mostly Separate Beats for Ordinary Mail & Speed Post/Accountable Articles

Example of Delhi City – Incoming and Local Mail

- Only Last 4 Digits of PAL Will Matter
- The First Digit in 4 Will Denote Zone, Last 3 Locality
- Delhi can be divided into 5 zones:
 1. Central Zone: NDMC and Adjoining Areas
 2. North Zone: Civil Lines and Beyond
 3. West Zone: Janak Puri & Dwarka side
 4. East Zone: Trans Yamuna Area
 5. South Zone: GK and RK Puram side

Mail Transmission & Sorting in Delhi (First 4 Digits Common to all – 11 01)

(1) 480 Localities in Central Zone

= 1001 to 1048 (Leave 49 to 100 blank)

= 1101 to 1148

= 1201 to 1248 so on and so forth till:

= 1901 to 1948

Total = 480 PAL Coded Localities in Zone.

(2) 480 Localities in North Zone

= 2001 to 2048

= 2101 to 2148 so on and so forth till:

= 2901 to 2948

Total = 480 PAL Coded Localities

(3) (4) & (5) for West, East, South

= 480 Localities in each zone starting with

3001, 4001 and 5001 respectively

Total 480 x 5 = 2400 Localities can be coded in Delhi

Zonal Mail Offices (5) and Delivery Post Offices (Ave 18 per ZMO)

Zone No.	Name of the Zone	Zonal Mail Office (Assumed)	Dependent Delivery Post Offices (DPO)	Dependent PAL Codes
1	Central Zone	New Delhi GPO	All DPOs in NDMC Area	480 Codes of Central Zone
2	North Zone	Old Delhi RMS	All DPOs in North Delhi	480 Codes of North Zone
3	West Zone	Palam Airport	All DPOs in West Delhi	480 Codes of West Zone
4	East Zone	New Delhi RMS	All DPOs in East Delhi	480 Codes of East Zone
5	South Zone	Netaji Nagar	All DPOs in South Delhi	480 Codes of South Zone

Total 480 x 5 = 2400 PAL Codes (Unlike PIN, Each Sector in RK Puram & Dwarka will have its own PAL Code)

Sorting and Delivering Local and Incoming Mail

Collection of Mail Bags from Post Offices

- For letter box mail, every Post Office (Both Delivery and Non-Delivery) will make only **16 selections** by reading first **two digits** and if these are **11**, then reading **fifth** digit. It will dispatch **16 mail bags to its ZMO** as follows:
 - City Zones = 5
 - Country Zones = 6
 - Defence Zone = 2
 - Un-coded Local Mail = 1
 - Un-coded Outgoing Mail = 1
 - **Total** = **15**
 - Foreign Mail = 1
 - **Grand Total** = **16**
- 10 Mail Vans will be attached with each ZMO to collect Mail Bags From about 130 POs in its jurisdiction and bring these to its ZMO between 5 PM and 7 PM.

Disposal of 16 Mail Bags at ZMO

- Un-coded Incoming mail will be opened immediately on arrival by IN Section at ZMO; code-stamped* and sorted
 - * Code-stamp means A rubber stamp impression **“Your PAL Code is 11 01----. Please inform Sender”** and Code filled in manually
 - Alphabetical Lists of PAL Codes of all Localities will be given to sorting staff or better still if prominently displayed on the walls of each ZMO for easy reference by sorting staff
- Meanwhile **Mail bags from POs** will be arranged **ZMO wise**
- By 8 PM, ZMO will keep its own mail bags for sorting and dispatch mail bags for other 4 ZMOs including freshly code-stamped mail
- Defence mail will be handed over to APS Vehicles by the same time and Foreign mail sent to designated Mail Office.
- Outgoing 6 Country Zonal Bags Will go to OUT Section
(Un-coded Outgoing Mail to be opened by OUT Section on priority and Code Stamped with “Your PAL Code is ----- . Please inform Sender” and only first 4 digits of Code filled in manually with the help Lists or Display Charts of State/District Codes; Bundles made and processed with other outgoing mail)

Incoming Mail at the ZMO

- The **incoming mail** from other Circles will be intercepted at a designated ZMO out of the **5** ZMOs on its entrance into Delhi throughout the day.
- The ZMO will make **6** selections, one for itself; four for the other four and **one** for Un-coded/Half Coded Mail.
- Un-coded/Half Coded Mail will be code stamped on priority and sorted into concerned Zonal bag. The four Zonal bags will be dispatched to the respective Zonal Mail Offices (ZMO).
- **By 9 PM** each ZMO would have mail **only for its own zone**. It is **time for sorting** of zonal mail.

Sorting of Mail for Delivery at ZMO

- In each ZMO there will be two stages of sorting – the **Preliminary Sorting** and the **Detailed Sorting**.
- In preliminary sorting, there will be a maximum of 10 selections based only on the first and second digit of the PAL Sub Code.
- For example Central ZMO will do 10 selections for PAL sub codes **1001** to **1948**. (*The selections will be only for number **10** to **19***).
- North ZMO will do it for **2001** to **2948** and so will do other ZMOs

Completion of Sorting

- The detailed sorting will be done in 48 selections in 10 sorting cases in each ZMO. *(The number can be raised to 72 for each sorting case, but let us keep something for future).*
- It is obvious that each preliminary selection goes to one of the 10 sorting cases and further selections done based only on the last two digits ie, 01 to 48.
- Once done, the entire sorting is complete - **Right upto beat and sub beat level.** The entire sorting work should be over by 3 AM.

Sorted Mail in Bags for Delivery Post Offices

- The next stage is **bagging**.
- PAL Coded Localities will be allotted to various Delivery Post Offices (DPO) and the lists given to Bagging Supervisors.
- Each **DPO Bag will be brought to the sorting case** and mail for its dependent PAL Codes put into it, duly tied in bundles.

Sub Beat Sorted Mail Without Sorting Postman

- The next morning mail bags will be sent from ZMO to its dependent DPO before sunrise.
- When the postmen come they pick up mail for their earmarked localities.
- Each postman will normally have more than one locality. But 3-4 postmen might be needed for large localities. They will use the well tried method of sorting well to pick up their mail.
- No real need for a sorting postman.
- The delivery is out before 9 AM.

Sorting and Dispatching Outgoing Mail

10 Bags for Outgoing Mail

- Basic Principles same as in Incoming Mail
- Each PO in Delhi will have 10 Outgoing Selections (Refer Slide 27)
 - Country Zones = 6
 - Defence Zone = 2
 - Foreign Mail = 1
 - Un-coded Outgoing Mail = 1
- 6 Country Zonal Bags to designated ZMOs; Defence goes to APS; Foreign Mail to Prescribed Mail Office; and Un-Coded Mail on Priority to Out Section

Sorting of Outgoing Mail

- **In the ZMO:**
- **Preliminary Sorting** only by state code (1st two digits) - Total Selections **35**
- **Detailed Sorting** for **District Wise and Metro Wise** Mail will follow. (**Selections depend upon the number of Districts plus number of Metros in each state**)
- Un-coded Mail will become Half-Coded and sent in Specially Marked Bundles Metro and District Bags dispatched to Designated Mail Office in each state as Per Mail Arrangements

Outgoing Mail in the Receiving Mail Office

- **Half-coded Mail to be Tackled First and last 4 digits of Code filled in manually with the help Lists or Display Charts of all villages and Localities**
- **Preliminary sorting Stage I** in upto 10 selections for each district done in Receiving Mail Office going only by the fifth and sixth digits (upto 6 for city localities and upto 4 for villages in district)
- **Preliminary sorting Stage II** in upto 10 selections based on first digit of PAL Sub Code only will follow.
- **Detailed Sorting in upto 48** selections for each village/locality going only by last two digits
- **Beat Coded and Sub Beat Coded** Mail is Ready for dispatch to each DPO.

Example of Bareilly RMS for Incoming Mail from Delhi (Figures are Imaginary)

- **Bareilly RMS covers**

- 1 Mail Office
- 2 Districts :
- **Bareilly**: About 1200 Villages & Localities; 42 DPOs
- **Badaun**: About 700 Villages & Localities; 27 DPOs

- **Allotment of PAL Codes**

- PAL Code number not to exceed 48 in a block of 100;
better still if it is 40 for Bareilly and 35 for Badaun
(Why? Please Think.)

Example of Bareilly RMS for Incoming Mail from Delhi

- If **29** is District code of **Bareilly** and **30** of **Badaun** in UP, **PAL Code of PMG Bareilly** is likely to be:

6229-0001

(UP) (Brl) (Loc 1)

- And of **SPOs Badaun**:

6230-0001

(UP) (Bdn) (Loc 1)

Example of Bareilly RMS for Incoming Mail from Delhi

6229-1234

- **Steps in Sorting:**

- Incoming mail from Delhi is In **2 district bags**; Mail Office will have **2 sections** for 2 districts
- Un-coded Mail will be first code stamped and sorted on priority

- **Preliminary Sorting Stage I**

- Will be done only on **5th** digit upto **10** selections for each District separately

- **Preliminary Sorting Stage II**

- Will be done on **5th** & **6th** digits in upto **10** selections each
- For Bareilly, each selection will sort **40** villages/localities in a block of 100; For Badaun **35** in a block of 100

- **Detailed Sorting**

- **40** selections for Bareilly; **35** for Badaun
- **Beat wise** and **Sub beat** wise sorting is complete and ready for dispatch to designated DPOs

Handling Express Mail

- **No Centralized Speed Post Centre**; ZMOs in Metros and Mail Offices in other stations to have Speed Post OUT and IN Sections
- Basic Pattern same as for ordinary mail but with additional steps:
 - Un-coded Mail to be coded at booking counter itself
 - More Dispatches to ZMOs till Midnight; Sorting 24 Hours and So will be Outward Dispatch
 - Combined Delivery with Ordinary Mail; Raise Number of **Postman Beats (from 1300 to 1800 in Delhi – We will still Have 500 Postmen available for Leave Reserve and Marketing Activities)**

Technology in Sorting

- Western Countries Use Automatic Mail Processing Machines in Big Way for Sorting of Mail, possibly, because they have costly and less manpower.
- In India Affordable Manpower is Our Strength. If Manpower Can Help in Next Day Delivery, Why Use AMPCs?
- What We Need ‘**Appropriate Technology**’, not just any technology, like; integrated postal software; networked POs; GPS based Mail Van Fleet and, of course, a fleet of Aircrafts for Quick Transmission of Mails Between Cities, States

Benefits of PAL Coded Sorting

- There are 9 Mail Offices in Delhi at present. There are **92 delivery post offices**.
 - Every morning each of the 9 mail offices closes 92 bags, one for each DPO, with mail vans running like mad to meet schedules.
 - It means transmission of **92 x 9 = 828 mail bags across the city every morning**.
- In the new system **only 92 bags** will be dispatched, with one or two mail vans for each zone starting from its ZMO, carrying mail bags to about **18 DPOs** within that zone.
 - **(828 v/s 92 ?)**
- **Similar benefits all over the country**

Benefits of PAL Coded Sorting

- With only **16 selections** to make in PO. The PO sorting can be expected to be as close to 100% correct as possible.
- Same is true of ZMOs.
- We can Allot PAL Codes to Localities/villages as Per the Volume of Business to Suit **48-Pigeon Hole Sorting ergonomics**
- **With nearly 100% accuracy in sorting, there is no way that the local mail cannot be delivered in D+1 every day.**
- We can realistically aim for **six sigma** certification soon
- **Similar benefits all over the country**

Benefits of PAL Code

- Each District of India will have a unique 4 Digit Code (First 4 Digits) ; This Half PAL Code is sufficient to send mail upto Distt level Mail Office
- Public Will Be Requested to Use at Least this Half Code, if Village/Locality Code not Known; Half Code can be Published in one Page of Newspapers at fixed periodicity which public can keep.
- We may open as many delivery post offices as we like without having to change any PAL Code.

PAL Code Usage

- PIN Code has been in existence since 1972. But till now only about 50-60% Mail is being PIN Coded. The main reason for this low usage appears to be that PIN Code is not easily searchable. Being Post Office Based, public finds it difficult to find which PO covers which Locality.
- PAL is based on Location. It is Easily searchable. It is expected to pick up usage very fast.
- Given powerful searchable database on India Post Web Site, more than 80% Usage can be expected in one month and almost 100% in six months.

How to Popularize PAL Code?

- Take Staff into Confidence; Assure **No Cut in Establishment**; Let Them Share in Value Addition; **Create a buzz** about PAL CODE among them
- Fix a Date for Launch and Announce it 2 months in advance
- Allotment of Codes to all cities and villages will take about a month with the help of postal staff; Another Month for Creating Centralized Data Base Sorted on State, District, Village/ City Locality Searchable in Drop Down Menu. Start Work on it immediately as and When the Proposal is Accepted by the competent Authority and Put it on **India Post Web Site**
- Launch a bold and innovative publicity campaign for **2** months before introduction that should catch the imagination of the nation **like wild fire**
 - Something like **KBC or IPL**
- Give Full Page Ads once a week for a few weeks before launch Listing 4-digit state/dist codes; advising public to search India Post web Site for village/locality code but **use at least State + Distt codes as published (Public to Keep copy of paper cutting)**

Afterthought

PAL Code as a Standard Universal Post Code

- First set of 4 digits: International PAL Code
- Second set of 4 digits: Inter-state (National) PAL Code
- Third set of 4 Digits : Intra-city (Local) PAL Code.
- International code will have 12 digits placed as follows:
nnnn-nnnn-nnnn
- **1st digit:** Stands for a Foreign Mail Exchange Point in a country. Large Countries will have more than one. India has 4 Delhi, Mumbai, Kolkata, Chennai –1,2,3 and 4 as code given to them respectively.
- **Next 3 digits** will denote country code. Ideally the same code as for International Telecommunications should be used here. It means India will have 4 international Codes based on which mail bag can be sent to respective Foreign PO/Entry Point . Such as:
1091-1101-1101 is an address in , North India via Delhi Exchange Point
2091-2201-1221 is in Western India via Mumbai Exchange Point
3091-3301-1234 is in Eastern India via Kolkata Exchange Point
4091-4401-5432 is in South India via Chennai Exchange Point

Afterthought

PAL Code as a Standard Universal Post Code

- US and Canada have 01 as common ISD code. So first 5-6 numbers will be for US and rest for Canada.
- 1001-3301-2211 could be New Jersey via New York Exchange Point
- 7001 -3301-2201 could be Ottawa via Toronto Exchange Point
- For UK:
- 1044- 3301-2201 could be Kent in UK via London Exchange Point
- Universal Postal Union (UPU) may like to examine this proposal to adopt the elusive standard **Universal Post Code** common to all its members.

Your Views are Most Valuable to
India Post
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Send Your Views
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Thanks!